

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

OWEN SOUND COUNCIL TO STAFF: DEVELOP CLIMATE MITIGATION REPORT

On December 2 Owen Sound's Municipal Council unanimously passed a motion put forward by Councillor Richard Thomas directing staff to prepare a report outlining what Owen Sound can do to mitigate the impact of climate change. The motion was passed after a delegation comprised largely of young people made a presentation to Council. This motion was passed after several attempts by local climate activists over the last few months to get the Council to declare a climate emergency. A media release from the volunteer-driven Climate Action Team Grey Bruce Owen Sound issued after the vote was taken said, in part:

"The Climate Action Team BGOS, that has worked on this initiative for months, is conscious that the resolution is a beginning, not an end. No specific projects have been identified at this point and no funding has been put in place. That, of course, is to be expected: first we create a climate action plan, then we work on a timeline and funding to make Owen Sound one of the most climate-friendly cities in Canada. That's a goal we can get behind! We hope that Council will establish a Task Force that includes knowledgeable citizens as well as concerned councillors. As a citizens' group we are committed to collaboration, along with realism about budgeting pressures that will make this a gradual process, not an instant fix."

On December 10 as part of its budget review, Owen Sound's Council passed a motion to hire a Climate Change Specialist for the city. The Specialist would have monitoring, implementing, coordinating and risk management roles for climate adaptation and mitigation.

NORTHERN BRUCE PENINSULA TO CREATE CLIMATE ACTION COMMITTEE

On December 9 the Northern Bruce Peninsula Municipal Council unanimously passed a motion introduced by Councillor Megan Myles to create a Climate Action Committee, immediately after a presentation made to Council by the Bruce Peninsula Environmental Group (<https://bpeg.ca/>) and students from the Bruce Peninsula District School in Lion's Head. Said the motion:

"That Council formally acknowledge the scientific evidence on climate change and establish a Climate Action Committee, composed of council members, municipal staff and citizens, to recommend evidence-based and collaborative actions to reduce the impacts of climate change on the Municipality and our community for generations to come."

GREY HIGHLANDS COUNCIL CALLS FOR PROVINCIAL CLIMATE COMMITTEE

At its December 4 meeting, Grey Highlands Council unanimously passed a motion, moved by Danielle Valiquette and seconded by Dane Nielsen, calling on the Government of Ontario to create a Select Committee on Climate Change. This idea did not originate with Grey Highlands: the Municipality's motion was actually in support of a motion put toward in the Ontario Legislature by MPP Peter Tabuns (NDP) calling for the creation of such a committee. The aim of the Committee, as described in the Grey Highlands motion, would be *"to develop comprehensive provincial strategies and an action plan to address climate-change related threats to our society, environment and economy."*

Said Councillor Valiquette,

"I'm grateful to the Grey Highlands Council for taking a non-partisan approach to the pressing issue of climate change. All levels of government need to work together to take climate action. Neither the Federal Government nor the Province nor municipalities can do it alone, nor can this be seen as a partisan issue. It transcends any one party."

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

The Grey Highlands motion follows on the heels of the Municipality's declaration of a climate crisis and its creation of a Climate Action Committee Task Force to advise Grey Highlands on climate issues. The six-member Task Force comprises Deputy Mayor Aakash Desai, Councillor Valiquette and four members selected from a pool of Grey Highlanders who submitted applications to serve on the Task Force.

CBC TOUTS LOCAL WATER BOTTLER

The CBC's climate change newsletter recently profiled the local bottled water company Ice River Springs, a firm drawing much of its spring water from a well adjacent to the village of Feversham in Grey Highlands. Ice River Springs has used exclusively post-consumer plastic waste since 2010. The company uses 80% to 85% of the polyethylene terephthalate (PET) plastic collected by Ontario's recycling programs in Ontario, and some from the northern U.S. To accomplish this, Ice River Springs launched a subsidiary, Blue Mountain Plastics, a recycling facility in Shelburne which buys 29,000 tonnes of PET plastic from plastic bottles and clamshell containers each year and turns it into recycled plastic flakes. These PET flakes are the raw material used in making the company's green translucent plastic water bottles and blue plastic bottles for store brands of water bottled by Ice River Springs. A video explaining the company's closed-loop recycling process is at <https://iceriversprings.com/closed-loop.php>. The company bottles spring water (regular and carbonated organically flavored), demineralized water and distilled water

SOUTH GREY NEWS PLANTS TREES FOR ADS

South Grey News co-founders Barbara Peart and Ron Barnett have found a way to mix the business end of their on-line news service with climate and environmental responsibility. They've recently introduced a green page classified ads feature: for every paid ad placed there, South Grey News donates money to Forests Ontario's 50 Million Tree Program to plant one tree. This feature can be accessed at <https://www.southgreynews.ca/green-page-classified-submission>. Forests Ontario works with Ontario conservation authorities to plant trees. Local residents can also apply to plant trees on their properties through the Forests Ontario program.

