
Indoor Burning Task Force

A Report to the
Puget Sound Clean Air Agency

F i n d i n g s a n d R e c o m m e n d a t i o n s

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INDOOR BURNING TASK FORCE

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EXECUTIVE SUMMARY

INTRODUCTION

Particulate matter (PM) refers to pollutant particles released into or formed in the air from emissions from various sources. PM has been regulated for some time. But finer particles (known as PM_{2.5} because of their maximum diameter in microns) were not specifically regulated until the EPA developed standards for them in the mid 1990s. These standards for PM_{2.5} were accompanied locally by the development of more stringent health goals that were recommended by a Health Committee established by the Puget Sound Clean Air Agency.

In 1998, the Clean Air Agency convened a broad-based Stakeholder Group that was asked to develop strategies to keep the region in attainment of the new EPA PM_{2.5} standards and, if possible, in attainment of the more ambitious health goals as well. The 1998 PM_{2.5} Stakeholder Group developed a broad array of recommendations that included limitations on industrial emissions; restrictions on outdoor debris burning; reductions in diesel fuel use; and limitations on indoor burning.

Because indoor burning is the largest single source of PM_{2.5} pollution in the Clean Air Agency's jurisdiction, and because efforts to limit indoor burning could have widespread implications, the Clean Air Agency convened an **Indoor Burning Task Force** in early 2002 to review the 1998 PM_{2.5} Stakeholder Group's recommendations and develop strategies to achieve the 1998 PM_{2.5} Stakeholder Group's goals. The Indoor Burning Task Force included representatives from health and environmental organizations, the real estate and home construction industries, the hearth products industry, Puget Sound Energy, and city and county building department staff and fire marshals.

RECOMMENDATIONS

The Indoor Burning Task Force recommends four strategies to reduce pollution from indoor burning.

- **ONE: Registration of uncertified appliances.** The Agency should use its administrative authority to develop a registration program for all uncertified wood stoves and uncertified fireplace inserts.
- **TWO: Disclosure at point of sale.** The Agency should work with the Legislature to modify the residential sellers' "Form 17" Real Property Transfer Disclosure Statement to require owners of an uncertified wood stove or uncertified fireplace insert to disclose its presence.
- **THREE: A monetary incentive program** should be developed to help homeowners retrofit existing fireplaces or wood stoves with cleaner-burning appliances. This program could be carried out in partnership with Puget Sound Energy and hearth products dealers. The Agency should work to develop a policy framework for making graduated incentive payments available based on the net amount of reduction in fine particulate emissions.

- **FOUR: Wood-burning appliances in new construction.** The Agency should not create a blanket regulation regarding the installation of wood-burning appliances in new residential developments, but should rather work with individual jurisdictions in areas that have natural gas available and where wood-burning devices are being proposed, to explore incentive-based and possibly regulatory approaches to limit the installation of wood-burning appliances in new construction.

CONCLUSION

The Indoor Burning Task Force believes that the indoor burning recommendations presented here will make a significant contribution to the region's air quality by reducing the amount of PM_{2.5} produced by indoor burning. However, the Indoor Burning Task Force recommends that the Clean Air Agency assess and evaluate the results of these recommendations as they are implemented and adjust them as needed.

Specifically, the Indoor Burning Task Force recommends that to evaluate the outcomes of these recommendations, the Clean Air Agency track emissions for the next several years and use emissions results to evaluate both the cost-effectiveness and the absolute effectiveness – in terms of emissions reductions – of the recommendations. The Agency can then adjust or supplement its indoor burning initiatives at that time based on its findings.

INTRODUCTION

INTRODUCTION TO PM_{2.5}

Particulate matter (PM) refers to pollutant particles released into or formed in the air from emissions from various sources. PM is classified and regulated based on size.

PM₁₀ includes soil and other particles that measure up to 10 microns in diameter. For several decades, government air pollution control agencies have measured and regulated particles smaller than 10 microns in diameter.

Finer particles, those less than 2.5 microns in diameter, are known as **PM_{2.5}**. These finer particles are produced by many sources including fireplaces and wood stoves, land clearing fires, backyard burning, industrial boilers, and internal combustion engines, particularly those using diesel fuels. Some fine particles can be formed in the atmosphere as secondary particles from gases such as sulfur oxides and nitrogen oxides.

