



Regional Air Quality Program

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THE 2004 GREAT OKANAGAN WOOD STOVE EXCHANGE PROGRAM

SYNOPSIS

June 10, 2004

Submitted by:

The Central Okanagan Regional District Air Quality Program

In partnership with:

The Ministry of Water, Land and Air Protection
Wood Energy Technicians of BC (WETBC)
The Hearth Patio and Barbecue Association of Canada
The Western Hearth Patio and Barbecue Association of Canada
Interior Health Authority
Okanagan Similkameen Regional District
North Okanagan Regional District
BC Lung Association
Terasen Gas Utility
Okanagan Hearth Product Retailers

1.0 Background

Thousands of households in the Okanagan Valley use wood for heating and recreational purposes in their homes and vacation properties. Approximately 21% of Okanagan homes (21,654 residences) have an indoor burning appliance; 89% are inefficient conventional wood stoves or masonry fireplaces. These wood burning appliances release approximately 478 tonnes of smoke particulate into the Okanagan Valley air each year. There are many reasons to heat with wood: a source of pleasure, a secure, low cost home heating option, a relatively inexpensive system to purchase and install and the recognition that wood heating is a renewable energy source when fuel wood is harvested in a sustainable manner. Unfortunately, poor operation, in combination with old technology appliances, result in a lot of wood smoke – a significant source of air pollution, which in turn can result in health and environmental problems.

BC is Canada's only province to implement legislation that requires all new wood stoves to be tested and certified to CSA B415 or US EPA standards for reduced emissions. These new technology wood stoves can significantly reduce wood smoke by up to 90%, increase energy efficiency and thereby reduce the amount of wood needed to heat the home. The problem is that the great majority of wood appliances in daily use are old technology stoves and many wood burners are unaware that these new technologies are available and / or the impact their stoves may be having on the air quality and health of themselves and their neighbours.

The 2004 Great Okanagan Wood Stove Exchange Program was built on the success of the 2001, 2002 and 2003 programs. By drawing on this previous experience the project team was able to take the "Burn It Smart" concept to another level. The overall objectives of the Great Okanagan Wood Stove Exchange Program were:

- to raise awareness of and educate the wood burning public about, the importance of efficient, safe, smoke-free wood burning
- To help those who heat with wood to improve their burning practises and make them aware of the advantages of new technology appliances
- To provide incentives to homeowners to replace their conventional old technology wood heating appliances, with new higher-efficiency / lower emissions EPA appliances

2.0 Program Partners

The Central Okanagan Regional District Air Quality Program with the help of staff from the North Okanagan and Okanagan Similkameen Regional Districts managed the Great Okanagan Wood Stove Exchange Program.

Hearth product industry participants included seventeen retailers, nine manufacturers and five distributors, who worked together to share the 15% discount offered to customers involved in the change out program.

Also participating as strategic allies and sponsors were:

The Ministry of Water, Land and Air Protection
Wood Energy Technicians of BC (WETBC)
The Hearth Patio and Barbecue Association of Canada
Interior Health Authority
BC Lung Association
Terasen Gas Utility

3.0 Changeout Incentives

A major aspect of the changeout portion of the program was the willingness of industry to offer rebates or trade-in allowances on new heating appliances. This rebate was shared among the manufacturer, distributor and the retailer and in this particular changeout, a 15% trade-in allowance off the price of the stove was available to consumers. The changeout allowance was available when an appliance was traded in and recycled and was not to be seen as a sales promotion.

This year no exchange was required for customers purchasing ultra clean options such as pellet, electric or gas inserts for open-hearth fireplaces. The no trade-in clause did not include wood inserts because invariably wood burning would dramatically increase if a wood insert was placed in an open-hearth fireplace. Since this is a clean air program, co-ordinators did not want to see wood burning stove inserts put into fireplaces that were previously rarely used.

4.0 Change out Results

Seventeen retailers participated in the program from towns throughout the Okanagan Valley. Each retailer displayed the program banner, poster and brochures and brought their knowledge and experience to the workshops as a resource for participants.

In total **142** stoves were “changed out” during the campaign, which is an average of 8 changeouts per retailer. The number of changeouts per retailer actually varied from 0 to 23. The Central Okanagan region had 50 changeouts, which makes up 35% of the total. In the Northern Okanagan region 37 changeouts took place (26% of total) and 55 changeouts (39% of total) took place in the Okanagan Similkameen Region.