Says Peart:

"Instead of waiting for the government to do something about climate change, we decided to take matters into our hands and think of something that we could do as a business. The environment is important to us. South Grey News is online only, saving the use of a lot of paper. Trees are important in the fight against climate change. We decide to take saving paper one step further and create a Green Pages Classified section and plant one tree for each ad placed there through Forests Ontario. It seems like a great fit for us."

Many well-meaning tree planting organizations fail because they plant the wrong species in the wrong place, leading to high die-off rates. Peart points out that Forests Ontario is a highly responsive and responsible organization that takes great care with the type of native tree species that it plants for each location. It keeps records of what trees are planted and where, and collects seeds from the trees. A South Grey News article on Forests Ontario's 50 Million Tree Program and how it has affected Grey County and its residents is at <https://www.southgreynews.ca/local-news/forests-ontario-50-million-tree-program>.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

FEDERAL THRONE SPEECH HIGHLIGHTS CLIMATE ACTION

The Trudeau government's post-election Speech from the Throne delivered on December 5 made a number of commitments to climate action, in part to deliver on the Liberal Party's campaign promises but also to attract support from other parties – a necessity if the minority government is to survive. Said the Speech:

“A clear majority of Canadians voted for ambitious climate action now. And that is what the Government will deliver... It will do so in a way that grows the economy and makes life more affordable. The Government will set a target to achieve net-zero emissions by 2050. This goal is ambitious, but necessary – for both environmental protection and economic growth. The Government will continue to lead in ensuring a price on pollution everywhere in this country, working with partners to further reduce emissions. The Government will also:

- *help to make energy efficient homes more affordable, and introduce measures to build clean, efficient, and affordable communities;*
- *make it easier for people to choose zero-emission vehicles;*
- *work to make clean, affordable power available in every Canadian community;*
- *work with businesses to make Canada the best place to start and grow a clean technology company; and*
- *provide help for people displaced by climate-related disasters.*

The Government will also act to preserve Canada's natural legacy, protecting 25 percent of Canada's land and 25 percent of Canada's oceans by 2025. Further, it will continue efforts to reduce plastic pollution, and use nature-based solutions to fight climate change – including planting two billion trees to clean the air and make our communities greener.”

The government and Canada as a whole faces a contentious future since part of the population wants to become less reliant on fossil fuels while another part, most notably Alberta, relies on fossil fuel extraction for much of its wealth. It's unclear whether the federal government will increase western alienation by drastically curtailing or eliminating subsidies to fossil fuel industries, yet it said in the Throne Speech that it will continue to support the completion of the Trans Mountain Pipeline expansion (despite massive climate activist opposition to pipelines) while also helping displaced fossil fuel industry workforces:

“[The Government] will also work just as hard to get Canadian resources to new markets, and offer unwavering support to the hardworking women and men in Canada's natural resources sectors, many of whom have faced tough times recently.”

From November 2018 to November 2019, employment in Alberta in the oil, gas and forestry sector fell by 9.6% (a loss of 14,700 jobs).

ONTARIO CANCELS HAMILTON LIGHT RAIL TRANSIT PROJECT

In a blow to carbon-reducing public transit, Ontario's government has cancelled funding for Hamilton's downtown light rail transit (LRT) project. Transportation minister Caroline Mulroney said that the previous Liberal government's \$1 billion cost estimate for the project underestimated the cost and that a third-party cost estimate pegged its price tag at \$5.5 billion. Critics of the cancellation say the \$5.5 billion is deceptive because it includes some operating costs spread over 30 years. As recently as April 2019, in its budget, the Ontario government had confirmed its support for this project.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

Hamilton's Chamber of Commerce issued a statement said it was shocked at the cancellation and it withdrew an invitation to Mulroney to speak at a Chamber event in January. It said the project had already led to increased downtown investment. Ontario has already spent \$184 million on project so far, including \$80 million to buy property for the rail line.

Mulroney said that Hamilton will still receive \$1 billion in transportation funding and that she will create a task force to give advice on how the money should be spent.

ECO-THEOLOGIAN SALLY McFAGUE DIES

One of Canada's adopted ecological and feminist daughters, the theologian Sally McFague, died on November 15 in Vancouver at the age of 86. Born in Massachusetts, McFague had been Theologian in Residence at the Vancouver School of Theology since 2000. She had been a theology professor at Vanderbilt Divinity School for 30 years and Dean for five of those years.