PM_{2.5} particles behave more like a gas than the larger particles. Because of their size, PM_{2.5} particles can cause significant health effects, particularly respiratory illness, as they are easily inhaled and can lodge deep in the pulmonary system of the lungs. When they collect in the lungs, they can cause structural and chemical changes internally and can act as carriers for other toxic and carcinogenic materials. Children, people over 50, and people with pre-existing respiratory diseases are the most susceptible to health risks caused by PM_{2.5}. In addition, fine particles in the air can also impair visibility and contribute to haze.

PARTICULATE MATTER STANDARDS AND GOALS

Particulate matter has been regulated by the Environmental Protection Agency (EPA) since the 1980s. However, separate standards for the finer PM_{2.5} particles were not created until the mid 1990s, when sufficient evidence had accumulated to call into question the previous theory that the standards for the larger set of particles were sufficient to protect human health.

In 1995, the Puget Sound Clean Air Agency convened the **Particulate Matter Health Committee**. This group of health experts was asked to review the health effects associated with particulate matter, evaluate the EPA standards for particulate matter, and determine if the then-existing federal particulate matter standards sufficiently protected public health or if a new standard was needed.

After studying the issue, the Health Committee determined that existing federal particulate matter standards were not sufficient to protect human health. The committee recommended that PM_{2.5} be specifically targeted and measured, and it proposed daily and annual goals for PM_{2.5} that it recommended the Clean Air Agency strive to meet to provide better health protection for local residents:

- **Health Committee PM_{2.5} 24-Hour Goal:** 25 micrograms per cubic meter of air averaged over 24 hours (never to be exceeded).

- **Health Committee PM_{2.5} Annual Goal:** 15 micrograms per cubic meter of air averaged over the course of one year (never to be exceeded).

At about the same time, the EPA published revisions to its administrative standards for particulate matter. These revised standards included, for the first time, daily and annual standards for PM_{2.5}:

- **EPA PM_{2.5} 24-Hour Standard:** 65 micrograms per cubic meter of air based on 98th percentile averaged over 3 years.
- **EPA PM_{2.5} Annual Standard:** 15 micrograms per cubic meter of air averaged over the course of three years.

The EPA's standards set a measurable limit on PM_{2.5} that the Puget Sound region is required to attain. The health goals developed by the local Health Committee supplement these EPA requirements by proposing ambient goals that are more stringent than the EPA standards but that are deemed to be very important for the health of residents in the four-county region. Data presented to the Task Force by the Agency showed that most days, the PM_{2.5} levels are below the health goal adopted by the Agency Board of Directors and, with further action, could likely be reduced significantly for the limited number of days they exceed the health goal.

1998 PM_{2.5} STAKEHOLDER GROUP

In 1998, the Puget Sound Clean Air Agency convened the **PM_{2.5} Stakeholder Group**, a broad-based, 25-member group that was asked to recommend strategies by which the region could remain in attainment of the new EPA PM_{2.5} standards. The group was also asked to recommend strategies through which the region could strive to meet the more stringent goals proposed by the Health Committee.

The 1998 PM_{2.5} Stakeholder Group met 11 times during 1998 and 1999 and developed a set of 29 recommendations that it grouped into categories based on anticipated effectiveness. These recommendations ranged from reducing sulfur fuels use by industry and prohibiting outdoor burning of land-clearing debris, to developing lower diesel truck emission standards and discouraging indoor burning in fireplaces and wood stoves.

INDOOR BURNING

Indoor burning was one of the areas addressed by the 1998 PM_{2.5} Stakeholder Group because it accounts for approximately 38% of the region's overall annual emissions of PM_{2.5} and approximately 63% of emissions during the winter. Indoor burning in a number of different types of wood-burning devices – including fireplaces, uncertified wood stoves, catalytic, and non-catalytic certified wood stoves, and fireplace inserts – produces fine particle pollution.

