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Happy holidays from the Sunshine Coast Clean Air Society!

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President's Message

Louis Legal

2019. This year saw a few changes. After twenty years as a member of the SC Clean Air Society, I assumed the presidency of the Society. There were other personnel changes as well. We have two new board members and as the year ended, we hired a new Executive Director.



Our talented Executive Director (ED) for the last few years, Nara Brenchley, decided she needed a break. As the lead of the Wood Stove Exchange Program on the coast she convinced us to end subsidizing the exchange of old wood stoves for newer more efficient ones as even the new stoves can prove detrimental to local air quality. Instead the program now only offers rebate incentives for replacing wood stoves with the most environmentally sustainable options, including: air to air heat pumps or electric

[appliances.](#)
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As well as campaigning for cleaner home heating alternatives, Nara was also very active in promoting stronger outdoor burning bylaws and advocating for restricting the use of fireworks on the coast. Unfortunately, these initiatives were met with some backlash reminiscent of that which we experienced when the campaigns against cigarette smoking began nearly half a century ago.

On a brighter note, we were very fortunate to hire Naomi Fleschhut as our new part-time Executive Director. Some of us have been here long enough to remember her work with the Society 10 years ago, as the coordinator of our first Wood Stove Exchange Programs. We look forward to Naomi helping us to renew and rejuvenate our society.

We lost Dina Enright as a director in May but Elizabeth Lytviak stepped up to replace her. We were also fortunate this fall to acquire John Field as another new director. I would like to welcome them both.

Our AGM last spring and a recent board meeting discussed whether the Clean Air Society and the 2 Degrees Institute should become two separate entities. There has been some confusion by outsiders on the relationship between the two and internally there have also been some minor issues. Efficient use of fiscal and personnel resources requires that we continue as one society but mostly operating as two, with a clear recognition of the overlap and synergies in our missions to protect local air quality, and lower our greenhouse gas emissions to avoid catastrophic climate change.

2 Degrees Institute Update

Ryan Logtenberg

On the topic of Global Warming, as an organization, we have continued our focus on catalyzing action to reduce the average person's carbon footprint.

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By now, I'm sure everyone has heard of Greta Thunberg, an inspiring climate activist who has been walking the talk. Since June we have been introducing her powerful speeches via social media to over 50,000 teenagers across Canada.



Our interactive climate graphs, which are meant to illustrate the causes and effects of climate change in the simplest of terms, are continuing to prove popular. We are on track to finish 2019 with just under 250,000 people who have viewed our graphs in the past 12 months. This is a 400% increase from 2018! This year we have been asked to include our graphs in an upcoming book "Food and Climate Change" by Sarah Bridle, a professor of astrophysics at the University of Manchester. Our graphs will also be appearing in the science textbook "Enseignement scientifique Terminale" for 17-year students in France. It will be published in April 2020 and 85,000 physical copies will be made. We have received numerous requests to produce more climate graphs that illustrate other elements of a warming planet such as ocean acidification and the annual rate of growth of various greenhouse gases.

In July, I published a 2 part article that laid out a pathway to returning CO₂ levels in the atmosphere back to 350 parts per million. It requires the participating of everyone to make it happen. You can read it [here](#).

In my opinion, one of the most powerful documentaries from 2019 for catalyzing individual climate action is "Game Changers" which is now on Netflix.

Another UBC Community Partnership Project

Elizabeth Lytviak

In July 2019 BC Transit pledged that all buses in the transit system will be electric by 2040. This pledge inspired another cooperative project with 4th year

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on this project. In September she made a “pitch” to the 2019 class of ENVR 400 students on a study to electrify the Sunshine Coast transit bus fleet.



Four students have decided to participate in the project. The abstract of their final proposal reads as follows:

Electrifying transportation is a necessary part of reducing greenhouse gas emissions in order to mitigate global climate change. Electric buses are gaining popularity worldwide, in urban and rural areas alike. This research, conducted in partnership with the Sunshine Coast Clean Air Society, aims to explore pathways towards electrifying the transit system in the Sunshine Coast with the goal of electrifying the transit system earlier than the current provincial timeline. The project will employ life-cycle cost analysis to determine the most financially feasible charging method. The researchers will use a numerical algorithm to optimize bus schedules in order to accommodate charging time and minimize demand charges. The project deliverables will include an implementation plan for electrification of the Sunshine Coast transit system for submission to BC Transit and the Sunshine Coast Regional District and a list of recommendations for increasing ridership for submission to the Sunshine Coast Clean Air Society.

The four students participating in the project are:

Carol Fu is a fourth-year UBC Science student majoring in environmental sciences with a focus on land, air, and water as areas of concentration. Carol has experience with research, data collection and analysis from previous co-op work opportunities at Environment Canada and Agriculture and Agri-Food Canada.