McFague is best known for her assertion that what religions say about divinity and the universe comprises metaphors: each metaphor contains some truth but no metaphor is the complete truth. In contrast to what she considered the conventional Christian metaphor of God as Father, Son and Holy Spirit, McFague explored the metaphor of God as mother, lover and friend of the world. McFague saw divinity as primarily a here-and-now, ordinary phenomenon:

"We meet God in and through the world, if we are ever to meet God. God is not out there or back there or yet to be, but hidden in the most ordinary things of our ordinary lives. If we cannot find the transcendent in the world, in its beauty and its suffering, then for us bodily, earthy creatures it is probably not to be found at all."

McFague's metaphor of the world as God's body endeared her to environmentalists and climate activists, juxtaposed against what she saw as the past few hundred years of Christian teaching:

"Incarnation (the belief that God is with us here on this earth) [goes] beyond Jesus of Nazareth to include all matter. God is incarnated in the world... [This] suggests that God is closer to us than we are to ourselves, for God is the breath or spirit that gives life to the billions of different bodies that make up God's body. But God is also the source, power, and goal of everything that is, for the creation depends utterly upon God... What postmodern science is telling us – that the universe is a whole and that all things, living and nonliving, are interrelated and interdependent – has been, for most of the world's history, common knowledge. That is, people living close to the land and to other animals as well as to the processes that support the health of the land and living creatures have known this from their daily experience. We, a postindustrial, urbanized people, alienated from our own bodies and from the body of the earth, have to learn it, and most often it's a strange knowledge. It is also strange because for the past several hundred years at least, Christianity, and especially Protestant Christianity, has been concerned almost exclusively with the salvation of individual human beings, (primarily their 'souls'), rather than with the liberation and well-being of the oppressed, including not only oppressed human beings, body and soul (or better, spirit), but also the oppressed earth and all its life-forms."

McFague repeatedly expressed her belief that social and economic justice lie near the centre of religions – forms of justice that are often ignored in consumer-focused societies:

*"It is notable that none of the world's religions has as its maxim: '**Blessed are the greedy**'... The privatization of religion is the triumph of public greed. Religion is not intrinsically private – that is, concerned only with God and the soul. Rather, most religions are inexorably public,*

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

having to do with some definition of the good life and how to lead it... Our consumer culture defines the 'abundant life' as one in which 'natural resources' are sacrificed for human profit and pleasure and 'human resources' are the employees who will work for the lowest wages. Both nature and poor people are means to the end of consumerism."

SMALL EARTH STORIES: GOT ONE TO SHARE?

Earthbeat is an on-line climate renewal newsletter produced and distributed by the National Catholic Reporter. In October, Earthbeat instituted a feature that helps each of us struggling in our own community in our own way, to connect with small-scale but essential struggles and victories elsewhere. The feature, called **Small Earth Stories**, encourages folks to submit descriptions of what they've done to make the earth – or their small chunk of it – better:

"Your Small Earth Story might reflect that moment when you began eating differently, heating or cooling your home more carefully, travelling with a smaller carbon footprint. Maybe it's the story of that difficult climate conversation at the family cookout. A change in your prayer life? An incident or insight that prompted you to press your elected representative to do more about climate change? You've abandoned your garbage disposal in favor of composting? Tell us why. And how."

So far, six Small Earth Stories have been published. To see them, please go to <https://www.ncronline.org/feature-series/earthbeat/small-earth-stories/stories>. That web page also provides you with a link so you can submit your own Small Earth Story (we have enough of them in this part of Ontario to fill a whole bookshelf).

COP25 CLIMATE SUMMIT: A FAILURE

The COP25 meeting (Conference of the Parties 25), held in Madrid last week, brought together yet again the 195 nations that signed the Paris Climate Agreement in 2016, to deal with three key climate issues. By all accounts, the Conference failed on all three counts.

The first was an unresolved issue from the Paris Agreement. The Agreement's Article 6 calls for the creation of an international carbon market – a set of rules whereby nations that do better than their carbon reduction targets could "sell" their saved carbon allocations to firms in countries that had not met their targets. As well, polluting firms or industries – or even individuals – could buy "carbon offsets" – investments in projects like forestation that remove carbon dioxide from the air. A carbon market already exists, but without international rules that make it stable and reliable. When the Paris Agreement was negotiated, nations didn't agree on rules for the market, so the issue was kicked from one global conference to another. Optimists hoped that COP25 would agree on a set of rules. That didn't happen, largely because Australia and Brazil (two countries whose current climate policies are abysmal) insisted that past carbon savings should be credited to their "accounts" under any new rules – in effect, double counting.

