

The Air Quality Buzz on Beehive Burners

**Contributed by
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"Did you notice the smoke pouring out of the burner yesterday? My daughter has asthma and when the air quality gets bad it can cause serious problems for her."

"I may work at the mill, but I also breathe the same air as everyone else and have the same concerns about health."

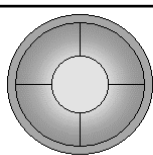
Ever heard any of these types of comments, or ever said them (or thought them) yourself? You're not alone. Beehive burners have been front page news in the Bulkley Valley and Lakes District for years now, particularly because of the highly publicized Environmental Appeal Board Decision regarding the three tier one burners (those within close proximity of a community)-Houston Forests Products and Canadian Forest Products both in Houston and Pacific Inland Resources based out of Smithers. There are also 4 tier two burners, including Carnaby (currently not operating), Decker Lake Forest Products, Babine Forest Products and Cheslatta Forest Products.

Poor air quality due to elevated levels of fine particulates in the Bulkley Valley-Lakes District (BVLD) airshed is a result of emissions from a number of different sources and the weather and geography that make this a wonderful place to call home.

In recent years, the tier one burners have undergone a number of upgrades and changes to their operations, significantly reducing their fine particulate emissions to the BVLD airshed. Mills with tier one burners are now all capable (and do so) of shutting down their burners during periods of poor air quality, while continuing to operate the mills themselves, thus preserving the employment of numerous community residents. Burner operators are aware of our air quality and are constantly working on how to further reduce the potential impacts.

In order to give burner operators time to develop best alternatives, there have been numerous operating extensions granted to these forms of wood waste disposal. The phase out for these burners is now June 30, 2005. An example of a beneficial alternative is the recent Canfor/BC Hydro cogen project in Prince George. The BVLD airshed management planning process recognizes that the burners are not the only source of our air quality problems, and is therefore working to address fine particulate emissions from all sources, including the beehive burners. Their goal is to improve air quality and the overall quality of life in the BVLD, a delicate balancing act but one that this dedicated group of volunteers is working hard to achieve, and one that will be done using science-based decision making and local knowledge.

It's crucial to recognize that while these beehive burners emit tonnes of fine particulates into our airshed, and that this pollutant is known to cause adverse health effects at the levels found in our airshed, the mills



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that operate them also provide thousands of direct and indirect jobs in our communities and rural areas. Somehow a balance must be found whereby the quality of life in our airshed is improved for the benefit of all who live, breathe, work and play here.

Throughout the past year of airshed management planning, one key question has come up time and again-"why should time and effort be spent on this process if the burners are still operating?" To answer that question, a second question needs to be answered first-"would the BVLD airshed still have air quality episodes if there were no more beehive burners operating in it?"

There is no doubt that beehive burners are significant contributors of fine particulate to air quality in the BVLD air-

shed, but they are by far not the only emitters.

Other significant sources include residential wood heating, forestry and agricultural debris burning, land development burning, small sawmill debris burning, backyard burning and road dust. But how can any of these other sources of smoke or dust compare to the impacts of emissions from the beehive burners? The answer to that lies in what you see when you look out your window...the weather, the mountains and the valley.