The combination of increased indoor burning during the winter months, and cold, still weather conditions with inversions that trap air near the earth, mean that the region is more likely to experience PM_{2.5} problems during the winter. As a general rule, the PM_{2.5} problem can be exacerbated in valleys with a high percentage of residential units where PM_{2.5} can remain trapped for extended periods of time during episodes of air stagnation.

Both the federal and state Clean Air Acts regulate indoor burning, and both have established wood stove emission standards that all newer, certified stoves must meet. The Washington State standard for new certified wood stoves is lower than the federal standard. The Washington State standard is not to exceed 4.5 grams of particulate emissions per hour for non-catalytic certified wood heaters and 2.5 grams for catalytic certified wood heaters, as compared with the federal standard of 7.5 grams and 4.1 grams respectively.

In addition, the Clean Air Agency, under state law, implements two-staged 'Burn Bans' designed to reduce emissions from indoor burning sources when air quality is impaired. During the first stage of a burn ban only certified appliances may be used (unless an uncertified wood stove is a home's only source of heat), and during the second stage no wood-burning appliances, certified or not, are to be used unless they are the sole source of heat. The state and Clean Air Agency also engage in educational efforts about the problems related to particulate matter pollution.

Efforts by the Clean Air Agency in cooperation with industry (including the hearth products industry), the American Lung Association of Washington, fire agencies, and others have been very effective in reducing airborne particulate pollution in the Puget Sound area. Airborne particulate levels overall are far lower today than 20 years ago, even after factoring in the region's significant population growth. This effort has been recognized nationally as an outstanding example of success. However, indoor burning continues to be a significant source of particulate matter emissions, and continues to be the largest single source of PM_{2.5} pollution in the Clean Air Agency's jurisdiction. The Agency and other stakeholders agree that particulate levels – and particularly levels of PM_{2.5} which were not regulated until fairly recently – must be reduced further to improve air quality, remain in attainment of the EPA's PM_{2.5} standards, and achieve the health goals proposed by the Health Committee.

The 1998 PM_{2.5} Stakeholder Group recommended that fine particulate emissions from indoor burning be reduced by reducing the number of indoor wood-burning devices that are currently installed in homes around the region and by limiting the number of new installations. The group developed three recommendations on indoor burning that it believed could achieve its goal:

- **Develop a program with possible monetary incentives for homeowners to retrofit their existing fireplace with gas log sets where gas lines are available.** Develop a partnership between the Clean Air Agency, the natural gas utilities and hearth products industry to encourage retrofitting conventional fireplaces with gas. An educational component would be implemented as part of any program developed by the partnership to inform the public about the convenience, cost, safety, and beneficial air quality effects of fireplace retrofits.
- **Develop an incentive/regulatory program for the installation of natural gas fueled indoor burning appliances in new developments where gas lines are available.** Require low emission heat sources (e.g. natural gas, electricity) in new developments. Fireplaces and wood stoves would be prohibited in new developments to prevent new emissions.

- **Develop a program requiring the removal, replacement by a gas, pellet or certified wood burning heater, or licensing of an uncertified wood heater at the time of sale of any residence in the four county area.** Design a program which makes the following four options available to buyers and sellers at the time of sale of a residence:
 - Install gas into fireplace or replace wood stove with gas appliance;
 - Eliminate the fireplace or wood stove;
 - Install certified insert in fireplace or replace wood stove with pellet or certified stove; or
 - Continue to use the uncertified device and pay a fee to continue use, not use the device during impaired air quality.

INDOOR BURNING TASK FORCE

Following the release of the 1998 PM_{2.5} Stakeholder Group's report, the Puget Sound Clean Air Agency developed programs to implement the group's recommendations on outdoor burning and diesel-powered emission sources. A separate recommendation regarding indoor burning – promoting the use of cleaner-burning manufactured logs – was also implemented.

Agency staff determined, however, that the 1998 PM_{2.5} Stakeholder Group's other three recommendations on indoor burning merited further review by representatives of organizations and industries that would be most affected by the recommendations, including the real estate industry (which was not represented on the 1998 group), the home building industry, hearth products dealers, city and county building department officials, Puget Sound Energy, fire marshals, and health and environmental organizations.

