# ESG, CLIMATE CHANGE, AND THE LURE OF FARMLAND INVESTING

Andrea Gruza
*Vice President, Capital Markets, Bonnefield Financial*

Over the past decade, we have seen increased interest among the investment community in agriculture and farmland as an asset class. Not only are large, sophisticated, institutional investors across the globe evaluating (or already invested in) farmland and agricultural investments, so too, are increasing numbers of non-institutional investors.

Farmland (focusing in this article on cropland and not farmland for livestock, grazing, other uses) offers a diverse set of characteristics that can appeal to a broad number of investors as they look to optimize their portfolio construction. Farmland's low correlation with traditional equity or fixed income markets and its historically positive performance during times of high and rising inflation form the foundation for investor interest in the asset class.[1] Increasingly, however, Environmental, Social and Governance and climate change considerations are also driving potential investors towards farmland.

The following discussion outlines how ESG and climate considerations relate to farmland investing and the ways in which an investment portfolio can see increasing value from farmland. First, we look at how managers and investors can track ESG performance with respect to farmland – a minimum requirement these days but one that is still difficult to achieve in a meaningful (or standardized) form. Secondly, we look beyond simple ESG tracking to consider how certain sustainable farming practices can contribute to carbon sequestration and as a result, assist in the fight against climate change. Finally, as a Canadian farmland investment manager with nearly C$1 billion in Canadian farmland AUM (Assets Under Management), we share Bonnefield's 10-year investing experience to showcase how Canadian farmland is uniquely positioned to provide investors with a hedge against some of the existing negative impacts of climate change.

## I. ESG and farmland

The increasing importance of Environmental, Social, and Governance (ESG) considerations for investors is widely acknowledged. However, a lack of broadly accepted, standardized ESG definitions and metrics creates a broad spectrum for tracking, measuring and discussing ESG. For our purposes, we refer to ESG in its most fundamental form, as a consideration of how certain environmental, social, and governance factors can influence the long-term value and performance of an investment.

Bonnefield

[1] Kuethe T.H. et al. (2013): Farmland versus Alternative Investments before and after the 2008 Financial Crisis. Journal of the ASFMRA p.120-131

Farmland is a compelling asset class for investors looking to track the ESG characteristics of their investments because it has a natural set of value drivers that align with an ESG framework. The fact that the long-term productive capacity of farmland is predicated on having the necessary environmental conditions to support crop growth (i.e. supportive weather conditions, access to fresh water, etc.), highlights the natural relationship with the 'E' in ESG. As a result, operators and owners of farmland can implement monitoring of characteristics like soil erosion, water issues (pooling, poor draining, etc.), and organic matter in the soil, to provide a set of qualitative and quantitative metrics to monitor the asset's value drivers over time.

With respect to relevant Social and Governance metrics, these are likely to vary depending on the geography and political environment within which the asset is located. For example, in a country like Canada which has a strong regulatory environment and well-established governance structure around land ownership, the action of conducting a title search on a property is often considered perfunctory and would rarely return a surprise result. However, there may be other jurisdictions where ownership records are less well developed and it becomes highly important to investors that the manager provide ongoing reporting on the proper evaluation of ownership records.

Depending on the specific investment model, the full suite of relevant ESG metrics will vary, but the core foundational relationship between farmland and the environment exists. It is important to note that despite the primary importance of environmental factors as they relate to farmland, the ability to effectively measure performance and quantify its importance is still developing and there is no widely implemented set of reporting metrics that apply across the asset class yet. However, we believe that regulatory actions such as the development of the EU taxonomy for sustainable activities, technological enhancements for tracking and reporting on-farm metrics, and ongoing investor and manager activity will result in significant enhancements to reporting over the coming years.

## II. Farmland's fole in mitigating climate change

Beyond monitoring ESG factors, it is becoming increasingly important for investors to support positive change through their activities. The most prominent example of this is the Net-Zero Owner Alliance, which is a United Nations-convened alliance of leading institutional investors who have committed to making their investment portfolios carbon-neutral by 2050. This creates a challenging situation for investment professionals tasked with meeting return targets while rebalancing the portfolio based on its carbon footprint. Investments in certain farmland can support these efforts, as mounting evidence suggests that farmland and sustainable farming techniques can present an opportunity to mitigate a portion of global greenhouse gas emissions in the future.[2]

### *Canada's role in sequestering carbon and mitigating climate change*

Among the most accessible and practical methods to reduce atmospheric carbon is to store it in our soils and vegetation. Carbon is the main component of soil organic matter ('SOM'), as it is captured by plants during photosynthesis. Plant life, from root to stem, is comprised of carbon that was previously in our atmosphere. With the adoption of modern and sustainable farming practices which encourage additional carbon storage through increasing soil organic matter over time, farmers can play a part in reducing total emissions.