The following table breaks down the number of changeouts that occurred within each region and at each participating store:

Central Okanagan		North Okanagan		Okanagan Similkameen	
Store	# of Changeouts	Store	# of Changeouts	Store	# of Changeouts
Okanagan Barbe Clean	23	Greenwood Energy Services	11	The Heat Source	16
Okanagan Rockworld	14	Shepherds Hardware	9	Home Hardware	13
A.R. Dyck Heating	6	Vernon Home Building Centre	6	Okanagan Home Centre	11
Okanagan Home Centre	6	Applewood Heating	6	Princeton Builders	8
OK Builders	1	Central Hardware (Enderby)	5	Okanagan Falls Red Barn	7
TOTAL	50	TOTAL	37	TOTAL	55

Of the 142 change outs, 105 were changed out for EPA emission approved wood burning appliances, 30 for gas appliances, 4 for pellet stoves, and 3 for electric appliances.

The tracking forms indicated the factors that influenced people to participate in the Wood Stove Exchange Program:

	%
Efficiency	67%
Safety	59%
Environment	45%
Money	34%
Energy	33%
Convenience	24%
Price	21%
Aesthetics	18%

The estimated total cords of wood previously used annually by those who changed out their stoves was 378. Thirty-seven participants who had consumed 68 cords of wood converted to other fuel sources, such as gas, electric and pellet. From this we estimate the reduction in smoke particulate matter (PM₁₀) entering the Okanagan's atmosphere to be approximately 6,315 Kilograms per year (Source: 1995 Criteria Contaminants Emissions Inventory Guidebook). This reduction in smoke particulate will translate into improved air quality for many neighbourhoods throughout the Okanagan Valley.

5.0 Recycling Old Stoves

A successful program can result in a considerable number of appliances being traded in. To ensure cleaner air these stoves were disabled and recycled. Retailers were required to make a declaration and provide their signature confirming that the change out stove was disabled and recycled. They were also required to state in what manner the appliance was disabled and where it was recycled. Change out stoves that were not disabled and recycled were not eligible for the rebate and were not counted.

6.0 Burn It Smart Education Workshops

The "Burn It Smart" Workshops delivered in Penticton, Kelowna, Princeton and Vernon were an integral part of the 2004 Great Okanagan Wood Stove Exchange Program. The workshops go hand in hand with the Exchange Program to raise awareness of and educate the wood burning public about the importance of efficient, safe, smoke-free wood burning and to help those who heat with wood to improve their burning practises and make them aware of the advantages of new technology appliances.

A total of five "Burn It Smart" workshops for the general public were held throughout the Okanagan Valley. The workshops provided tips on installation safety, burning without smoke, firewood, maintaining a system, locating a chimney, planning a system and wood heat options. Each workshop was presented by Reid Harvey who is a certified Wood Energy Technical Trainer within the wood heat industry. Each workshop was attended by chimney sweeps, hearth

product retailers, politicians and local government staff. The workshops also featured retailer showcases, which allowed residents to view a myriad of EPA emission approved wood, gas, pellet and electric heating appliances from various retailers and manufacturers involved in the Great Okanagan Wood Stove Exchange Program. A burn display was also set up at each workshop to demonstrate the value in burning smart. Other highlights of the workshops included firewood moisture testing and door prizes for those in attendance.

The workshops were held on the following dates and locations:

Date	Location	Attendance
March 3, 2004	Kelowna	60
March 8, 2004	Princeton	15
March 9, 2004	Penticton	45
March 10, 2004	Vernon	30
March 11, 2004	Kelowna	75
TOTAL		225

With an average of 45 participants at each workshop and a total of 225 attendees, we feel we were quite successful in promoting the series of workshops. Feedback from workshop attendees indicated that the workshops were very informative and enjoyable.

7.0 Burn Display

An important feature of the workshops was the burn display, which is a dramatic and effective way to demonstrate the vast improvement in wood heat technology. The burn display was created and mounted on a trailer that was taken to all planned public events to highlight the differences between old and new technology appliances. The burn display was very effective and graphically conveyed the improved efficiency of EPA certified wood burning appliances. It was used at the Burn It Smart public workshops and was the focus of several news items in the newspapers and Shaw Television.

8.0 Promotional Strategy

The promotional strategy was to publicise the program through advertising and public relations efforts. The advertising plan was comprised of an extensive media schedule that included radio and print ads with coverage in all areas of the Okanagan Valley. In addition to advertising, news releases and special features were submitted to media to further promote the workshop series. The promotional effort included several radio talk shows, two features on Shaw Cable Television as well as numerous articles in newspapers throughout the Okanagan.