The **Indoor Burning Task Force** was established to bring representatives of those organizations and industries together. The Indoor Burning Task Force was charged with reviewing the 1998 PM_{2.5} Stakeholder Group's recommendations on indoor burning and then developing specific strategies for indoor burning to achieve the 1998 PM_{2.5} Stakeholder Group's goal of reducing the amount of PM_{2.5} in the air.

The Indoor Burning Task Force was staffed by a neutral facilitator and was asked to reach consensus on its recommendations if possible, although members were given the flexibility to develop recommendations that were not unanimous by noting where areas of disagreement existed.

The Indoor Burning Task Force met five times between April and August 2002 to study the 1998 PM_{2.5} Stakeholder Group's recommendations, evaluate indoor burning programs in other jurisdictions around the country, and discuss potential implications of the 1998 PM_{2.5} Stakeholder Group's recommendations. A Task Force sub-group also met twice to discuss specific recommendations. From those discussions, the Task Force developed four recommendations on indoor burning that it now presents to the Clean Air Agency.

These recommendations are described below. For each recommendation, the Task Force's suggestions for immediate next steps by Clean Air Agency staff, stakeholder organizations, or other groups are listed.

ONE: REGISTRATION OF UNCERTIFIED APPLIANCES

ISSUE OVERVIEW

The 1998 PM_{2.5} Stakeholder Group recommended that the Clean Air Agency consider developing a program that would require the removal, replacement by a gas, pellet or certified wood burning heater, or licensing of an uncertified wood heater at the time of sale of any residence in the four-county area.

Indoor Burning Task Force members began their consideration of this issue in 2002 with a conference call discussion with staff from Washoe County, Nevada, where a similar point of sale program was implemented some years ago. However, several members of the Task Force expressed great uneasiness with the recommendation as outlined by the 1998 PM_{2.5} Stakeholder Group. Real estate representatives to the Task Force, in particular, feared that any policy recommendation that could require action to take place (such as the change-out or retrofit of a wood-burning device) or that could require the expenditure of funds on new appliance or a license at the time of a home sale could provide a disincentive to the sale, could potentially cause some sales to fail, and could result in significant negative economic repercussions throughout the region.

Because of the concerns expressed on this issue, a sub-group of the Task Force¹ met twice to discuss this issue in more detail. During these meetings, members of the sub-group developed a modified proposal (which the Indoor Burning Task Force subsequently accepted and supports). This proposal would create a registration program for **all** uncertified wood stoves and fireplace inserts that would apply to such appliances in all residences, not just those being sold.

The registration program would not apply to conventional masonry open hearth, glass door, zero clearance fireplaces, certified wood stoves, or pellet stoves. Instead, it would apply only to uncertified woodstoves and uncertified fireplace inserts, the appliances that produce the greatest level of fine particulate emissions.

Because the Agency does not have the authority to charge a registration fee above the amount needed to cover its costs of administering a registration program (unless it receives approval from the Legislature to do so), the registration fee would not provide funds for a monetary incentive program to encourage owners of uncertified wood stoves or uncertified fireplace inserts to change-out their devices, but rather would be used to educate owners about the health implications of burning wood. (However, the Agency would develop a separate monetary incentive program to assist owners of uncertified appliances, as described under Recommendation 3 below).

The Agency would not attempt to focus on enforcement of the registration requirement; rather, it would focus its efforts on educating appliance owners about the registration

¹ Members of the sub-group included Task Force members representing the Seattle-King County Association of Realtors, the American Lung Association, Hearth Products Association, and Pierce County. In addition, several staff and member representatives from the Seattle-King County Association of Realtors, Tacoma-Pierce County Association of Realtors, and Hearth Products Association joined the sub-group meetings to offer their perspective.

program and about the health benefits of replacing uncertified appliances. The Agency would develop a registration database as appliance owners register and would encourage those owners to consider the benefits of changing to a device that produces fewer fine particulate emissions. Although the focus of the program would be on obtaining voluntary compliance through outreach, education, and disclosure, Indoor Burning Task Force members also believe that civil penalties should not be totally eliminated as an option for dealing with extreme situations.