Over the past several decades in Canada, there have been substantial changes in both farming practices and soil carbon sequestration, resulting in positive outcomes. Regenerative farming methods, more efficient land use, increased crop yields, and a change in crop composition, have helped to shift the average acre of Canadian farmland from a net emitter of carbon to a net collector. Canadian soils have gone from emitting 1.2 million tonnes of carbon in 1991 to removing about 11.9 million tonnes from the atmosphere in 2011.[3]

Changes in farming practices that can lead to increased carbon sequestration

| Illustrative Past Farming Practice | Illustrative Current Farming Practice |
|---|---|
| Regular tillage leading to mechanical soil disruption | Conservation tillage practices |
| Fields frequently left fallow during summer | Use of cover crops and green manure |
| Homogenous fertilizer application | Precision fertilizer applications |
| | Rotational grazing programs for pastureland |
| | Direct seeding |
| | Restoration of degraded lands |
| | Regular use of 'good' microorganisms in integrated pest management plans |

[2] The Canadian Agri-Food Policy Institute. www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842
[3] Environment and Climate Change Canada. www.agr.gc.ca/eng/agriculture-and-the-environment/agricultural-practices/climate-change-and-agriculture/greenhouse-gases-and-agriculture/?id=1329321969842

If sustainable practices continue, the Canadian Agri-Food Policy Institute suggests that Canadian cropland can maintain a sink of 17.8 million tonnes of carbon per year from 2016 to 2030.[4] While this is not a total solution, these are encouraging estimates that contribute towards the global effort to reduce net emissions.

## III. Canadian farmland's resilience through climate change

While much current discussion focuses on how investors can use their influence to affect positive change with respect to the climate, it is also important to consider what impact climate change is having on the investment portfolio and identify investments that can provide a hedge against these impacts. Are large weather events – snowstorms in Texas, floods in Australia, Brazilian droughts, etc. - placing stress on certain industries? On the other hand, are government actions to combat climate change putting downward pressure on the profitability of certain companies? Against this backdrop, assets such as Canadian farmland can offer important hedging characteristics.

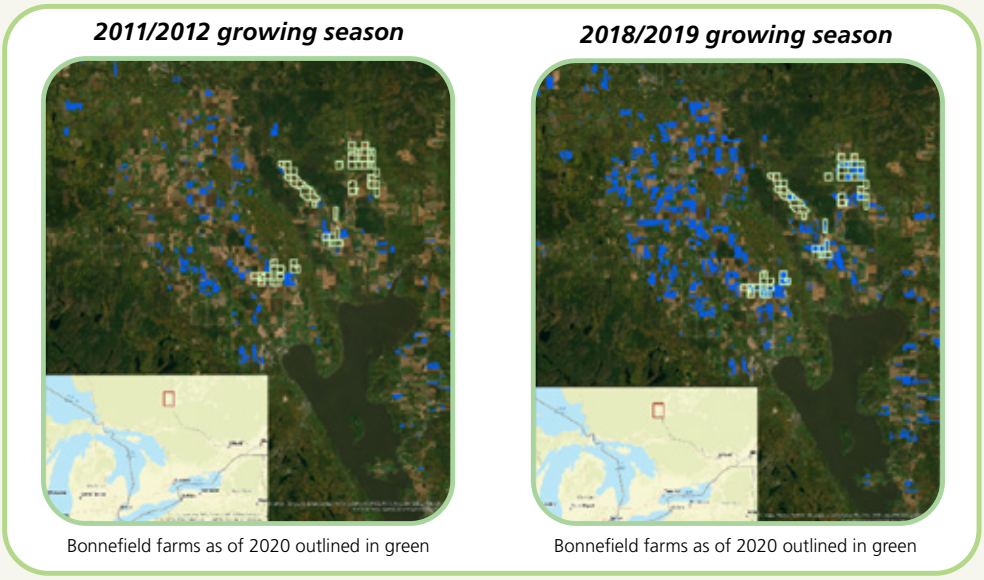
### *Farmland resiliency and changing land use*

In a recent New York Times article, Abrahm Lustgarten contends that "climate change and its enormous human migrations will transform agriculture and remake the world order." While the focus of his article is on the opportunities that trends like warming temperatures, increased rainfall in traditionally dry regions, and longer growing seasons present for Russia, our experience investing in Canadian farmland highlight similar dynamics. In fact, we believe that exposure to Canadian farmland may offer a hedge against the negative impacts of climate change in other parts of an investment portfolio.

In Canada over the last number of years, longer growing seasons supported by warmer temperatures and changing crop genetics can elevate the productivity of farmland on previously marginal acreage – especially in more northernly regions.[6] Canada is a large and diverse geography with well-established agricultural regions throughout the country. Unsurprisingly, the most productive farmland, and that which is capable of growing high value crops, trades at premium prices to its 'lower quality' counterparts. Typically, this farmland has been found in more southern areas of the country due to a combination of soil type and supportive climatic growing conditions. More northernly, peripheral regions, have long supported agriculture but typically grow low value crops such as forage, since lower temperatures and shorter growing seasons are less conducive to other crop varieties.

A good example of this dynamic is in Bonnefield's Near North Land Assembly in Timiskaming, Ontario where farmers have recently introduced soybeans to the region. Historically, farmers in Timiskaming relied on two-year canola/wheat crop rotations, or a similar variant. Around 2012 however, some farmers began experimenting with soybean/wheat rotations based on observed changes to growing conditions. Today variants of soybean/wheat rotations have become the norm.

