



An Evening with David Suzuki

—by Dana Penrice, NFU Youth Vice President

On September 18th the NFU presented an *Evening with David Suzuki - Climate, Food and the Future* to a full house at the Broadway Theatre in Saskatoon. Over 440 people came to hear long time NFU Associate Member, David Suzuki, share his wisdom on one of the most significant challenges of our current place and time in history – climate change.

Working with new and young farmers on the prairies and across Canada, I know that many choose farming as a way to positively contribute to climate change mitigation and ecological regeneration. That's why I didn't hesitate to grab a couple friends, jump in the car and make the trek out from Alberta to this event.

As was highlighted by presenters that evening, farming is both a contributor to and a mitigator of climate change. Darrin Qualman, former NFU Executive Secretary and Director of Research, presented initial findings of his research on climate change and greenhouse gas emissions on prairie farms for a project titled *Charting a New Low Emission Path for Canada's Food System*. Qualman argued that what we need is a plan to transition farms from being a problem to becoming a solution for climate change.

Region-specific stories and data are going to be one of the major drivers of this transition. That's where the work of Ian Mauro and the Prairie Climate Centre comes into play. As laid out in Mauro's new video, "Climate change is a global phenomenon, but the local impacts vary and the Canadian prairies will be severely affected." The Prairie Climate Centre is looking to move from risk to resilience by engaging local communities in research. With help from the University of Winnipeg and the International Institute for Sustainable Development, they have created the Prairie Climate Atlas, an interactive website that includes climate data, geo-visualizations and multimedia. Visitors can zoom in and locate their own town or region on a map, model high carbon or low carbon future scenarios, and get a sense of the weather extremes that may lay ahead. Visit the site at www.climateatlas.ca.



But as only someone of David Suzuki's age and experience can relay, change and transformation does not come easy. A friend once described Suzuki as an angry prophet; someone who can see what's coming and trying their darndest to voice the imminent danger to society at large. At this period in his life, Suzuki is getting louder and you could sense a frustration that things aren't further along towards where he thought they should be. Like Naomi Klein expresses in her book *This Changes Everything*, Suzuki shares the realization that we can't solve the ecological crisis that we have gotten ourselves into without recognizing that the struggle is bigger than climate change and involves redesigning our systems of living.

The challenge facing us humans is that we need to understand the relationship between ecology and economy and how we relate to our home – planet earth. The evening's opening presenter, Tyrone Tootoosis, shared the meaning behind Cree words and how words and meaning deeply affect our culture. The etymology of the word *economy* goes back to "management of the household". The etymology of the word *ecology* stems from the "study of the household". If you try to manage something you don't understand, you can really screw it up. As Suzuki explains, our

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economy is a subset of the ecology and if we continue operating as if that relationship were flipped, we are doomed to perpetuate a consumer society blind to ecological collapse and the destruction of our home, planet Earth.

But farmers are stepping up to this challenge and implementing environmentally-beneficial, climate-mitigating practices on their land. Being only 1.6% of the population in Canada, farmers have an enormous role to play in creating the transformational change our society needs.

In my work, I see new farmers across Canada who are excited and engaged in the challenge ahead. They are building on the work of previous generations of pioneering farmers, developing an ecological ethic that runs deep in the roots of the farming tradition and growing a movement of regenerative, resilient

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agriculture. It was this momentum that first brought Suzuki to reach out to the NFU to do some work together and make this event happen. New and young farmers across Canada hear the words of the angry prophets and turn it into positive, creative action on their farms each and every day. As they cover their garlic plantings with mulch for winter, or move electric fence onto another swath for the cows to graze, there is much to be hopeful about for our future.

- nfu -

An Introduction to Carbon Pricing

—by Cathy Holtlander, NFU Director of Research and Policy

On October 5, 2016 Canada ratified the Paris Climate Accord, an international agreement that aims to strengthen international action on climate change. Its goal is to keep global temperatures from rising more than 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Countries agreed to use carbon pricing as one of their tools to reduce Greenhouse Gas emissions (GHGs). On October 3, the Prime Minister announced Canada will set a minimum \$10/tonne tax on carbon starting in 2018 and rising to \$50/tonne by 2022. Provinces will be responsible for designing their own programs for collecting and spending the taxes within their own territories.

The Paris agreement recognizes the priority of food security and vulnerability of food production to adverse impacts of climate. It commits signatories to adaptation and mitigation measures “in a manner that does not threaten food production.”

Carbon pricing is generally done either through a **carbon tax** or a **cap and trade** regime. What are the theories behind these mechanisms and their pros and cons?