The registration program could be modeled on similar programs for other purposes such as pet licensing, septic registration, or even the Clean Air Agency's current asbestos permitting program. In each of these programs there is an element of voluntary initiation of registration or permitting. The Agency's focus in the registration program would be on developing a database of homeowners with uncertified devices so they could be targeted for incentives and education regarding change-out and the reasons why change-out is desirable. The new owner of a home with an uncertified wood stove or fireplace insert would be required to register the device and pay a registration fee within a date certain after closing of a sale. It is anticipated that this registration and fee requirement would stimulate negotiations between sellers and purchasers of homes regarding existing uncertified appliances that could result in the voluntary change-out of many of them.

Indoor Burning Task Force members discussed, but did not recommend at this time, the notion that the registration program could set a date at some point in the future at which time all uncertified wood stoves and uncertified fireplace inserts would be required to be replaced. Task Force members also noted that in the future, based on the successful implementation of the registration program, the Agency could seek Legislative approval to levy a higher registration fee and could use the higher fee to fund a monetary incentive program to help homeowners change out their uncertified appliances.

RECOMMENDATION

The Task Force recommends that the Clean Air Agency use its administrative authority to create a registration program for all uncertified wood stoves and uncertified fireplace inserts within the four-county region. The Agency should publicize this new registration requirement, and should use the registration program as a way to educate homeowners about the health implications of burning wood in uncertified devices.

NEXT STEPS

Agency staff members have already begun studying the logistical and administrative implications of creating and operating a registration program. This work should continue, and Agency staff should develop a detailed work plan to: implement a registration program, publicize the program throughout its four-county region (perhaps in conjunction with the monetary incentive program described below), collect registration fees, develop a database on homes where uncertified appliances are registered, and provide educational materials to appliance owners as well as to home sellers, home inspectors, and real estate professionals.

TWO: DISCLOSURE AT POINT OF SALE

ISSUE OVERVIEW

Washington state's "Real Property Transfer Disclosure Statement" (also known in Western Washington as *Form 17*) requires that sellers identify specified matters that a buyer might consider material in connection with a buyer's decision about whether or not to purchase a property. The disclosure must be in writing and must substantially conform to a format specified in state statute.

Because of the registration program recommended above for uncertified wood stoves and uncertified fireplace inserts, and because of the health implications of these devices, the presence of such appliances in a residence is likely to be viewed as a material matter by home buyers. To the extent that it is material and disclosed, the presence of an uncertified wood stove or uncertified fireplace insert may become an item negotiated between the parties in a real estate transaction.

RECOMMENDATION

The Task Force recommends that the following actions take place at the time of sale:

- **Disclosure.** State law should be amended to require sellers to disclose the presence of an uncertified wood stove or uncertified fireplace insert at the time of sale on the "Form 17" Real Property Transfer Disclosure Statement. The Indoor Burning Task Force notes that State legislation would be needed to change the Form 17.

The Form 17 disclosure form should be amended to include the following questions:

Does this property have an uncertified wood stove or uncertified fireplace insert? ___ Y ___ N ___ DK

If yes, is it subject to a registration or fee program?
___ Y ___ N ___ DK

If yes, is it currently registered, and/or have all fees been paid, as required?
___ Y ___ N ___ DK

- **Education.** The Agency should continue its leadership role in providing specialized educational services by, in cooperation with the hearth products industry, developing an education program on uncertified appliances for the Washington Association of Realtors, American Society of Home Inspectors, and major real estate firms in the region. In addition, the Agency should work with the American Lung Association and the hearth products industry to develop brochures for targeted audiences.

NEXT STEPS

The Task Force recommends that the Clean Air Agency work with the Washington Association of Realtors, American Lung Association, and Hearth Products Association to form a broad-based coalition in support of this recommendation, and that legislation be prepared and submitted to implement the disclosure requirement.

To build the coalition, upon adoption of this recommendation the Clean Air Agency should formally approach the other organizations for support, and should then work with them so that legislation can be prepared to be submitted to the Legislature during the 2003 session.