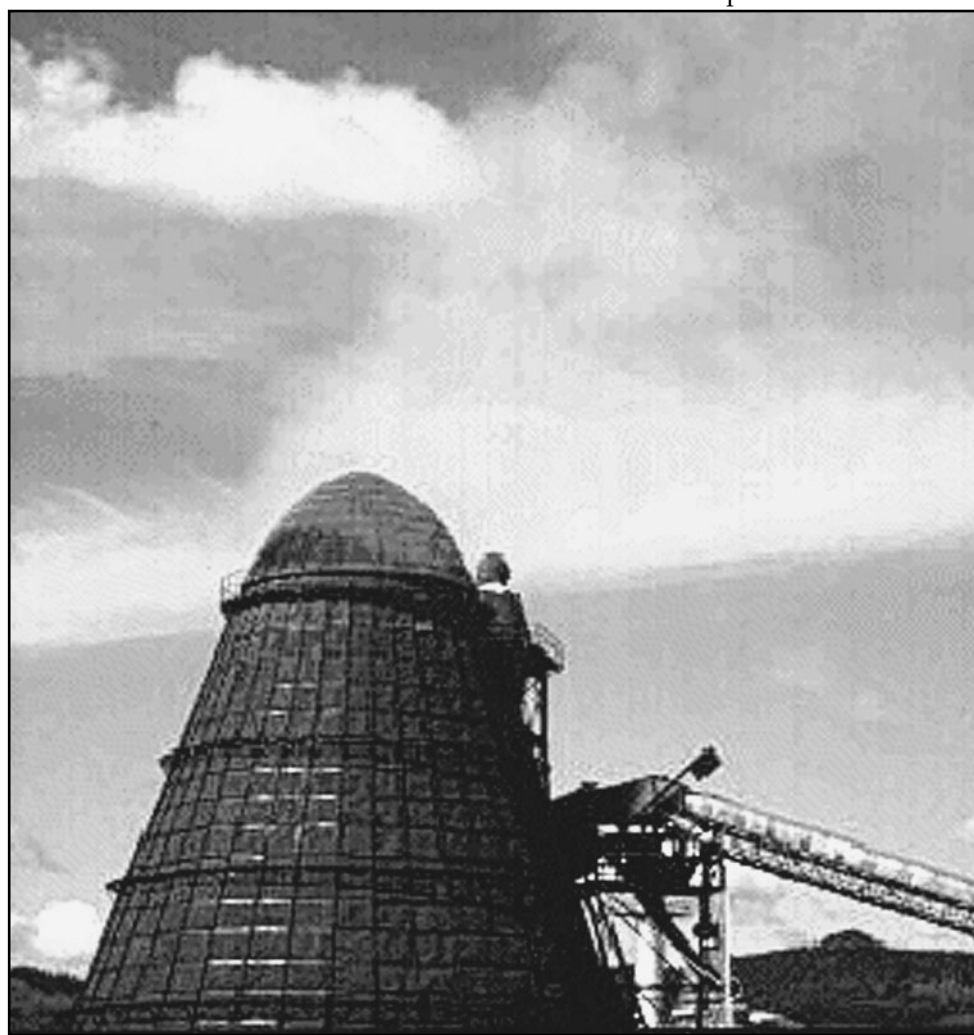
Living in a mountain-valley environment like many people do in British Columbia is desirable for a number of reasons, including scenery, recreation and economic opportunities. However, there is a major drawback to valley living as well-the potential for poor air quality. The complex terrain that exists in interior parts of the province including the BVLD often contributes to the weather conditions that lead to our air quality episodes. These conditions include frequent temperature inversions, typical inflow/outflow and upslope/downslope wind patterns and frequent days with low or

calm winds. Temperature inversions occur when cold, heavy air sinks and collects in a valley bottom, with warm, lighter air above. What this means is that very little mixing of the air and pollutants will occur. Why? Because warm air rises, and cold air sinks-but during an inversion, the cold air has already sunk below the warm air, so it's happy to stay there until something happens to make it move around. That something is usually a new weather system coming into the area.

Emissions that occur below the inversion tend to accumulate in that shallow layer of air near the ground, unless they're being emitted at a high velocity and are warmer than the air above. Emissions that occur above the inversion layer tend to stay above unless they're cooler than

effort be put into airshed management planning if the burners are still operating?", and "would there still be air quality episodes if there were no more beehive burners?", we offer the following answers. Poor air quality in the BVLD is certainly significantly contributed to by the operation of beehive burners, however even in their absence there would be an expected continuation of elevated levels of fine particulates due to the many other sources of this pollutant in and around the airshed. By acting now to reduce emissions from all sources, we can move towards improving our quality of life in both the short and long term. The air quality in the Bulkley Valley-Lakes District is a result of local geography and climate, as well as a number of sources of fine particulates, all of which need to be addressed if this airshed is to see cleaner days.

For more information, contact the facilitators at Footprint Environmental Consultants, at 847-1672, drop by the office at 102-3423 Fulton Avenue in Smithers, or visit our website www.bvldamp.ca.



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the air they're emitted into. If the inversion breaks up, these high elevation pollutants can then be mixed down to the air nearer the ground or conversely low elevation pollutants can become diluted and carried away.

As a result of local geography and weather conditions, there are days when we would expect emissions from the burners to have a greater or lesser degree of impact on air quality near the ground, where the people are. Data show that we experience both good and bad air quality on days when beehive burners are operating as well as on days when the burners are not operating, suggesting that the burners are not the only source causing our episodes, and that even once they're gone, there will still be air quality problems in this airshed unless all sources of fine particulates are addressed. The same dependency on weather also exists for the level of air we breathe for all other sources of fine particulates.

In conclusion and in answer to the questions "why should time and