Cap and Trade

Cap and trade systems set a maximum emission level (the “cap”) for businesses in fossil fuel-intensive industries such as coal-fired power plants, factories, smelters and cement plants. Only large emitters are required to participate in cap and trade regimes, in some cases smaller emitters can join voluntarily. If a company emits more than its cap, it must buy emission allowances from a company that has reduced its emissions below its cap (the “trade”). Over time, the caps are lowered to reduce total emissions. Cap and trade systems are used only in jurisdictions that have a significant number of large, point-source emitting industries.

Cap and trade regimes promote rapid reduction of emissions from those companies and industries where it is relatively inexpensive to do so by rewarding them with additional revenues from selling their surplus emission allowances. Meanwhile, industries that cannot easily reduce emissions are forced to buy more allowances. Once the cost of these allowances exceeds the cost of reducing their emissions they should be motivated to invest in emission-reduction measures.

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Offsets: Most cap and trade regimes also allow companies that exceed their cap to invest in “offsets” to compensate for their excess emissions instead of buying allowances. Offsets are projects that reduce atmospheric carbon below the “business as usual” level. Eligible offset projects must meet criteria and follow rules set by the government. Offsets encourage large emitters to invest in climate-friendly initiatives when they are cheaper than emission allowances. Offset markets in cap and trade systems are controversial. The rules around project eligibility, verification, pricing, and amount of total GHGs that can be offset affect whether they promote actual GHG reduction or merely provide a loophole for large emitters to avoid change.

Carbon Tax

Carbon tax systems add a surcharge to fossil fuels per tonne of CO₂ emitted when burned. The tax is then reflected in products’ prices according to the amount of CO₂ emitted in their production. Consumers’ purchasing decisions are influenced by price, so a carbon tax should shift consumption towards lower-carbon products. Sellers seeking to increase their market share would work to make themselves more attractive to consumers by reducing the amount of carbon tax embodied in their products. Over time, jurisdictions with carbon tax systems raise the per tonne tax rate to increase the incentive for companies to reduce fossil fuel consumption. Unlike cap and trade, carbon tax systems can be effective in jurisdictions that have few or no large-scale emitters.

Carbon taxes are paid to the government, which can decide how to use the revenues. In revenue-neutral carbon tax regimes the tax dollars are redistributed to alleviate economic hardship for lower-income residents and/or to fund additional measures to reduce emissions. Thus, carbon tax money goes back into the economy, but not necessarily to the same people who paid the tax. Carbon tax would be collected on a per-tonne basis and rebated on a per-capita basis, rewarding people whose consumption produces less CO₂.

Economic inequality

Economic disparity is affected by, and has impacts on carbon pricing effectiveness. Large corporations have the market power to offload carbon costs onto smaller players, and in some cases this may actually increase emissions. People with modest and low incomes and

Current NFU policy related to climate change, carbon pricing and offsets:

The NFU demands that all levels of government acknowledge the need to massively and urgently reduce greenhouse gas emissions.

The NFU should provide information, support, and climate change mitigation strategies to farmers.

Global warming is a result of increased emissions of greenhouse gases, including carbon-dioxide. Carbon can be “sequestered” through proper soil conservation practices. There are proposals to measure “stored” carbon in terms of carbon credits which may be commodified and traded amongst countries. It seems very likely that carbon credit trading will result in richer countries buying credits from farmers in developing countries and this practice may allow for actual increases in greenhouse gases. Therefore, the NFU believes that individual countries must be responsible for greenhouse gas reduction within their own border. The NFU further believes that carbon credits should not be commodified and traded between nations, companies, or individuals.

The practices of many pasture and forage-based livestock family farmers promote conservation of the soil. The NFU urges the federal and provincial governments to pay livestock family farmers for increasing and/or maintaining carbon in pastures, hay land and forest land as a means of establishing long-term economic stability.

The NFU supports the Kyoto Agreement and the NFU will work to ensure that all provincial governments encourage the Federal Government to ratify the Kyoto Agreement.

small companies are much less able to absorb additional costs due to carbon taxes and may not have access to or be able to afford low-emission alternatives. Offset purchasing by wealthy emitters can result in negative consequences to less powerful communities. Carbon pricing regimes that worsen economic and political inequality cannot gain widespread support. Carbon pricing regimes that redistribute revenues in ways that reduce inequality will be more readily accepted by the public.