One of the successes was an ad placed in the City of Kelowna 2004 Living Greener Calendar which features ways for consumers to be more environmentally friendly. This program was put together by a co-op student and features important homeowner tips on a monthly basis. The calendar was distributed to all households in the Central Okanagan.

A mobile sign display was placed in front of each workshop location to promote the “Burn It Smart Workshops” to the general public. For a modest amount of money, the program had a great opportunity to reach a lot of folks passing by on their daily business.

Results from the 2002 workshop Participant Surveys showed that 64% of respondents learned about the program through a poster or newspaper ad and 27% heard about it on radio or television.

Posters, banners, brochures, and publications were distributed to the 17 participating retailers. In addition to our advertising budget, several participating retailers placed ads in their local newspapers promoting the program.

9.0 Information Hotline and Web site

Detailed information about the workshop series was provided through a phone in hotline and a web site. Central Okanagan Air Quality staff handled 62 phone calls from the public over the six week period of the program. Information on the number of hits to the program web site was unavailable.

10.0 Summary

The 2004 Great Okanagan Wood Stove Exchange Program was built on the success of the 2001, 2002 and 2003 programs. By drawing on this previous experience the project team was able to take the "Burn It Smart" concept to another level. The overall objectives of the Great Okanagan Wood Stove Exchange Program were:

- to raise awareness of and educate the wood burning public about, the importance of efficient, safe, smoke-free wood burning
- To help those who heat with wood to improve their burning practises and make them aware of the advantages of new technology appliances
- To provide incentives to homeowners to replace their conventional old technology wood heating appliances, with new higher-efficiency / lower emissions EPA appliances

Seventeen retailers participated in the program from towns throughout the Okanagan Valley. Each retailer displayed the program banner, poster and brochures and brought their knowledge and experience to the workshops as a resource for participants.

In total 142 stoves were "changed out" during the campaign, which is an average of 8 changeouts per retailer. The number of changeouts per retailer actually varied from 0 to 23. The Central Okanagan region had 50 changeouts, which makes up 35% of the total. In the Northern Okanagan region 37 changeouts took place (26% of total) and 55 changeouts (39% of total) took place in the Okanagan Similkameen Region. As a result of the 142 stove change outs the estimated reduction in smoke particulate matter (PM10) entering the Okanagan's atmosphere will be approximately 6,315 Kilograms per year (Source: 1995 Criteria Contaminants Emissions Inventory Guidebook).

Five "Burn It Smart" workshops for the general public were held throughout the Okanagan Valley, with an industry expert, WETT-certified technician, chimney sweeps, hearth product retailers, politicians and local government staff in attendance. The workshops provided tips on installation safety, burning without smoke, firewood, maintaining a system, locating a chimney, planning a system and wood heat options. An average of 45 people attended each workshop for

a total of 225 attendees. Feedback from workshop attendees indicated that the workshops were very informative and enjoyable.

Overall the 2004 version of the Great Okanagan Wood Stove Exchange Program was very successful with raising awareness of and educating the wood burning public about, the importance of efficient, safe, smoke-free wood burning. The number of wood stoves changed over four Wood Stove Exchange Programs now stands at 567, which indicates how popular and successful this program has been. The amount of smoke particulate removed from the airshed each year due to the 567 change outs is estimated to be 24 tonnes of PM₁₀. This reduction in smoke particulate will translate into improved air quality for many neighbourhoods throughout the Okanagan Valley.

Appendix

1) News Release (February 18, 2004)

SUCCESSFUL WOOD STOVE EXCHANGE PROGRAM RETURNS

The *Great Okanagan Wood Stove Exchange Program* returns February 20th for its fourth annual six-week run. The wood stove exchange program gives consumers with older inefficient wood stoves the opportunity to replace them, at a 15% discount, with new EPA/CSA emission-approved wood, gas, pellet or electric appliances. Customers purchasing pellet, electric or gas inserts for open-hearth fireplaces receive the same discount.

Cash rebates offered by participating manufacturers, distributors and retailers range from \$100 to \$500. Consumers receive the rebate when they surrender their old stove for recycling. No trade-in is required when purchasing an open-hearth fireplace insert.

The past three wood stove exchange programs have seen a total of 425 old wood stoves traded in for new cleaner burning EPA emission-approved appliances, which has meant a reduction of smoke particulate of approximately 7 tonnes per year.

A wood stove change out program has been identified by Okanagan Valley air quality and health officials as a way to quickly move cleaner and more fuel-efficient stoves into local households.