THREE: INCENTIVE PROGRAM

ISSUE OVERVIEW

The 1998 PM_{2.5} Stakeholder Group recommended that the Agency develop a monetary incentive program to encourage residents to replace wood-burning hearth products appliances with gas or propane units or, at least, to replace uncertified wood-burning appliances with certified ones.

A survey commissioned by the Clean Air Agency in 2002 revealed that the region continues to have a large number of wood-burning hearth products appliances in use that could be targeted through a monetary incentive program:

- Approximately 24% of households in the four-county region have and use a wood-burning fireplace.
- Approximately 4% of households in the four-county region have and use a wood-burning fireplace insert.
- Approximately 19% of households in the four-county region have and use a wood stove.
- Of the total number of wood stoves in the region, at least 20% -- 50,000+ stoves – are uncertified stoves that produce higher levels of particulate emissions than newer, certified stoves, and emit thousands of times the particulate emissions of gas furnaces.

The Indoor Burning Task Force reviewed incentive and change-out programs in Boise, Idaho; Crested Butte, Colorado; Washoe County, Nevada; and a multi-state change-out program in the Great Lakes region to study their effectiveness. They also studied a local change-out program that was funded through a Boeing civil penalty settlement and examined the results of an incentive/educational program on indoor burning in Marysville.

Task Force members concluded that monetary incentive programs, especially when combined with educational outreach, can be quite effective at helping residents convert to cleaner-burning appliances such as natural gas- and propane-fueled devices, and thus reduce fine particulate emissions. They also noted that a monetary incentive program could be developed in a graduated fashion with a variety of public and private funding sources that could be based on the net amount of reduction in fine particulate emissions that would be achieved by each change-out, particularly in cases in which an uncertified wood-burning device is a home's sole heat source and is thus exempt from phase two burn ban prohibitions.

Task Force members caution that monetary incentives – through discounts, rebates, grants, or low-interest loans – would have to be substantial enough to counter the \$750 to \$5,000 price for purchasing and installing a new hearth product appliance.

RECOMMENDATION

The Indoor Burning Task Force recommends that the Clean Air Agency collaborate with Puget Sound Energy, the Hearth Products Association, and other potential funders to develop a monetary incentive program – through discounts, rebates, grants, or low-interest loans – to help residents who purchase and install a gas- or propane-fueled device, certified fireplace insert, or certified wood stove. This incentive program should encourage decisions that significantly reduce air emissions from indoor burning, should apply as appropriate to all devices that significantly reduce air emissions, and should, as appropriate, provide greater incentives for the cleanest-burning solutions (as compared with other cleaner-burning options). Incentives provided through different funding sources or mechanisms should be coordinated and publicized.

The Task Force proposes as a policy framework for the incentive program that it be developed as a graduated approach that would provide incentives based on the net amount of emissions reduction for each change-out.

NEXT STEPS

- **Follow up with Puget Sound Energy.** Staff from the Clean Air Agency and Puget Sound Energy have used the Task Force process as a way to connect and begin a discussion about possible support from Puget Sound Energy for education and incentive programs. The Clean Air Agency has identified as one of the most significant barriers to installing a natural gas-fueled hearth heating appliance the cost to install gas service to the home. The Agency should request and assist Puget Sound Energy to maximize the credit available to potential customers to install gas service to their homes in order to install a natural gas-fueled hearth heating product. Agency staff should follow up on their initial contacts over the next several weeks to determine how Puget Sound Energy could most effectively collaborate on a program to provide incentives for residents to switch to gas appliances.
- **Coordinate with the Hearth Products Association.** Hearth products dealers may be able to coordinate an appliance promotion with the Clean Air Agency's educational campaign, and dealers may be willing to offer low-interest financing as part of an overall promotion. Agency staff should follow up on the discussions that have been initiated during this process. The Northwest Hearth, Patio and Barbeque Association has also offered to work with the Agency to provide a number of additional programs to encourage and assist users of hearth products to purchase the cleanest-burning appliances and to use them properly to minimize their emissions. These programs could include but are not limited to: preparing a Web site, conducting workshops, or developing pamphlets on how to operate a hearth product as cleanly as possible; and providing education for home inspectors and others in the real estate industry on ways to identify certified wood stoves and fireplace inserts.