Another hoped-for outcome of COP25 was a commitment, particularly from large carbon-emitting countries, to develop more ambitious climate targets, since past targets aren't enough to keep mean global temperature rise below 1.5 degrees Celsius by 2100. China and India balked at more ambitious climate targets and the U.S., while still a signatory to the Paris Agreement and obstructively vocal at COP25, is slated to exit from the agreement in late 2020. Of large emitters, only the European Union seemed willing to signal that it will adopt more ambitious targets but it's unclear when the EU would update its targets.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

A third intended outcome was a robust international response to help vulnerable countries to deal with the effects of climate change – mainly small developing countries vulnerable to sea level rise and catastrophic storms. The argument for helping these nations is clear: they haven't been major emitters of greenhouse gases but they suffer disproportionately and sooner from the effects of greenhouse gas emissions spewed by bigger nations. Despite the promise of a much too small fund to help these nations, the U.S. rejected any mechanism to compensate developing countries for losses from storms, droughts, rising seas and other effects of global warming. Claiming to be the world's largest humanitarian donor, the U.S. insisted on language to protect itself from liability claims, stymying progress in the loss and damage talks.

The Alliance of Small Island States (AOSIS), a coalition of 44 highly vulnerable small island and low-lying coastal developing states (many of them in the South Pacific and Caribbean) issued a withering statement of disappointment at the end of COP25:

“Loss and damage is an existential issue for AOSIS member states. Several islands in the Pacific have already been inundated, lives have been lost. We all face a similar fate much sooner than previously projected. But, as COP25 draws to a close and islands wade through and beyond the glitzy public relations and buzzwords, we are astounded. We are appalled and dismayed at the failure to come to a decision on critical issues, the scale of inaction, ineffective processes and some Parties’ yeoman commitment to obstruction and regressive anti-science positions. Climate action is not a wish. It is a matter of survival and it must be funded.”

INVESTORS CALL ON WORLD LEADERS: MEET PARIS AGREEMENT TARGETS, SET CARBON PRICING, NIX COAL

In an **Open letter to Governments of the world**, a consortium of institutional investors has called on world leaders to meet Paris Agreement targets, phase out fossil fuel subsidies and thermal coal power, and introduce “appropriate” carbon pricing by 2020. The consortium, called *The Investor Agenda*, comprises seven partner organizations (each partner is an investment group). Says the letter:

“We are restating to world governments the urgency of decisive action to achieve the goals of the Paris Agreement... In particular, we ask world governments to strengthen their Nationally Determined Contributions (NDCs) to be in line with the objectives of the Paris Agreement by 2020. Current NDCs would lead to an unacceptably high temperature increase, potentially in the range of 2.9 to 3.4°C relative to pre-industrial levels. Enhancement is essential to close the current ambition gap and send a strong, positive signal to investors. Part of this enhancement should entail a clearly defined role for private finance. This includes clear timelines for the phase-out of fossil fuel subsidies and thermal coal power, and for the introduction of appropriate carbon pricing by 2020, as well as implementation of the Task Force for Climate-related Financial Disclosure (TCFD) recommendations by 2020... Those countries who adopt strong, ambitious NDCs will send the signals necessary to attract the trillions of capital necessary to support the low-carbon and climate resilient transition. We also underscore our support for a Just Transition for workers and communities, as called for in the Paris Agreement.”

The Investor Agenda has also spearheaded the development of a *Global Investor Statement to Governments on Climate Change*. The statement reiterates what is in the Open Letter.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

The Investor Agenda says 631 institutional investors, managing us\$37 trillion in investments, had signed the Global Investor Statement as of December 9. Some signatories are private sector investment firms, but many are retirement funds or funds managing investments for public institutions such as universities (including the University of Toronto and l'Université de Montréal) or for faith communities including the United, Anglican, Catholic, Mennonite, Quaker and Methodist Churches. The Ontario Teachers' Pension Plan is a signatory.

INVESTORS FLEE FOSSIL FUELS

A number of financial institutions recently signaled their intention to get out of the field of fossil fuel investments, sensing the decline of these industries as non-carbon energy sources take hold.

Export Development Canada (EDC) has said it will not make loans to coal-fired electricity projects unless there is a an ultra super critical need for the project and CO₂ emissions from it are less than 750 grams per kilowatt hour.

Investment bank Goldman Sachs has announced it won't fund new Arctic oil drilling or exploration projects in the Arctic, making it the first major U.S. bank to say it will stay out of Alaska's Arctic National Wildlife Refuge. Barclays Bank and the Royal Bank of Scotland have also said they will avoid these Arctic investments. Goldman Sachs will also not finance new thermal coal mines or coal power projects. It says it will invest us\$750 billion over the next 10 years in climate adaptation and mitigation projects.