Approximately 21% of Okanagan homes (21,654 residences) have an indoor burning appliance; 89% are inefficient conventional wood stoves or masonry fireplaces. These wood burning appliances release approximately 478 tonnes of smoke particulate into the Okanagan Valley air each year.

"Wood stove smoke is a major contributor to poor air quality," says Corey Davis, Regional Air Quality Coordinator. "New certified stoves burn 1/3 less wood and reduce smoke and particulates by up to 90% compared with inefficient old style stoves."

To learn more about new technology wood stoves and the Exchange Program attend a free 'Wood Stove Workshop and Showcase' on Wednesday March 3 or Thursday March 11 at 7pm

at the Kelowna Fire Hall on Enterprise Way. The workshops will provide expert advice on installation safety, firewood and wood heat options, burning without smoke, system maintenance and locating a chimney.

The Wood Stove Exchange Program is a limited time offer, which ends April 4th. For more information contact Corey Davis at 862-3339, local 429. You can also visit www.city.kelowna.bc.ca (click on "What's New?") for program details.

The Wood Stove Exchange is a clean air program of the Central, North and Okanagan-Similkameen Regional Districts.

2) News Release (March 1, 2004)

FREE WOOD STOVE WORKSHOPS

Free **Wood Stove Workshops** are being held at 7pm on **Wednesday March 3 and Thursday March 11** at the Kelowna Fire Hall on Enterprise Way. An appliance showcase will also accompany each workshop. The Showcase will feature a myriad of wood, gas, pellet and electric heating appliances.

The workshops will provide tips on:

- installing wood stoves safely
- firewood and wood heat options
- burning without smoke
- system maintenance
- locating a chimney.

The workshop and showcase are part of the Great Okanagan Wood Stove Exchange program that's running throughout the Okanagan until April 4. The Exchange program offers monetary incentives for wood stove users to trade in their old smokers for cleaner burning appliances.

One of the most appealing features of the Wood Stove Workshops are the practical tips on how to reduce the amount of wood needed to heat a home. Organizer Corey Davis, Regional Air Quality Coordinator, notes that heating with a wood stove, furnace or fireplace is something many of us do every day, all winter long. "Finding out ways to burn better is definitely worthwhile."

Those who attend the workshops will receive plenty of information on wood heating issues as well as booklets and pamphlets they can take home to read later. People are encouraged to bring a sample of their firewood so they can get a free moisture measurement. Knowing the moisture content of firewood can help householders assess the performance of their wood heat systems.

The workshop leaders are some of Canada's most experienced wood heat specialists. Local wood heat retailers will also be on hand to answer questions and talk about the products that can help make wood burning safer, more efficient and healthier.

The Wood Stove Exchange project is designed to promote better burning practices and to encourage upgrading to the new advanced technology wood stoves, pellet stoves, fireplaces, gas and electric appliances. Advanced technology products are those that meet stringent

smoke emission limits. These new stoves dramatically reduce smoke emissions by up to 90 percent and deliver about one-third higher efficiency than older conventional "airtight".

Another popular feature of the Wood Stove Workshop will be a special outdoor display where seminar-goers can view actual wood stoves operating. The display will be operating before the workshop, so people are encouraged to arrive early to see it. An older stove will be burning along side one of the advanced technology models. While the older stove will produce a plume of smoke from its chimney, observers will be astonished to see no visible smoke from the advanced stove's chimney. They might also notice that the advanced technology stove produces a more beautiful fire. The striking difference is something people need to see to fully appreciate.

"You really need to see these new stoves working to appreciate the difference in performance," says Reid Harvey, one of the workshop presenters. "There are so many advantages of the new technology stoves," he says, "Think about one-third less firewood to cut, split and carry. Plus there is greater safety because of less creosote, so the risk of a chimney fire is virtually eliminated. Not to mention the good feeling you get knowing you are doing something that not only helps your family, but also helps the environment."

Corey Davis of the Regional Air Quality Program agrees. He says the Wood Stove Exchange project makes a valuable contribution to public awareness of appropriate wood heating. "It is important for people to realize that wood smoke is air pollution and that steps to reduce it are part of environmental protection," he said.

"This workshop is a great opportunity for homeowners to learn more about an important topic," says Mr. Davis. "We have offered workshops like this over that last two years and were overwhelmed by the public's interest."

Anyone planning to attend the workshop should try to arrive by 6:30 pm so they can view the outdoor display of operating stoves and to get the moisture of their firewood sample measured.

The Workshop and Showcase are organized by the Central Okanagan Regional District's Air Quality Program. For more information contact Corey Davis, Regional Air Quality Coordinator at 862-3339 local 429.