- **Evaluate potential sources of funding for the Agency to financially support a change-out incentive/buy-back program.** Such sources may include civil penalty assessments, portions of the Agency's allocation of the state wood stove and fireplace fee, or a new source of funding derived from licensing of non-certified wood stoves and fireplace inserts.

FOUR: WOOD-BURNING APPLIANCES IN NEW CONSTRUCTION

ISSUE OVERVIEW

The 1998 PM_{2.5} Stakeholder Group recommended that the Clean Air Agency consider regulations or incentives to limit or prohibit the installation of wood-burning appliances in new residential developments where natural gas is available. The 1998 PM_{2.5} Stakeholder Group identified this as a lower priority as compared to its other recommendations due to challenges of implementing this recommendation.

The Task Force examined the issue of limiting wood-burning appliances in new developments, and reviewed existing regulatory programs in Telluride and Denver, Colorado; Berkeley and Palo Alto, California; Washoe County, Nevada; Missoula, Montana; and Poulsbo, Washington. In most of these areas, wood-burning fireplaces are prohibited in new developments and wood-burning stoves are either strictly regulated or prohibited outright.

Task Force members did not agree that this issue posed a significant problem in the Puget Sound region, however. The Master Builders' representative to the Task Force noted that, where natural gas lines are available, most new developments are now being built with gas fireplaces, which are currently less expensive to install than wood-burning fireplaces. And follow-up research aided by the Task Force representative from the City of Seattle failed to turn up a significant number of wood-burning fireplaces that were incorporated into recent residential construction in areas of the city that have natural gas available.

Recent information provided by the Task Force representative from Pierce County notes that approximately 96% of newly final inspected homes examined in the county were equipped with some sort of burning device not used for cooking or principal heat. Of all those homes, 76% were configured to burn gas or propane and 20% were configured to burn wood. Virtually none of the devices were freestanding as those are generally installed by the buyer after the home is occupied. Additional research with Pierce County officials will help Agency staff determine whether these wood-burning devices are limited to areas that are not served by natural gas or if they are being installed by a limited number of large-scale builders.

RECOMMENDATION

As this issue was researched, Task Force members came to the conclusion that a blanket prohibition on wood-burning devices in new residential development with natural gas available may not be necessary and would not be the most productive issue on which to devote Agency resources. Instead, they recommend that the Agency focus on individual jurisdictions where natural gas lines are available but where new developments propose installing wood-burning stoves or inserts, and then work with stakeholders and those individual jurisdictions to determine if some type of incentive-based or possible regulatory approach to limit wood-burning appliances in a specific new development might be appropriate.

This approach was used successfully in the City of Poulsbo, where, with the support of the Clean Air Agency, a requirement as part of a new development's State Environmental Policy Act (SEPA) review successfully mandated that a recent large-scale development install gas rather than wood-burning appliances.

A similar approach could be taken with Pierce County if further analysis of the recent data provided during the Task Force's process indicates that wood-burning devices are being installed in new developments where natural gas is available.

NEXT STEPS

Clean Air Agency staff should work with stakeholders and individual jurisdictions with special emphasis on those that have natural gas lines available to determine whether potential air quality problems could be alleviated or reduced by maximizing the installation of natural gas-fueled hearth appliances in new developments. The Agency should work with stakeholders and jurisdictions that have proposed new developments and propose education and incentive programs to reduce the installation of wood-burning appliances in new developments where natural gas is available. The Agency may also make recommendations in the environmental impact review for such a project.

CONCLUSION

The Indoor Burning Task Force believes that the indoor burning recommendations presented here will make a significant contribution to the region's air quality by reducing the amount of PM_{2.5} produced by indoor burning. However, the Task Force recommends that the Clean Air Agency assess and evaluate the results of these recommendations as they are implemented and adjust them as needed.

Specifically, the Task Force recommends that to evaluate the outcomes of these recommendations, the Clean Air Agency track emissions for the next several years and use emissions results to evaluate both the cost-effectiveness and the absolute effectiveness – in terms of emissions reductions – of the recommendations. The Agency can then adjust or supplement its indoor burning initiatives at that time based on its findings.