This presentation was delivered to the South Nation Conservation Authority's Board of Directors on February 18, 2016.

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Overview of Presentation

- What is an environmental market?
- Why should we care?
- Sustainable Prosperity's work
- Findings on Ontario's environmental markets
- Going forward

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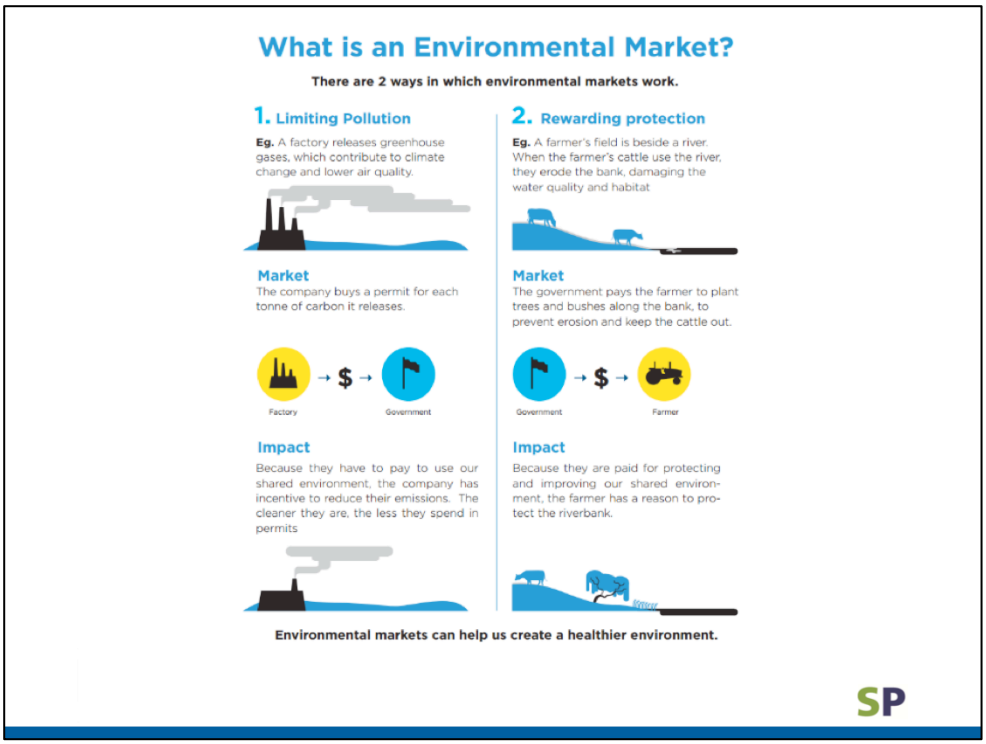
Canadians derive abundant benefits from the environment. Focusing specifically on Ontario:
1- The province has more than half of the highest quality Canadian farmland,
2- It leads all other provinces in terms of mining,
3- Forestry supplies over 200,000 direct and indirect jobs, and
4- Ontario's natural environment provide vital ecosystem services such as clean air and water, climate regulation and flood control.

However, the full value of these goods and services is not always reflected in the prices we pay (sometimes we even get some of these services for free!)

Considering the full costs and benefits of our daily activities on the environment can help us establish more accurate prices.

An **environmental market** refers to any market in which the transactions taking place are aimed at either improving or maintaining environmental quality, or minimizing environmental degradation.



By creating a monetary value where none exists, environmental markets help buyers and sellers see the full costs of using our environment, and the full benefits of preserving it.

Environmental markets also allow more flexibility than traditional regulation and can also be more cost efficient.

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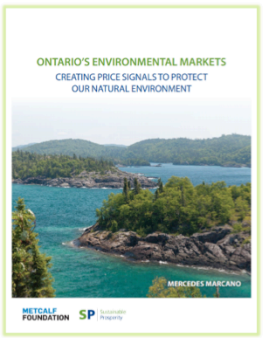
Recognizing the potential benefits of environmental markets, Sustainable Prosperty set out to explore how many of the markets currently exist in Canada.

Sustainable Prosperity released two reports (covering the years 2012 and 2013). The reports first help to introduce and explain what an environmental market is and how it works.

These two reports also identified the number of active environmental markets and categorized them under three environmental areas (air and carbon, water, and biodiversity).

While these markets have been used around the world for years, the reports revealed that these are used infrequently in Canada.

The 2013 Environmental Markets report estimated the value of environmental markets to be between $406 million and $625 million annually.



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For Sustainable prosperity's third report on environmental markets, we decided to concentrate on a smaller geographic area in order to get a better understanding of why some of these markets have been used in some regions and underutilized in others. We also wanted to identify barriers to their use and highlight potential areas for implementation.

Why Ontario?
As one of the most economically diverse and densely populated regions in Canada, Ontario (particularly Southern Ontario) is an interesting region to explore through research and policy analysis.

Ontario generates 37% of Canada's GDP and it is home to 38% of the country's population, 13.7 million, which is projected to grow by 4.2 million (or 31.3%) over the next 28 years.

A challenge thus exists; how can Ontarians ensure that as the population and economy expand, we are able to manage the province's natural resources more sustainably and considerably reduce the environmental impact of daily activities?