UniCredit, Italy's biggest bank by assets, has pledged to halt all lending for thermal coal projects by 2023. The measures take effect immediately, but some existing financing deals will take until 2023 to run off, the bank said. The bank's new oil and gas policy also bans the financing of new projects in Arctic oil and offshore Arctic gas, in shale oil and gas as well as related fracking, tar sands oil and deep-sea oil and gas. It also limits the financing for clients active in these areas. UniCredit will also increase its investments in the renewable energy sector by 25% to more than 9 billion euros (us\$10 billion) by 2023.

Coal exit policies have now been announced by 17 of the world's biggest insurers controlling 46% of the reinsurance market and 9.5% of the primary insurance market. Insurers have also divested coal from roughly us\$8.9 trillion of investments – 37% of the industry's global assets.

In September, banks with assets equivalent to a third of the global banking industry adopted new U.N.-backed "responsible banking" principles to fight climate change by shifting loans away from fossil fuels. An initial hold-out, France's BNP Paribas, last week announced it would completely exit financing related to thermal coal by 2030 in the European Union and by 2040 worldwide.

Central banks are increasingly worrying about fossil fuel investments, spurred by Bank of England Governor Mark Carney's assertions that stranded asset risks could be globally systemic, firms ignoring the climate crisis will go bankrupt, and there needs to be a solution for the whole of the financial system.

In November 2019 the new European Central Bank Chief Executive Officer, Christine Lagarde declared a goal to make climate change a "mission-critical" priority for the central bank as part of a comprehensive strategic review.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

The *Central Banks' Network for Greening the Financial System* (NGFS) recently announced its expansion from 34 to 46 members in just 18 months, the latest additions being the Banco Central de Costa Rica, Comisión Nacional Bancaria y de Valores (Mexico), Guernsey Financial Services Commission and the New York State Department of Financial Services.

In November the Swedish central bank Riksbank announced that it had divested bonds from Australia and Canada due to the financial risks of these countries' excessive carbon intensity.

The International Monetary Fund's Managing Director Kristalina Georgieva has said "climate change is an existential threat" that must be addressed for the world to achieve sustainable growth.

Feeling the pinch, the giant oil company Chevron announced in early December that it is writing down as much as \$11 billion in assets. The write-downs include a deep-water Gulf of Mexico project and shale gas extraction in Appalachia. On December 10 Chevron said it will "exit" its 50% stake in British Columbia's proposed Kitimat liquefied natural gas project, which includes the 471-km Pacific Trail Pipeline and a natural gas liquefaction facility at Bish Cove near Kitimat. Reacting to Chevron's moves, the *Wall Street Journal* said:

"Oil companies have struggled to reap the profits of old and are falling out of favor with investors amid fears that electric vehicles and renewable energy, along with government regulations to address a warming planet, will constrain their futures."

In early December the international credit rating service Moody's announced it has downgraded Alberta's credit rating, citing:

"a structural weakness in the provincial economy that remains concentrated and dependent on non-renewable resources – primarily oil – which causes volatility in financial performance, and remains pressured by a lack of sufficient pipeline capacity to transport oil efficiently with no near-term expectation of a significant rebound in oil-related investments."

Alberta Premier Jason Kenny responded by saying:

"The bigger challenge we have is, increasingly, financial institutions – and this apparently includes Moody's – are buying into the political agenda emanating from Europe, which is trying to stigmatize development of hydrocarbon energy. And I just think they are completely factually wrong."

NATIONAL FARMERS UNION PUBLISHES CLIMATE CHANGE REPORT

The National Farmers Union, one of Canada's smaller but more progressive farm organizations, recently issued *Tackling the Farm Crisis and the Climate Crisis: A Transformative Strategy for Canadian Farmers and Food Systems*. It examines in depth the impacts of climate change on agriculture in Canada and the opportunities that agriculture provides to become part of the solution. Among its key conclusions:

- The climate crisis is a threat to Canadian farms, but also an opportunity to re-orient farms to become more integrated, life-sustaining and community-sustaining.
- The farm crisis and the climate crisis share many of the same causes and solutions.
- The climate crisis will increasingly impact the ability of Canadian farms to produce food: "If we fail to plan, we plan to fail".
- Priority must be placed on incentivizing low-input, low-emission agricultural approaches.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

Says the report:

“The climate crisis is real, unfolding rapidly, causing destruction, and accelerating. If we do not change course its effects will be devastating. Unless Canada and all other nations act rapidly to reduce emissions – to restructure our energy, manufacturing, transportation, communication, and food systems – we will drive temperatures upward so far, and destabilize the climate so much, that our societies and ecosystems will be massively damaged. Unless we act now to slash emissions, we will trigger or intensify droughts and famines, mass migrations, sea level rise that will submerge some island nations, economic decline or collapse, the loss of much of the planet’s rainforests and coral reefs, desertification, feedbacks that further accelerate warming, and the most rapid extinction event in 65 million years.