Jason Lin is a fourth-year Environmental Science student with an experience in field-work, data collection and analysis from previous work experience at

Michelle Marcus is a fifth-year Environmental Sciences student enrolled in the land, air, and water concentration. As an active climate justice advocate, she has much experience communicating and collaborating with various community stakeholders. She also possesses data analysis and modelling skills.

Tom Cui is a fourth-year environmental science student major with an area of concentration in land, air, and water at UBC. He is familiar with academic writing and data analysis, and he has experience with programming.

We look forward to working them in 2020 to explore green options for local transit!

New Opening Burning Smoke Regulations

The province's Open Burning Smoke Control Regulations (OBSCR) came into force on September 15, 2019. [Click here for the factsheet summarizing the regulations.](#)

It should be noted that the populated area along the Sunshine Coast is all within the High Smoke Sensitivity Zone.

One change affecting backyard burns for domestic or agricultural purposes is now based on the diameter of each branch or piece as follows:

- Less than 3 cm in diameter, OBSCR does not apply
- 3 -10 cm in diameter
 - Vegetative debris must not be moved more than 5 km from its original location
 - Prohibited materials are not allowed
 - Open burning must adhere to any burn ban

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Any open burning must also follow any local, regional or other bylaws.

Air Quality Monitoring Network on the Sunshine Coast

As reported in our last newsletter, our Medical Officer's request for an FEM (Federally Equivalent Method) air quality monitor for Sechelt had been turned down. The prime reason for denying the request was cost. These standard AQ monitors are expensive to buy (\$40,000) and operate. As well there is an argument that past monitoring in Sechelt indicates that the air on the coast is very good.



Our Regional ENV Meteorologist, Tarek Ayache, has written to VCH indicating that they could not fund such an investment at this time. He has documented that the Sunshine Coast has a fairly long history of very clean air and that the ministry lacks resources to purchase and operate a standard AQ monitor. He has agreed to come to the Sunshine Coast and make his case to local governments in the spring. The SCCAS has agreed to organize a meeting to accommodate this.

The SCCAS began purchasing and installing low cost Purple Air monitors on the coast in 2016. The network is up and running and seems to be performing well.

The SCCAS Purple Air Network

The SCCAS Purple Air Network now consists of nine monitors extending from

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1. Langdale
2. Lower Gibsons
3. Elphinstone
4. Gower Point
5. Roberts Creek
6. East Porpoise Bay
7. West Sechelt
8. Halfmoon Bay
9. Madeira Park
10. Garden Bay

The Lehigh Hansen mine in Sechelt has installed an additional five Purple Air Monitors both on and near the mine site in Sechelt.

The Purple Air map is available in real time here:

PURPLE AIR MAP

The Purple Air Monitors and map display have been criticised by the Ministry of the Environment and Climate Change (ENV) and others for various reasons including:

- The monitors' accuracy,
- High failure rate for the monitors, and
- The Purple Air map display calculates the EPA Air Quality Index incorrectly.

The Purple Air Monitors are very reliable but suffer from a high bias at low concentrations. Corrections are relatively easy to correct for this bias.

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data across BC every five minutes. The data will be corrected and displayed in map form in the next few months.

The high failure rate that was reported by a Vancouver Island regional meteorologist has not been borne out by our experience. In almost two years we have one channel of one monitor fail.

The Purple Air map by default shows the US Air Quality Index (AQI) and it is calculated incorrectly. Displaying the map as “raw PM2.5” overcomes this shortfall as a short term solution. Our display project will not display US AQI. It will link PM2.5 concentrations directly to health outcomes.

Air Quality Monitors Available

The Sunshine Coast Clean Air Society's AQ network still has a few holes. We need a monitor in Sandy Hook or Tuwanek and we need one in Egmont. If you live there and you have year-round WiFi, we are interested in hearing from you.

We also will subsidize other citizens interested in having a monitor in their backyard. We pay \$300 for each monitor. We are willing to provide you with one for \$150. Please contact us: info@cleanaironthecoast.ca.

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WOOD STOVE EXCHANGE PROGRAM

REBATES AVAILABLE



More REBATES available throughout 2020!

Want to swap out your old wood-stove for a cleaner and healthier home heating appliance? Thanks to funding from the Provincial Wood Stove Exchange Program, we have **28 more rebates of \$400 each** available to those of you who want to exchange your old wood-stove for a cleaner and healthier home-heating appliance! In combination with BC Hydro* (up to \$1000) and District of Sechelt (\$250) rebates, you can save a lot while also doing your part for the environment and local air quality!

For more information contact
your vendor or email
info@cleanairsociety.ca

NOTE: To qualify for the Clean Air rebate your
old wood stove must be decommissioned



CLEANAIRSOCIETY.CA

*BC Hydro rebate requires use of electric baseboards as a winter heat source to qualify.

