

FREE  
MAGAZINE

Issue 24

Passages from  
Silverdale, Mission,  
and beyond.

# THE FOOT PRINT PRESS



# Message from the Editorial Committee

## Hawk

on wing      you      four winds in shadow      the earth's heart      beating  
bird      you've caught the sun

Angela Zimmerling, Abbotsford

In local Indigenous teachings, Hawks are known for their clear sighted vision, allowing them to see what the future holds. The Hawk is the protector of the air and holds the key to higher levels of consciousness. Sixteen-year-old climate activist Greta Thornburg's hawkish nature has given her the vision and the courage to state that our current economic system of endless growth is a "fairy tale" and we cannot continue to focus on economic development to the detriment of social justice and global ecosystems. Millions of people, of all ages, share her frustration with the failure of federal, provincial and municipal governments to alter their endless growth, business as usual mentality, and are demanding they take the necessary action to address the climate crisis. How can governments justify spending billions on pipeline infrastructure, massive expansion of fracking, and destruction of entire ecosystems, while proclaiming we are in a climate emergency? As they continue to invest in the carbon inten-

sive industries that are making climate change worse, the waste and by-products from excessive consumption is polluting the water we drink and choking the air we breath. Replacing our system of endless growth with a more realistic model of sustainable living is desperately needed to begin the healing of our planet. Adapting to a low-growth sustainable economy will be complex and demanding, but there will be many compensations. Studies of well-being have indicated that slowing the pace of growth is not only less harmful to the environment, it gives people more free time and more happiness. Moving away from the boom and bust of nonrenewable resource development also creates more stability in local economic systems and less income inequality. It is time for governments and individuals to invoke the spirit of the hawk, so we can all open our eyes and see the path we need to take.

Hawk photo courtesy Danny Chan

Cover photo, Cooper's hawk, Bruce Klassen, Silverdale





*Good afternoon,*

I'm Taylor and I'm Elia. We're grade 6 students from Ecole Christine Morrison. We're here to tell you about the dangers of climate change and how it effects our planet.

What is climate change? Climate change is when greenhouse gasses are trapped in the atmosphere and cause an unnatural rise in atmospheric temperatures called global warming. This leads to many problems, for example, extreme weather events like droughts and hurricanes, rising sea levels and flooding, as well as species extinction and epidemics.

Did you know that climate change and global warming are caused by human activity? Some examples of human activities that contribute to climate change are: burning fossil fuels in cars and planes, large-scale factories, industrial agricultural/cattle farming and deforestation.

Most of these greenhouse gases are caused by systems put in place by the generations that came before us and we don't think we should have to suffer. Like Greta Thunberg, we are here to ask adults in our community and in the government to make big changes in the way the world is run, so that we can slow down or even stop climate change.

Meanwhile, we also have some ideas for things that our community can work on and that individuals can do to help: try not to use your car as much as



usual by walking or biking to your destinations and/or using public transportation. We also encourage you to use reusable bags and containers instead of single-use plastic bags and to buy local fruits and veggies to reduce the amount of gas used to transport the groceries across the globe. It is our future that is at stake and we're NOT going down without a fight!

Thank you for your time and consideration!

**Taylor Buckman & Elia Pym**, Mission  
Unite Behind the Science rally photos  
courtesy **Rick Skerry**, Mission





# Our Cedars are Dying and We Need to Listen

**A**ncient giants of British Columbia's forests are dying. The sentinels, who stood observing the landscape for up to 1500 years, and have watched societies grow, are beginning to fall. Cedar trees, both red and yellow, have been in decline throughout our province. As the climate changes, years of summer drought have become more common and these moisture loving trees are having a tough time coping.

What does it mean to lose these iconic trees? From the point of view of many West coast First Nations, it means a loss of the sacred and of tradition. Western Red Cedar was known as the "Tree of Life" by some groups and continues to have significance. Historically, cedars provided many of the necessities of life. They were dug out to make canoes which were vital for transportation. The inner bark was used to make rope, woven into baskets, and used to make clothing and hats. The boughs were used to make beds, while the rot resistant wood was made into furniture and used in the creation of ceremonial masks. Hand tools, from digging sticks to fishing nets, were also formed out of cedar. These important trees provided not only material goods, but were also used as medicine, and are still used today by some in spiritual cleansing rituals.