In addition to a climate crisis, we also have a farm crisis. Canadian farm debt has nearly doubled since 2000 and now stands at a record \$106 billion. Over the last three decades, the agribusiness corporations that supply fertilizers, chemicals, machinery, fuels, technologies, services, credit, and other materials and services have captured 95% of all farm revenues, leaving farmers just 5%. Even during the relatively good times since 2007, the majority of farm family household income has had to come from off-farm work, taxpayer-funded support programs, and other non-farm sources. High input costs, low margins and net incomes, and expensive land and machinery have led to an expulsion of farm families from the land, with one-third leaving in just the past generation. Worse still, young farmers – those under the age of 35 – are being forced out at twice the rate of farmers overall; Canada has lost more than two-thirds of its young farmers since 1991. Unless Canadian agricultural policies are wholly restructured there may be just 100,000 farms left by mid-century and the sector may come to be dominated by huge operations. Family farms are being systematically destroyed by dysfunctional, extractive, agribusiness-controlled markets and ill-conceived and damaging government policies.”

The report asserts that it’s not agriculture that contributes massively to climate change: rather, it’s the *inputs* to modern agriculture, including huge amounts of nitrogen-based fertilizers and the fossil fuels that power today’s highly mechanized agricultural practices. But the report includes a message of hope:

“So, where’s the good news? It begins with the knowledge that a focus on high-output, high-input agriculture is the primary cause of the farm crisis and the primary cause of the increasing greenhouse gas (GHG) emissions from our farms and food-production systems... As we have doubled and redoubled input use, we have doubled and redoubled the GHG emissions from agriculture. The seemingly inescapable conclusion is this: any low-emission food-production system will be a low-input food production system. And as we change policies and approaches to reduce and optimize input use, farm incomes can rise. The solution to the farm crisis and the solution to the climate crisis are, to a large degree, the same: a decreased dependence on high-emission petro-industrial farm inputs and an increasing reliance on ecological cycles, biology, energy from the sun, and the knowledge, wisdom, and judgment of farm families on the land.”

Much of the 102 page report includes detailed analyses of ways to create a low-input and low-emission food system, and the trade-offs that must be made to achieve this. The report can be accessed at <https://www.nfu.ca/publications/tackling-the-farm-crisis-and-the-climate-crisis/> .

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

U.S. UNIONS, 75 CEOs: STAY IN PARIS AGREEMENT

On December 2 the federation of labor unions AFL-CIO, and the CEOs of 75 U.S. companies, signed a joint message calling on the U.S. to remain a member of the Paris Climate Agreement. The Trump administration has taken the first steps to withdraw the U.S. from the agreement. Said the **Joint Labor Union and CEO Statement on the Paris Agreement**:

“We the undersigned are a group of CEOs who employ more than 2 million people in the United States and union leaders who represent 12.5 million workers... We stand with the 77% of registered American voters and over 4,000 American states, cities and businesses supporting the Paris Agreement... Today, we stand by our conviction that a commitment to the Paris Agreement requires a just transition of the workforce – one that respects labor rights and is achieved through dialogue with workers and their unions. Participation in the Paris Agreement enables us to plan for a just transition and create new decent, family-supporting jobs and economic opportunity. Staying in the Paris Agreement will strengthen our competitiveness in global markets, positioning the United States to lead the deployment of new technologies that support the transition, provide for our workers and communities, and create jobs and companies built to last. It also supports investment by setting clear goals which enable long-term planning. It encourages innovation to achieve emissions reductions at low cost. There has been progress, but not enough. This moment calls for greater, more accelerated action.... It calls for the strong policy framework the Paris Agreement provides, one that allows the US the freedom to choose our own path to emissions reductions. The promise of the Paris Agreement is one of a just and prosperous world. We urge the United States to join us in staying in.”

Absent as CEOs signing the Statement are the CEOs of most large energy companies and auto-makers (the Royal Dutch Shell CEO signed). The Statement and signers' list is at https://www.unitedforparisagreement.com/?utm_source=climatehome&utm_medium=newsletter&utm_campaign=unitedforparis

GOOD-CRUD-OF-THE-MONTH CLUB: ZEOLITES

Large investments and initiatives are underway to capture carbon dioxide emissions and tackle climate change. So far, the materials and processes involved have been associated with significant negative side effects and high costs. Current leading carbon capture and storage technology uses 'amines' suspended in a solution, but amines are environmentally unfriendly, large and heavy volumes are required and the solution corrodes pipes and tanks. As well, a lot of energy is needed to separate the captured CO₂ from the amine solution for reuse.