Soybean fields in the Timiskaming region of Ontario[7] (represented in blue)




Bonnefield farms as of 2020 outlined in green

Bonnefield farms as of 2020 outlined in green

[4] Smukler, S. (2019) Managing Canadian Croplands to Maximize Carbon Sequestration and Minimize Other Ecosystem Service Trade-Offs. Prepared for the Canadian Agri-Food Policy Institute.

[5] https://www.nytimes.com/interactive/2020/12/16/magazine/russia-climate-migration-crisis.html

[6] Chapagain, Tejendra (2017) Farming in Northern Ontario: Untapped Potential for the Future; www.nrcan.gc.ca/climate-change/impacts-adaptations/climate-change-impacts-forests/forest-change-indicators/growing-season/18470

[7] Annual Crop Inventory, Agriculture and Agri-Food Canada. https://open.canada.ca/data/en/dataset/ba2645d5-4458-414d-b196-6303ac06c1c9

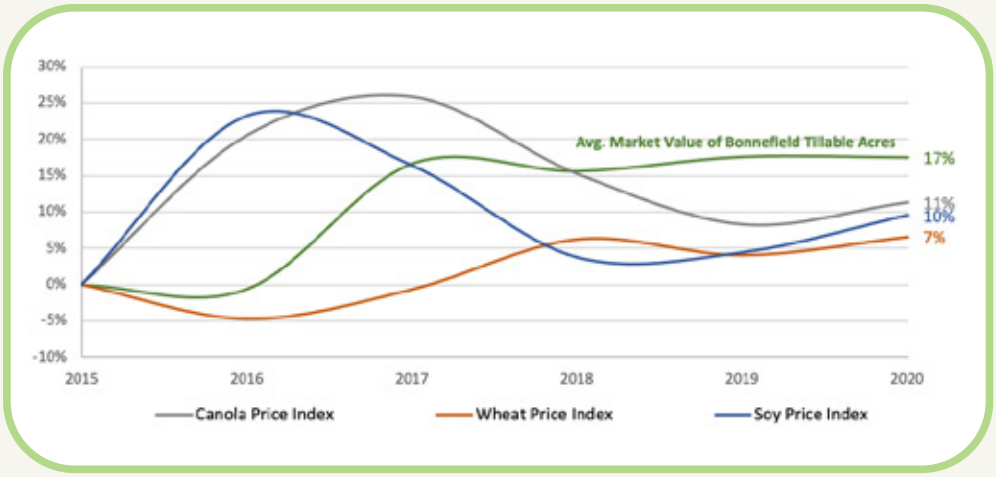
The significance, from an investment perspective, is that soybean is a higher value crop than canola. The illustrative example below shows an estimated increase of approximately 48% to farm profitability when comparing a canola vs soybean rotation.

With farm profits being a key driver of farmland value, we would expect to see appreciation in the underlying farmland asset resulting from the introduction of higher value crop rotations. In fact, Bonnefield's farmland in the area has appreciated 17%[9] since 2015 and outpaced performance of the underlying commodities during this timeframe.

Illustrative analysis: profitability comparison between canola and soybean[8]

| Rotation | Illustrative Yield BU/Acre | Commodity Price ($/BU) | Estimated Cost/Acre | Estimated Profit |
|---|---|---|---|---|
| Canola | 57.31 | $11.18 | $486 | $154 |
| Soybean | 47.00 | $11.40 | $308 | $228 |
| | | | **Difference** | **48%** |

Appreciation of Bonnefield Timiskaming properties vs. underlying commodity price index (2015-2020)[10,11]




## Concluding thoughts

As demand continues to increase in the investor community for action on ESG, and climate change in particular, farmland investing can play an increasingly important role to support these broader objectives. Farmland's low correlation with traditional equity or fixed income markets and its historically positive performance during times of high and rising inflation forms the foundation for investor interest in the asset class. But, farmland may also offer important benefits as a (partial) hedge to the negative impact of climate change and can play a positive role in any portfolio focused on meeting net zero emissions targets. With the right management, farmland plays a meaningful role as a carbon sink which can be used to move overall investment portfolios closer to net zero emissions. In Canada particularly, climate change is opening opportunities for farmland to migrate to higher value crops and offer a hedge against some negative impacts of climate change.

[8] OMAFRA Southern Ontario estimated 2020 crop budgets (winter canola hybrid and Roundup ready soybean budgets) http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/budgettools.htm#crops

[9] Calculated based on appraised value of property, less capital expenditure. Based on Bonnefield properties owned since 2015.

[10] Commodity prices based on not seasonably adjusted annual average price. Property values based on actual year-end appraisals.

[11] Commodity prices sourced from Economic Research Federal Reserve Bank of St. Louis. www.fed.stlouisfed.org CAD/USD exchange rate sourced from US Federal Reserve www.federalreserve.gov

# EUROPEAN INVESTMENT JOURNAL

www.radiuseurope.com

The English Channel, The Strait of Dover at it's narrowest point. Image courtesy of the European Space Agency.