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Pros and Cons of Carbon Pricing Systems:

Pros:

Both Cap and Trade and Carbon Tax are market mechanisms that rely on the “invisible hand of the market” to allocate GHG emissions within the economy after the government sets the mechanism in motion by determining the rules for the carbon market and the price of carbon. These market mechanisms are more flexible and less prescriptive than direct regulation of emissions. Carbon pricing regimes vary in their effectiveness in reducing CO₂ emissions depending on how governments structure and manage their jurisdictions’ carbon markets.

Carbon pricing systems transfer money from fossil fuel-intensive sectors of the economy to low GHG activities. All carbon tax revenues, and some of the revenues in most cap and trade systems, are paid to governments which can use the money to fund non-market GHG reduction and climate adaptation measures and/or per capita rebates to residents.

Cons:

Both systems are incremental and gradual – the rate of change in allowable/affordable emissions levels is slow enough for businesses and consumers to adjust to new prices and costs -- but not fast enough to counteract GHG increases due to economic growth. Governments are reluctant to price carbon high enough for market behaviour to bring about significant emission reductions.

Both put the emissions producers in the driver’s seat: decisions about whether and how to reduce GHGs are made primarily by the executives in charge of company investment decisions. Consumers only have the power to choose from among the options offered on the market.

Carbon allowances and offsets can become tradable as financial derivatives for speculation instead of working to promote investment in GHG reduction.

Carbon pricing does not cover all GHG emissions; only those from fossil fuels.

Carbon sequestration ≠ Emission reduction

Carbon sequestration:

Plants convert atmospheric carbon (CO₂) into plant biomass (carbohydrates such as starches, sugars and cellulose) by the process of photosynthesis. Different farming practices help or hinder the soil’s ability to

...soils have large, but ultimately limited, capacity to absorb and retain atmospheric carbon. Soil carbon can be lost much faster than it can be rebuilt.

convert plant biomass into soil carbon. Processes that move carbon from the atmosphere into soil for long term storage is a form of *carbon sequestration*. Canada’s agricultural soils contain less carbon now than they did when first cultivated many years ago due to clearing forested land, tilling, stubble burning, removal of crop biomass, and soil erosion. Practices that increase soil carbon levels remove carbon from the atmosphere and simultaneously improve soil structure and fertility. The amount of carbon soils can hold is limited however. Soil sequestration can remove a certain amount of carbon from the atmosphere, but eventually equilibrium is reached when respiring soil microorganisms release CO₂ at the same rate as plant biomass carbon is added. The amount of carbon a given soil can absorb varies according to the type of soil, the local climate and the way it is managed agriculturally. Soil carbon can be released back into the atmosphere more rapidly as a result of tillage, soil erosion, stubble burning and over-grazing. In short, soils have large, but ultimately limited, capacity to absorb and retain atmospheric carbon. Soil carbon can be lost much faster than it can be rebuilt.

Emission reduction:

Agriculture is responsible for significant GHG emissions globally; however the intensity of emissions varies among different farm types and methods of production. The Intergovernmental Panel on Climate Change (IPCC) is the world’s GHG accountant. To avoid double-counting, it allocates broad types of emissions to the sectors of the economy that produce most of them. For example, all emissions from burning diesel fuel are allocated to the transportation sector even though diesel is also used for other purposes. Thus farm tractor fuel emissions show up in “transportation” sector, not on the “agriculture” ledger. The IPCC categorizes enteric emissions from cattle and nitrous oxide emissions from fertilizer use as agricultural GHGs. Consequently, agriculture policy

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makers may focus mostly on these emissions. The farm chemicals, fertilizers, electricity and transportation that Canadian farms use are also significant sources of GHG emissions. Reducing these inputs or replacing them with lower GHG alternatives would significantly reduce agriculture's actual contribution to climate change.

Implications of carbon pricing for farmers and agriculture

Carbon pricing is an incremental approach to GHG reduction. With low carbon prices and gradual price increases, carbon pricing alone cannot prevent global temperatures from rising more than 2 degrees Celsius. If no additional GHG reduction measures are implemented, farmers will experience increasingly serious threats to their livelihoods due to flooding, drought, severe weather events, erratic weather patterns, new disease and pest problems, and conditions that affect transportation and storage of agricultural products. Farmers are among the most vulnerable to the impacts of climate change.

Implications of Cap and Trade systems for farmers and agriculture

Farms do not have their emissions capped, however if offset markets are part of the cap and trade regime, these can have implications for farmers. The details of what kinds of offsets are eligible, how they are defined and how payments are managed will affect how well they work, how much they pay, the costs of administration, the costs of verification (record-keeping and testing) and the duration of payments.