A dying cedar is not only a loss of the sacred, but also a loss of habitat used by many forms of wildlife. Their evergreen boughs provide a resting place for birds to hide from predation and to build nests. The young shoots, leaves and bark of the tree are browsed upon by deer and elk, and can be especially important to their survival during the leaner winter months. At the ground level, the cavities and crevices of the tree provide welcomed shelter for small mammals and insects. There are even several species of butterflies and moths who lay their eggs on and within the tree. All parts of the tree provide some use to wildlife, just like it did for the First Nations.

Falling cedar forests may have negative implications to the local ecology. There will inevitably be a cascade effect that continues right down to the forest floor as these trees die off and the landscape becomes drastically changed. They provide massive amounts of shade to all those growing far below their towering canopies. Once the trees die, the understory plants, often shade loving ferns, will be exposed to light conditions in which they are not likely to grow. Some may adapt, but many will die alongside the tall cedars that kept the intense







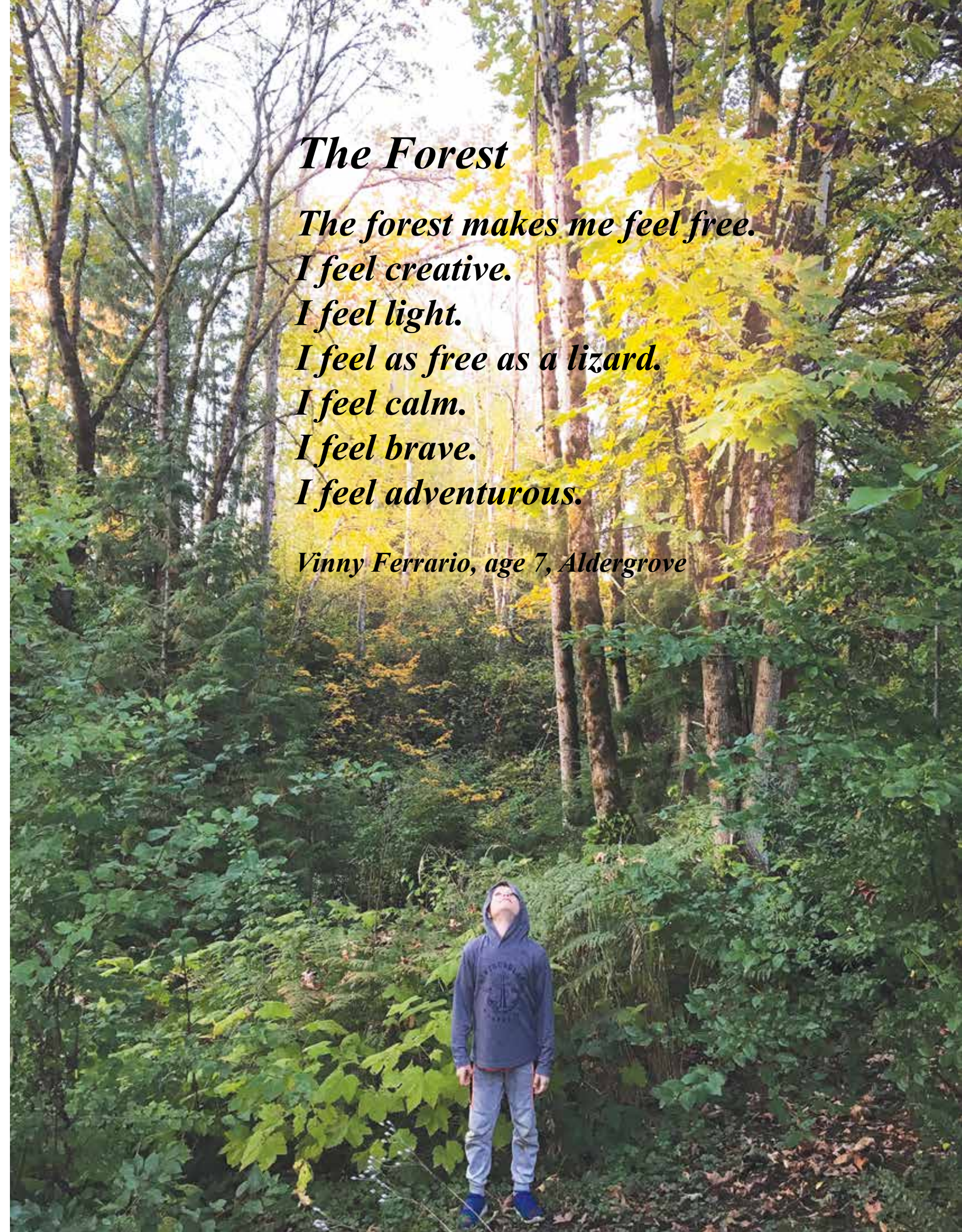
sun off their foliage. More light and exposed ground may also give an opportunity for more aggressive, often invasive, plants to fill the space. Nature tends to live in a delicate balance, which can have unpredictable consequences when it gets disturbed. Animals who live in this balance will no doubt be affected by the change as well.