However, scientists from Chalmers University of Technology and Stockholm University have developed a new material for capturing carbon dioxide that is sustainable, has a high capture rate and has low operating costs. The material is a bio-based hybrid foam, infused with a high amount of CO₂-adsorbing “zeolites” – microporous aluminosilicates. The porous, open structure of the material gives it a great capacity to adsorb CO₂. In addition to bio-based materials being more environmentally friendly, the material is a solid – when the CO₂ has been captured, it is easier and more efficient to separate it than to separate CO₂ from liquid amine solutions.

Natural zeolites form where volcanic rocks and ash layers react with alkaline groundwater, but these zeolites are often impure, and it is cheaper and more environmentally friendly to synthetically manufacture zeolites. The main raw materials used to make zeolites are silica and alumina, which are among the most abundant mineral components on earth.

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

IN MY HUMBLE OPINION: THE BASHING BUSINESS

“Without doubt, one of the perils of our time is that the gravest decisions must be made by tired people.”

Canadian-born economist John Kenneth Galbraith,
A Life in Our Times: Memoirs, 1981

I've been getting cranky lately. In large measure, I've been getting cranky with other people who are getting cranky. By that, I mean that I'm pushing back against folks who say the entire political system is useless at dealing with climate change, politicians are all villains, corporations can never be part of the solution, we need to retreat into survivalist shells to get through the coming apocalypse, hope is a mere lame excuse for inaction, building bridges to take collective action to create change is a waste of time and energy... and on and on.

I understand how easy it is to develop cynicism verging on nihilism when we witness the failure of events like COP25, the stubborn reluctance of nations – particularly big and dirty nations – to agree to do what needs to be done, and the enduring poisonous denial of climate change realities by some political, economic and religious institutions.

But to damn these carriers of power, rather than redoubling our efforts to persuade them, help them, pressure them, force them to do what they must do is pointless at best and dangerous at worst. It is dangerous because it ignores the imperfect levers the world possesses to create change, in favor of noble (but in total, less than adequate) personal lifestyle choices. The lifestyle choices are good and necessary and sometimes heroic. But if they are used as excuses not to do bigger things, they are false hope. Growing zucchini in my backyard and patching old clothes will not stop coal plants from crapping into my (and your) atmosphere. As well, cynicism about the feasibility of creating wise politicians and responsive politics is an infection. If it spreads, there are fewer of us to stay engaged in systemic change and more to swell the ranks of those who have given up. The cynicism also saps energy from efforts to correct the vast fault lines of inequality that lie within our political and economic systems.

Castigating the politicians irks me most of all, because it is displaced criticism. Elected officials do what those who elected them expect them to do. That's democracy. If politicians who are narrow thinkers and timid movers are in power, it's because more of us voted to put them in office than voted to put better thinkers and actors in power. Yes, let's criticize poor political decisions, let's propose better political decisions, but let's not give up on political decision-making altogether.

Instead of slamming politicians, let's re-triple our efforts to persuade and engage the millions of Canadians who don't yet understand the enormity of the crisis or who don't yet care. Let's help them to elect the best our nation, province and municipality have to offer.

Let's do it right now, in this little place, in this enormous time.

Respectfully submitted to the *Polis*,
John Butler

THE VILLAGE GREEN

Number Fourteen, December 17, 2019

BIOMASS

How blindly brilliant the slow creation
Of the cilium the fang the toxin!
How ceremonious the repetition,
The slow bulk of it all, all turning
From muck to muck to muck!

Everywhere blood is a commodity
A tongue among the species
A sea for rafts of flesh
Sinking rising sinking,
A coagulating soup.

Everywhere the squeal of the caught,
Of the catcher exultant -
Everywhere the clean dense breath
Of a kill, the long sigh
Of cellular incorporation.

Everywhere is the grave of something,
Every place the place where something died
Something rejoined the flow of earth
Something become again
The great volcanic fish.