- Soil sequestration – Jurisdictions may allow offset projects that provide for payments to farmers who use methods to increase soil carbon. Soil sequestration regimes are time-limited. There are questions about liability in the event changed production practices cause carbon to be released back into the atmosphere.
- Emissions reduction – Jurisdictions may allow offset projects that provide for payments for adopting new methods that reduce nitrous oxide and methane emissions from farmland and/or livestock.
- Forestation of farmland – Jurisdictions may provide for offset projects that change land use from cultivation to permanent forest. The value of these offsets needs to be adjusted for risk of forest fire. Some farmland may be converted from crop production to reforestation.

- Wind and solar energy – Jurisdictions may allow offset credits for renewable energy projects. Some farmland may be converted from crop production to provide space for these projects.

Offset markets may have unintended consequences. For example, offsets for soil sequestration and emissions reduction may promote the use of precision farming equipment. Farmers may not be comfortable with the level of surveillance and/or ownership, use and management of data collected by computerized implements. Offset markets may inhibit innovation because once program requirements are defined, compliance standardizes farming practices among participants. Carbon offset markets would likely create a market for farmland for carbon sequestration projects and for wind and solar energy installations. Increased demand by wealthy emitters seeking offsets would cause land prices to rise, making farmland less affordable, especially for new and young farmers.

A carbon tax regime would promote on-farm energy efficiency and the adoption of low GHG options – IF lower GHG options for needed products or services are offered.

Implications of Carbon Taxes for farmers and agriculture

Carbon tax regimes affect all buyers and sellers, however not all are equal in market power. A carbon tax regime would promote on-farm energy efficiency and the adoption of low GHG options – IF lower GHG options for needed products or services are offered. In agriculture, the market power of large input companies, railways, oil companies, grain companies, food processors and retailers far outweighs the power of individual farmers. These large entities would be in a position to pass the costs of their carbon taxes on to farmers in the form of higher input prices, higher freight rates and lower commodity prices. A carbon tax regime could be designed to compensate for farmers' lack of market power by providing rebates on a per-gross margin or per-acre basis, perhaps with modifications to recognize higher-intensity production on smaller acreages.

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- **Input price effects** – The cost of energy-intensive inputs, such as synthetic nitrogen fertilizer, would rise. Farmers would respond by using less fertilizer, using fertilizer more efficiently and/or using low GHG sources or methods such as legume rotations.
- **Commodity price effects** – Commodity buyers have the market power to pass on the cost of their carbon taxes to the weakest link in the chain: the farmer. Instead of absorbing these costs, grain buyers would simply offer lower prices to farmers.
- **Transportation cost effects** – Railways also have the market power to transfer their carbon tax costs onto captive shippers. This might be in the form of higher freight rates or fewer delivery points, or both. Even though rail transportation is more energy efficient, farmers may end up trucking longer distances to service points. Additional producer car loading facilities would provide a way for more farmers to reduce GHGs embodied in grain transportation.
- **Energy/GHG efficiency rewards** – Farmers could save money by adopting energy efficient practices, using renewable energy sources, investing in energy conservation and switching to lower-input production practices.
- **Machinery innovation** – The carbon tax, if high enough, would reward inventors and innovators who develop new kinds of farm machinery that allows farms to have smaller carbon footprints.

- **Labour** – If the carbon tax is high enough, it will make the rewards to labour relatively more attractive than investment in equipment or inputs. The carbon tax rebate, if high enough, would provide for higher returns to farmers' own labour, and/or the ability to hire more workers.

What might a revenue-neutral carbon tax could look like for farmers?

Farmers would pay carbon tax based on the amount of CO₂ emitted in the production of their farm's inputs and services (fertilizer, fuel, pesticides, transportation) and get a rebate based on a percentage of their farm's gross margin or acreage (adjusted for production system).

Solutions?

The devil will be in the details. Canada is poised to adopt 10 different carbon pricing regimes. BC, Alberta, Quebec and Ontario have already priced carbon. Other jurisdictions need to study existing regimes' strengths and weaknesses and learn from them. The Paris Agreement recognizes the importance of food and agriculture, thus special consideration of a carbon pricing regime's impact on farming is legitimate. Benchmarks, indicators and evaluation processes need to be built into carbon pricing regimes to balance the urgency of acting now, yet make sure that unintended consequences do not harm Canada's ability to provide food for our residents and international customers while providing fair livelihoods to farmers and a future for the next generation of farmers.

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A system that leaves small producers at the mercy of buyers

—by Amanda Wildeman, Executive Director, NFU-NB

New Brunswick wild blueberry producers have faced one of the hardest seasons in history. Strong NB yields, record low prices, closure of buying stations, a new processing plant that was not built to receive berries harvested in the small boxes most producers currently use, excellent yields in Quebec and a surplus from last season have created a perfect storm that has tensions running high and stress levels through the roof for many of those involved.