As an iconic west coast tree, Cedars are getting a lot of attention, but they are not the only species that are under the threat of climate change and the unusual weather conditions we have seen in recent years. Throughout the south coast region, there has been some noticeable dieback of understory shrubs. Salal seems to be affected in particular, but people are also noticing salmonberry as well as thimbleberry falling victim. These plants make up a large part of the forests' understory in many places, and like the cedars, provide food and habitat to many forms of wildlife, from birds and rodents, to larger mammals like deer and bear. A buildup of dead foliage also has consequences to our society, as the risk of forest fires will increase exponentially as this trend continues.

Those of us who have learned how to listen to the natural world are not liking what we are hearing. While there are still vast forests of cedar remaining, we need to take the whisperings of an unhealthy planet seriously as this is likely only the beginning. It starts with a few trees and shrubs dying, then before we know it, everything has changed and there is no turning back.

**Jon Blais**, Conservation Technician at the Fraser Valley Conservancy, Mission

Dying cedar tree photo courtesy **Gary Haggquist**, Cultus Lake



## ***The Forest***

***The forest makes me feel free.***

***I feel creative.***

***I feel light.***

***I feel as free as a lizard.***

***I feel calm.***

***I feel brave.***

***I feel adventurous.***

***Vinny Ferrario, age 7, Aldergrove***





## Looking Out for the River, the People and the Salmon

The Fraser river that weaves through the valley has been known for thousands of years as the Stó:lō. The indigenous communities of the upriver have shared the same name as the river, Stó:lō, which means “people of the river.” The language of the ter-

ritory is halq’emeylem. Our language comes from the relationship to the river, and to all the living systems that live alongside and within that great waterway. This is a story about the river, the river people, the language, a mountain, a hawk, and the environment, and

how respect, sharing, teaching, and learning have always been at the heart of Stó:lō culture.

Come close and listen to a story of the land. This is one of the oldest stories of transformation and change. Our oral histories unfold right at the river’s edge. Stories

have the power to transform our thoughts and deepen our sense of place. The people of the river call the land, s’ólh téméxw, “*our land.*”

This story begins as we view the out stretched wings of a hawk catching a thermal updraft. The wind carries the





Red-Tailed Hawk who is named on Stó:lō territory as “Síq’elets.” Higher and higher, Síq’elets flies near the mountain that rises over 6,000 feet above the Stó:lō as it winds through the valley. The peak is Mt. Cheam, and for thousands of years the mountain has been called, “Lhí lheqey.” Lhí lheqey (*Theeth-uhl-kay*) is addressed as the “mother mountain”, because she has a story, an old story, of her existence and how she came to be a steward of the river.

The Red-tailed hawk has memory as old as this story. From the beginning of time immemorial, hawk, salmon, plants, and animals, have existed and connected to all the living systems on s’ólh téméxw, our land. Red-tailed hawk, Síq’elets, has made nests on Lhí lheqey, the mother mountain, and raised young, and hunted for food on the slopes and farmlands near the great mountain. Síq’elets sees with keen and laser focus all that happens along the river.

Lhí lheqey’s story begins in the long ago past in what is called “time immemorial.” This is the time of great geo-

logical transformations and our s̓xwō̓xwiyám, “our oldest stories of the distant past,” tell of time when “things were being set right” throughout the river. In the early 1960’s this story was told to Oliver Wells by Mrs. Amy Cooper, and today, it is shared by many others, including Siyam-iyateliot Elizabeth Phillips, the last fluent halq’emeylem speaker of the oral and written river language.

Listen now to this story. Mt. Baker was a man who carried the name Kwelxá and he was looking for a mate and married Lhí lheqey. She accompanied him back to his territory and they had three boys (Mt. Hood, Mt. Shasta, and Mt. Shuksahn). Eventually, Lhí lheqey knows she must return to the valley, and she returns with her three daughters Séyowót, Óyewót, and Xomó:th’iya and her loyal sqwemá:y (dog), and they can all be seen from the river except the one daughter who is facing the other side of the mountain. It is the Xexá:ls, the great transformer, that sets Lhí lheqey to be the “mother mountain,” and she embraces her responsibility to watch over the river, the people, and the wild salmon.