Slash Burning in Sandy Hook

The Coast Reporter newspaper wrote the following on November 28, 2019:

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Sechelt put out a public advisory at the time saying the owners of PMF 503, which borders Seaview, Skookumchuck, and Mt. Richardson roads, intended to burn up to 160 slash piles. The advisory also said that as a Private Managed Forest, the property is under the



Controlled burning at Sandy Hook, Nov. 25.
- LINDA BYRON PHOTO



jurisdiction of the provincial Private Managed Forest Council and is exempt from Sechelt's open-air burning bylaw. It said questions or concerns from the public should be directed to Managed Forest Council (MFC) executive director Phil O'Connor at 250-386-5737.

The BC Wildfire Service monitors registered Category 3 burns on land outside local government jurisdictions, and the burns are allowed only under weather conditions with a suitable venting index.

The venting index forecast issued on the morning of November 25th indicated that the index would be GOOD at 4 pm that day and Fair on the next day at the same time. Concentrations of PM2.5 at East Porpoise Bay remained mostly good except during the night of the 25th when they rose to moderate. However, East Porpoise Bay is some distance from Sandy Hook and may not be representative. The venting taken at the time of the photo visually appears to be GOOD.

The Clean Air Society believes that municipalities should have the power to control all open burning within their jurisdiction.

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Need for a More Integrated Local, Regional and Provincial Planning on Air Quality Protection

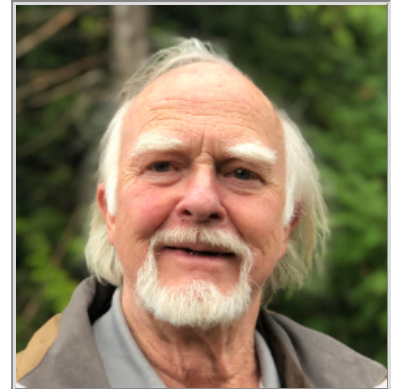
Joe Harrison

Rationale:

Regional Planning is a function of the SCRD.

Gibsons and Sechelt and some of the SCRD Rural Areas have a patchwork of different zoning bylaws regulating indoor air quality and outdoor burning. Protection for public assembly areas is often confusing or unclear.

Additionally, Provincial Conservation Officers police forests and unregulated areas.



The Workman's Compensation Board Regulations are too often left to the inspectors and the courts to interpret. Industrial pollutants and dust as well as highway pollutants (especially diesel exhaust) appear to be unregulated, seldom taking into account public impact of multiple sources including marine traffic in congested harbours.

Given the ribbon development along Highway 101 adjacent to Provincial Forest, risks to life and property rise exponentially during Fire Season with the flow of tourists from the Lower Mainland.

The Province has recently identified "geographically high impact areas" such as Pender Harbour requiring fire chiefs to regulate outdoor burning within local fire districts.

Indoor air quality in buildings with shared walls and outdoor use by smokers and vapers is often unregulated. Neither are air quality education and the general knowledge of building codes covering ventilation of cooking areas commonly understood by the public nor are they funded by Provincial Health Authorities.

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The whole situation calls out for an Integrated Regional Plan to coordinate

responses in a timely manner, especially during emergencies.

Recommendation: The SCCAS Board initiate a public campaign to introduce the idea of a Regional Air Quality Plan as part of the existing SCRD Regional Planning Function which provides for taxpayer funding. The SCRD Board has historically resisted adopting any new functions.

The Province with a stroke of a pen can require the SCRD to do so if the SCCAS can demonstrate public support through a widely circulated petition, especially with the approaching BC Election.

SC Clean Air Society Contract with the Ministry of the Environment and Climate Change

The Sunshine Coast Clean Air Society is grateful to receive a small amount of stable funding from the Ministry of the Environment and Climate Change (ENV). This \$5000 annual fund helps support the following core SCCAS efforts:

- *Manage and coordinate the SCCAS programs and initiatives under the direction of the Board;*
- *Maintain the SCCAS social media profiles and website updates;*
- *Prepare two newsletters per year;*
- *Liaise and coordinate activities and initiatives with the Sea To Sky Clean Air Society, as well as attending appropriate regional gatherings on air quality related issues;*
- *Initiate, organize, and coordinate local clean air educational and outreach programs;*
- *Source funds, prepare applications, and administer grants, including post-grant reports; and*

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Research and follow developments that are of concern to the SCCAS and keep board members informed

As you can see, we manage to do a lot with a little! However, we realize that in order to be effective and sustainable moving forward, we need to diversify our funding sources. We're seeking donations, increased volunteer support, and are working to identify grant and sponsorship opportunities to support our clean air efforts.