John Butler

FACTS THAT HELP YOU TO CHANGE THE WORLD

If one were to divide the total area of Earth's biologically productive land by the number of its inhabitants, each person would have around 1.8 hectares. Yet the average ecological footprint is currently 2.7 hectares per person in the world, proof that we are living beyond our global means. These ecological footprints vary according to living standards: the average American's is 8 hectares; it is 6 hectares in Sweden; 1.8 hectares in most parts of Africa; and 0.4 hectares in India. Stephen Pacala of Princeton University has calculated that the best-off, those who represent 7% of the global population, are responsible for half the world's CO₂ emissions, while the poorest 50% only emit 7%, a negligible amount for 3.5 billion people. The richest 7%, who moreover enjoy the best means for protecting themselves against pollution, benefit at the expense of the rest of the world.

source: Buddhist monk and author Matthieu Ricard, at
<https://www.matthieuricard.org/en/blog/posts/ecological-footprint>

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The leading U.S. coal company, Peabody Energy, emerged from bankruptcy in 2017 and since then has declined 65% in value. The energy sector, including the integrated oil and fracking companies, once commanded 28% of the S&P 500 Index. They now have a 4.5% share of the market. In just this past year, *The Wall Street Journal* has published eight articles on the financial failure of the fracking industry: negative cash flows, bankruptcies and low prices reflect an industry without a business model that can succeed. In the last five years, all of the five largest major integrated, publicly-traded oil and gas companies have lagged the S&P 500. ExxonMobil, the worst performer, has lost 29% of stock value, while the market overall has gone up 50%. For most of the 1980s and 1990s, the fossil fuel sector led the stock market. In 1980, seven of the top ten companies in the S&P 500 were energy stocks. Today there are none and the energy field is the worst-performing sector in the index. An investment fund could invest in just about any other sector of the economy and do better than investing in fossil fuels.

source: November 18 testimony to the Massachusetts Legislature's Joint Committee on Public Service given by Tom Sanzillo, Director of Finance, Institute for Energy Economics and Financial Analysis

SHE SAID / HE SAID

"Look, the way I see it, there are two ways this whole climate change thing could go down. We could watch videos of burnt koalas escaping wildfires and cry into our keyboards, or we could, y'know, do something."

Zoya Teirstein, Reporter, *Grist* Newsletter, December 17 edition

"Climate summits will always have an air of despair because it is easy for nations to agree on ambitious collective goals even as, individually, governments are much more reluctant to promise robust action. Action will always fall behind ambition. Structurally, climate diplomacy has become like some religions: brimming with detailed information about our individual failure to do what's needed yet somehow optimistic about the collective goal of salvation."

David G. Victor, professor of international relations, University of California, San Diego, in a December 13, 2019 *New York Times* op ed piece

"We can no longer consider evil only in terms of what benefits or hurts me or my species. In a world as large, as complex, and with as many individuals and species as our planet has, the good of some will inevitably occur at the expense of others."

Sallie McFague, *The Body of God: An Ecological Theology*, 1993

"We must contend against evil, even though we know that we are ourselves involved in the evil against which we contend."

American theologian Reinhold Niebuhr (1892-1971)

"This Thanksgiving, I am grateful for the opportunity to work alongside you as we seek to inspire and mobilize people of faith and conscience to take bold and just action on climate change. One of the roles of faith is to work for transformation -- within ourselves, our relationships, our communities, and our world. We believe that people are capable of great change -- life-giving change at the deepest level. This is what gives me great hope in our continued quest to work for climate justice -- the idea that we never know which conversation or relationship will spark that transformation for someone else."

U.S. Thanksgiving message for 2019 from Rev. Susan Hendershot, President, Interfaith Power & Light ("A Religious Response to Global Warming")

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“The effects of climate change are felt most dramatically by those living in extreme poverty, the majority of whom are female. In most countries, women bear the largest burden in the gathering and preparation of food and water and responding to natural disasters caused by climate change. Because of this, women are best placed to devise responses that are effective and that advance their own rights. For example, clean energy technologies should be designed and deployed in consultation with local women to reduce harmful emissions while also helping them become economically productive and secure. Every societal challenge we face will be better addressed if women and girls participate equally in both diagnosing and treating the problem. Making sure girls receive equal access to education and professional opportunities will unleash the untapped creativity that could produce needed breakthroughs.”

former President Jimmy Carter and Karin D. Ryan,
How Empowering Women and Girls Can Help Solve the Climate Crisis.
Time magazine, November 26, 2019

“The overarching challenge of this century is how we achieve development across the world that balances societal, economic and environmental considerations... We do not only have to do more; we also have to do things differently. Over the next decade, we are going to need very different answers to the world’s environmental and climate challenges than the ones we have provided over the past 40 years.”

introduction to *The European environment — state and outlook 2020: Executive summary*
European Environment Agency, December 3, 2019

**Don’t worry, spiders,
I keep house
casually.**

Kobayashi Issa (1763-1828)

**For information about *The Village Green*, contact John Butler at 519 923-6335 or
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