This s̓xwō̓xwiyám, this old story, continues to inform all the citizens that live throughout the valley. Síq’elets, the Red-tailed Hawk, coexists with the mountain, the river, the fish, and so much more, to continue thriving in the valley. We all can contribute to the health of all living systems along the river when we look at Mt. Cheam, Lhí lheqey, and like her, do the important things of advocating for no pollution on the river, leaving pesticide usage away from the birds, like Síq’elets, the hawk, and come together for the defense, protection, and return of our wild salmon. We can all be stewards and caretakers of the land, its citizens, and wild salmon.



Thank you for listening to this story. Yalh yexw kw’as hoy, this means thank you.

**Siyamiyateliot Elizabeth Phillips and Lolehawk Laura Buker**, Mission

Red-tailed hawk centerfold photo courtesy **Rick Skerry**, Mission

Hawk mask by **Betty Joe**, Mission

Hawk painting by **Una-Ann**, Tahltan First Nation  
<https://www.facebook.com/UnaAnnTahltanTlingitArtist>



# Sprawl report: How protecting and enhancing our forests can save us all

**T**rees and other vegetation improve air quality by removing carbon dioxide, nitrous oxides, sulphur dioxide, carbon monoxide, and ozone from the atmosphere and by producing oxygen.

Planting and preserving trees are presently considered the most effective and economical ways to absorb and store the carbon that is currently in the atmosphere and can buy us the time we need for our societies to replace fossil fuels with renewable energy and scale back the rate of our consumption.

Recent research on climate change, published in the prestigious journal Science (Jul 5 2019:Vol. 365, Issue 6448, pp. 76-79) reported that 205 gigatons of carbon could be taken out of the atmosphere when 1.2 trillion trees planted on Earth's available land fully mature. This represents about 25 per cent of all the carbon in the atmosphere and almost two-thirds of all the carbon humans are estimated to have produced. Not all countries are capable of growing the forests we need. With the potential to add 78.4 million hectares of forests, Canada ranks third in the world for potential tree restoration, placing us in an important position of leadership and responsibility.

Unfortunately, with a warming climate, it is estimated that the land available for forest restoration and tree planting will shrink over time as drought and rising temperatures create a more hostile environment for trees to grow. We therefore desperately need to protect existing trees so they can continue to provide shade and humidity for newly planted seedlings, and continue to provide their life-giving services to humans and wildlife. The larger the tree, the greater the cooling effect. With scientists stating we have less than 10 years to make a significant impact before the climate reaches a critical tipping point, time is clearly of the essence.

The implication is that communities need to alter how we build our neighbourhoods and stop destructive greenfield development. When forests, meadows, and wetlands are replaced by pavement and buildings, the surrounding air quality is degraded, temperature rises substantially from the urban heat island effect, and the remaining habitat is smaller, degraded and more fragmented, threatening the survival of many wildlife species and entire ecosystems.

Here in the lower mainland, the metro Vancouver area lost 296 square kilometers of natural and semi-natural land to development between 1971-2011. According to a study by statistics Canada, our growing cities are also sprawling over what once was mostly farmland. Only 5 per cent of Canada's entire land base is suitable for growing food. At the same time, urban uses have consumed more than 7,400 square kilometers of dependable farmland in recent decades. Almost half of Canada's urban base now occupies land that only a few generations ago was being farmed.

Sadly, like many towns in Canada, Mission is in the midst of an infrastructure building boom where 60% of the 3,277-acre forested hillside of Silverdale has been earmarked for urban development despite costly sewer and water infrastructure upgrades that would be needed to support this growth. Silverdale's Master Infrastructure Strategy (MIS) document provided a cursory analysis of the capital cost identified for the utilities and transportation to service Silverdale as \$558,765,000 (DOM agenda Oct.7/19 pg. 75-105). This document, which cost taxpayers over \$700,000, does not include any capital analysis for amenities that will be needed

(e.g., fire halls, RCMP, schools etc.), the cost of a high level bridge across Silver creek, the costs of long term operations and management, the costs to connect Silverdale to Mission's existing water and sewer system, or the costs for a new sewer pipe across the river. According to a staff report by Mission's CAO (DOM Late item Aug.6/19) the costs for the new sewer pipe alone, designed largely to service growth, has skyrocketed from an estimated \$12 million to \$32 million - a development subsidy cost that will be borne by the taxpayer. Imagine what our community could do to restore greenspaces and reduce our carbon footprint with funds of that magnitude!