Producers have become increasingly vocal about their current challenges, finally resorting to the media and protests to make themselves heard. Contrary to what many may think, this has not been their first line of action but is rather the result of being pushed to the limit after having worked hard to play by the rules for many years and not being heard or acknowledged.

Over the past four years, producers have been warning that the government-supported exchange of nearly 16,000 acres of prime crown land and subsidies in return for the new processing plant operated by Oxford Frozen Foods would not bring jobs and prosperity to the industry as promised. Letters have been written, meetings have been held, attempts to work within the currently available structures have been unsuccessful and a nearly three-year process to get a regional marketing board off the ground has been repeatedly stalled by government. In addition, producers are still waiting on the results and “next steps” of a public consultation held in May of this year!

As Agriculture Minister Doucet told the National Farmers Union in New Brunswick and producers recently, “it’s complicated.” Perhaps surprisingly, I agree with this statement. There are many years of historical alliances, disputes and lack of government support for smaller producers, to the flat out creation of a vertically integrated monopoly system run by Nova Scotia-based Oxford Frozen Foods, the world’s largest wild blueberry supplier. Producers from all sides and regions have shared stories with me where they have felt bullied or shut out at different times by the government, processors, the provincial marketing agency *Blueberries New Brunswick*, and even other producers.

Although, when I think of how complicated the situation is, a quote keeps coming back to me: *Every*

system is perfectly designed to get the results it gets.
(Paul Batalden)

This quote is not saying that all systems were designed with careful planning and consideration for both their results and unintended consequences. Sometimes the design was not well thought out from the beginning and the system is *unintentionally* designed to get the results that it’s getting.

The good news is it is still possible to design a system that will actually allow the full participation of all blueberry producers regardless of size.

In perhaps in a desperate attempt to create more jobs for the province, the previous government designed a system where one big player will soon have enough of its own primary production to fill its processing plant. But this is also a system that leaves smaller producers at the mercy of four main buyers and scared to publically criticise anything for fear of having a bountiful crop and nowhere to sell it. It is a system that fully adopts the neo-liberal trade agenda that gives a lot of power to the large multinational corporations as a sort of saviour for struggling rural economies (a system that has yet to increase individual producers’ wealth anywhere in the world – but rather concentrates it in the hands of a few owners). It is a system that has no space for smaller producers to participate, negotiate prices or speak out in the face of injustices that are often mistaken for ‘progress’ or ‘development’.

As identified in the recently announced *NB Economic Growth Plan*, wild blueberries are a unique opportunity for New Brunswick, as we are one of few regions in the world with suitable growing conditions. In follow-up conversations with Ministers and government staff working on this file, this really means carrying out *New Brunswick Wild Blueberry Sector Strategy 2013-2018*. This document is full of promises for the future – encouraging both new and experienced producers to expand. Many who have

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already done so are seriously questioning their investments, given dropping market prices over the last few years. Others are looking to sell their lands to Oxford this year due to the declining market value of blueberry land. Folks are trying to get out while the 'getting out' is still decent.

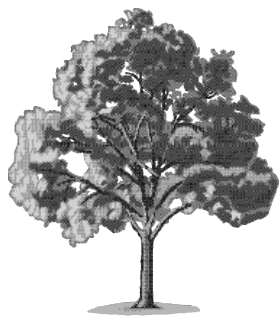
A thriving and growing blueberry sector is not one where producers are almost subservient to large corporations, continuously receiving lower and lower prices while processors hold on to a larger percentage of the profits. A thriving sector is one where many individual producers are able to make a living, operating their own business, creating employment in their communities and where New Brunswick can proudly boast that their blueberries are produced by the men and women who live and work in our province.

The National Farmers Union in New Brunswick is calling on the government to take strong and immediate action to:

- Publicly announce the results of the May 2016 plebiscite on the creation of the Regional Marketing Board, as well as their final decision on this opportunity;
- Create a producer-driven mechanism to negotiate prices and ensure that final adjustment payments are consistently made to producers after the berries have been sold on the world market;
- Initiate a thorough and in-depth review of how stakeholders are organized and represent themselves, including producers of all sizes, government, processors and representative bodies.

Every system is perfectly designed to get the results it gets. Working with the current system will continue to get the same results. The good news is it is still possible to design a system that will actually allow the full participation of all blueberry producers regardless of size. It will require frank dialogue, hard work and commitment from all involved to see this sector increase individual farm net income – not just higher overall exports and GDP growth. – nfu–

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