Want to contribute or lend a hand? Contact info@cleanaironthecoast.com

Tackling Climate Change - A Personal Narrative

John Field

In this article I would like to address a commonly held misconception: that climate change is too big and global a problem for us tackle individually. This can lead to inaction on the need to reduce greenhouse gas emissions, and a feeling of helplessness or loss of hope.



In the last few years, my family has made several changes to the ways we source and use energy, described below, which have greatly reduced our emissions. All of the changes we've made will eventually pay for themselves, thus have at worst no net cost. Some of them also increased the value of our home should we ever decide to sell it.

In a sense, our family has been addressing the issue of 'climate change' since before the term came into our common lexicon. When we built our original home in the late 1990's, my wife and I strived to make it as environmentally friendly as possible within our limited financial means.

Specifically, our goals were to:

- 1) make the house small and energy-efficient, therefore easier to heat;

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- 3) avoid use of materials and coatings known to adversely affect indoor air quality;
- 4) use a DIY method that did not require specialized construction experience; and
- 5) use locally grown wood as the primary building material.

We settled on cordwood construction, also known as log-end or stack-wall, for the exterior walls, wood paneling on standard framing for the interior walls (no gyp-rock), and steel roofing for longevity and fire resistance. We did over 95% of the construction labour ourselves, which allowed us to invest in high-quality wood windows, doors, flooring and fixtures. Nineteen years later we are still very pleased with the results aesthetically, as well as the ongoing energy-savings.

But as climate change came to be acknowledged as a serious global problem, we felt that we should do more. In particular, we wanted to reduce our consumption of fossil fuels, and the easiest and most effective way to do that was to exchange one of our two gas-powered vehicles for a zero-emission car. So, nearly five years ago, we bought a used Nissan Leaf. Its 120-km “real” range was fine for all of our local driving needs (75% of our total annual mileage). It didn’t take long for us to lose our initial “range anxiety” and adapt to frequent energy top-ups. Pocketing \$200 in gas savings every month was an added bonus, and we have already more than made up for the higher sticker price of the EV. As for our remaining gas-powered pick-up, we use it for long-range trips; we also share it with other families so that they don’t need to have a second vehicle.

One of our local electrical contractors advertises a home photovoltaic (solar) power system specifically sized to supply the annual charging needs of an electric car. This seems like a perfect complement to having an EV: drive on solar energy! We decided to enlarge on that idea, and two years ago we

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by trees, the system supplies half of our annual home electricity needs. The rest comes from the grid; 98% of electricity generated in BC is from renewable energy sources (hydro, wind, solar, etc).

Other measures we have taken to reduce our home's energy consumption include installing an electric heat pump for central heating, switching to LED lighting, and replacing old appliances with Energy-Star rated ones as they wear out. One appliance in particular deserves special mention: a heat pump clothes dryer that uses one quarter of the energy consumed by regular electric dryers.

Our personal journey encourages me to believe that any Canadian family can implement some, all, or more than these steps towards addressing climate change. The sense of accomplishment that accompanies any effort to reduce greenhouse gas emissions or our ecological footprint can be a very good antidote for climate change hopelessness!

SC Clean Air Society AGM

Our AGM will be held again in May this coming year. We will give you ample notice so that you can attend, and we invite you to consider joining our team as a Board member or volunteer! Interested? Contact: info@cleanaironthecoast.com.

BC Lung Association Annual Workshop

February 11, 2020: The focus of the BC Lung Association's upcoming 17th Annual Air Quality and Health Workshop is the environmental justice of air quality in the era of citizen science.

Marginalized communities are often disproportionately exposed to

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population. In response, the environmental justice movement has evolved, with a focus on equitable distribution of environmental

benefits and burdens. The concept of environmental justice includes not only equal protection for all people under environmental laws, regulations, and policies, but also significant involvement of potentially impacted communities in environmental policy and natural resource development decisions. Through citizen science, these stakeholders can become tightly linked in a manner that reflects a truly integrated knowledge cycle.



This year, the BC Lung Air Quality and Health Workshop will examine the topic of environmental justice, with a focus on issues related to air quality and health. The first part of the workshop will provide an overview of environmental justice in Canada, and a primer on the role of psychosocial stress in health outcomes. The second half of the day will focus on citizen science and the use of low cost sensors, including several case studies and an exploration of how much collaborative science may facilitate environmental justice.

What: Organized annually, the workshop brings together air quality and environmental health experts and policymakers to share new insights regarding priority public health issues.

When: February 11, 2020

Where: Sheraton Vancouver Wall Centre Hotel, 1088 Burrard St, Vancouver

***Merry Holidays from all of us at the
Clean Air Society!***

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Louis Legal, Ryan Logtenberg, Valerie Thorsteinson, Joe Harrison, Elizabeth Lytviak, John Field, Naomi Fleschhut



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