Relying on others to solve the climate crisis, whether that's municipal, provincial or federal governments, industry, the scientific community, or individuals, will surely fail if we continue with the business as usual model of car dependent sprawling settlement patterns. Containing growth and supporting tree protection and forest restoration projects is an important and feasible way for us to make a significant difference in the climate emergency.

**Tracy Lyster, CAUSS**





# “Clean LNG” is a myth, a bridge to climate nowhere and a dangerous fossil fuel

**L**iquefied natural gas (LNG) is neither “green” nor sustainable. From drill-hole to burner tip, every tonne of this fossil-fuel permanently pollutes millions of litres of water, consumes megawatts of electrical power, and releases about 4 tonnes of greenhouse gases into the atmosphere. If BC is to meet its emissions targets, the gas must stay in the ground.

LNG proponents like to tout their product as “clean”. When challenged to produce the science behind that

claim, they retreat to declaring that the fossil fuel is “cleaner-burning” than either coal or oil, and therefore useful as a “bridge fuel” in our overdue transition to relatively-clean renewable energies. The former “clean” claim is pure spin, the latter “cleaner-burning” much closer to the truth – we don’t cook our food over sooty coal or oil. The difference is important if the public is to understand that there is no role for LNG in our urgent transition away from fossil-fuel energies.

Methane gas – we burn it to heat our homes and cook our food - is mostly derived from a brute-force mining technique called “fracking” (hydraulic fracturing). Fracking injects a mix of water, fracking fluid and sand at high pressure into pre-drilled boreholes. This forces fissures to open and blasts oil and gas from underground shale-rock formations. Because drill-holes deplete quickly, frackers must move every few years, leaving behind a pockmarked countryside and an environmental mess.

Fracked gas is piped to a treatment facility, where it is refined to almost-pure methane. The unwanted bits - most of them potent greenhouse gases - are either flared off, or simply vented into the air.

Finally, the methane is piped 900 kilometres east to Alberta and 1,200 km southwest to the Lower Mainland. About half of the gas goes to Alberta to sweat bitumen from the Athabasca sands. A quarter each goes to the U.S. and the Lower Mainland/Vancouver Island.





Fracking is an extreme environmentally-destructive technique - banned in many countries but not (yet) in Western Canada. At around 4 million tonnes per year, the “Spectra” gas pipeline to the Lower Mainland is BC’s single biggest source of greenhouse gases.

If all the gas mined in northeast BC were used in “cleaner-burning” appliances, or cooled to its liquid form (LNG) at -160°C using grid electricity, the claim that the gas is “clean” might have some truth. But it isn’t. Besides the flaring and venting, there are leakages from active and abandoned drill-holes and from valves and compressor stations all along the pipeline route to your house, to the gas-powered LNG liquefaction plant, and from the 300-metre long tankers that take the liquefied gas to

Asia, where burning it produces tonnes more greenhouse gases.

Methane is a powerful greenhouse gas packing 86 times the global warming punch of carbon dioxide (CO<sub>2</sub>), so these invisible leaks are deadly for the livability of our planet. BC’s Oil & Gas Commission allows the gas industry to self-report its leakage estimates, which independent research has shown to be seriously underestimated.

Proponents advance several arguments for continuing to mine, liquefy and export fracked gas. “If Canada doesn’t export the gas, competitors will” (a morally-bankrupt argument in a climate crisis); “Canada is a small contributor to global warming” (not true – at 17 tonnes each,

we rank 11<sup>th</sup> in annual per-capita emissions, just below oil-soaked Saudi Arabia, Kuwait and Bahrain); “Canada’s historical role is as a resource exporter” (no longer– being a high-cost producer isn’t working for our forest or mining industries, and won’t either for a liquefied gas industry in which we have no experience other than a hard-learned aversion to such boom-and-bust, foreign-owned industries).

A recent (April 4<sup>th</sup>) editorial in the gas industry publication “LNG Condensed” put it bluntly. It criticized the industry’s minimizing and its environmental footprint, stating that “*LNG is not green and it is not currently sustainable .... Sitting around repeating the mantra that*

*LNG is green and sustainable simply won’t cut the mustard. Get out there and convince the world that LNG can be made green and sustainable, preferably by deed as much as by word. Then, and only then, will the industry become a destination rather than a dispensable tool of transition”.*

Climate disruption is the existential problem - we all must learn new habits. The switch from fossil fuels like LNG to much-cleaner renewable energy can’t come soon enough.

**Eoin Finn** B.Sc., Ph.D., MBA, Vancouver

LNG photos courtesy **Peter McCartney**, Wilderness Committee







### **THE FOOTPRINT PRESS**

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Hawk Man mask, **Peter Gong**, Mission