AIR AND CARBON	MARKET TYPE
Ontario Emissions Trading Registry (for sulphur dioxide and carbon monoxide)	Established Market
Carbon offsets	Established Market
Renewable Energy Certificates	Established Market

WATER	MARKET TYPE
South Nation River Total Phosphorus Management Trading System	Established Market
Lake Simcoe Phosphorus Offset Plan (not yet launched)	Established Market
Nottawasaga Valley Conservation Authority Nutrient Trading Program	Established Market
Ontario Landowner Environmental Assistance Program	Payment Program
Water's Edge Transformation Project (WET)	Payment Program

BIODIVERSITY	MARKET TYPE
Species at Risk Overall Benefit – compensatory mitigation	Established Market
Ontario Species at Risk Stewardship Fund	Payment Program
Ontario Species at Risk Farm Incentive Program	Payment Program
Land Stewardship and Habitat Restoration Program	Payment Program
Community Hatchery Program	Payment Program
Grassland Habitat Farm Incentive Program	Payment Program
ALUS Alternative Land Use Services (Ontario programs)	Payment Program
Ducks Unlimited Canada - Landowners' Wetland Restoration Program	Payment Program

MULTIPLE ECOSYSTEM SERVICES	MARKET TYPE
Growing Forward 2	Payment Program (air & carbon and biodiversity)
Lake Simcoe/ South-eastern Georgian Bay Clean-up Fund	Payment Program (water and biodiversity)
50 Million Tree Program	Payment Program (air & carbon, water and biodiversity)
Watershed Stewardship Activities under the Conservation Ontario umbrella	Payment Program (water and biodiversity)
Great Lakes Guardian Community Fund	Payment Program (water and biodiversity)

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The report identified 20 environmental markets in Ontario. The provincial government recently announced its intended introduction in 2017 of a cap and trade program
that will limit GHG emissions. Another pending market is the Lake Simcoe Phosphorous Offset Plan. Of the 20 active environmental markets13, only seven markets are considered established markets. Most established markets fall within the air and carbon environmental area, while most payment programs target protection and enhancement of water and biodiversity. In the future, it will be interesting to track the development of these payment programs as they may evolve into more established markets.

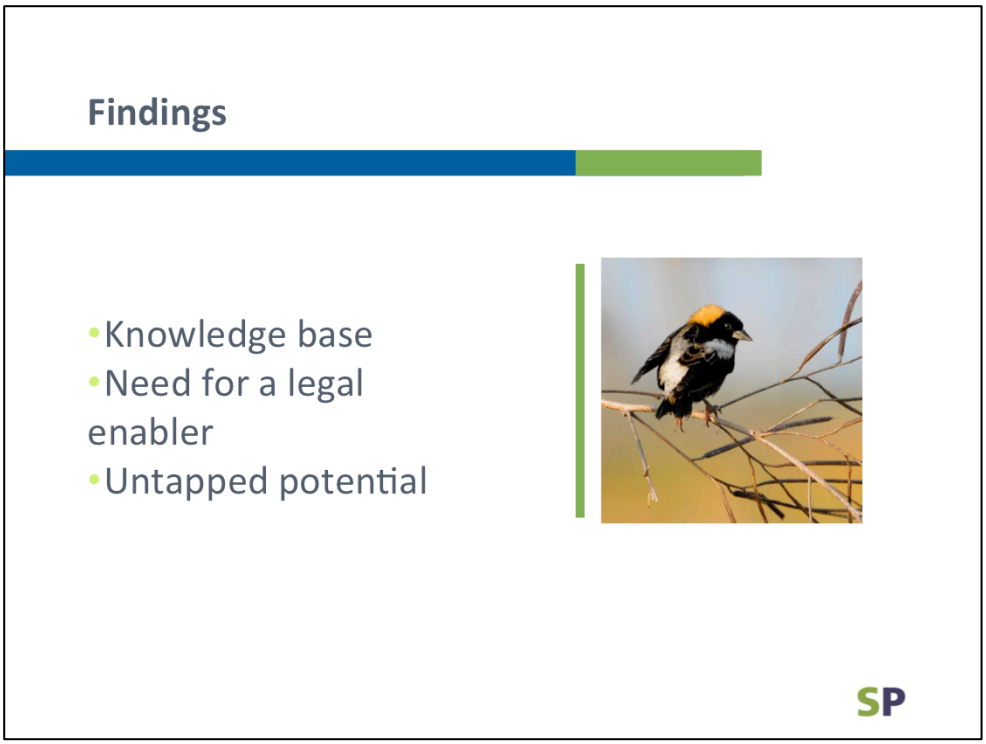
Note on monetary value: Unlike previous Sustainable Prosperity environmental markets reports, this report does not calculate an aggregate monetary value of environmental markets.
For some markets, it was possible to obtain their value based on program reports, market participants or program operators (see Methods Appendix in the report). However, for certain markets it was almost impossible to estimate their value as market participants are not obliged to publicly disclose their trading information.

Note on Multiple Ecosystem Services category: Since some of the identified markets place a value on goods and services that provide benefits in more than one environmental area, it is therefore appropriate to classify these under a distinct fourth area entitled multiple ecosystem services.

Market size doesn't always tell the full story: A closer look at these environmental markets revealed that the total monetary value of these markets does not always capture the whole story behind their successes or failures. The South Nation River Phosphorous Trading program, for example, reported a $0 value for the past few years, though this market has been recognized as a successful example of a North American water quality trading market. In fact, contrary to the market being considered ineffective or weak, the $0 value simply reflects the fact that there has been no net increase of phosphorus in the watershed and as a result, there has been no need to offset additional nutrient loadings. The market is actually working!

Local actors: The role of conservation authorities: Conservation authorities are involved in all sorts of environmental markets in the province; from planting trees that generate carbon offsets to operating water quality trading markets, and even showing an interest in providing biodiversity offsets. Conservation authorities are unique non-profit organizations aligned with watershed boundaries to better serve local needs from a science-based perspective. They have lengthy experience managing local natural resources, monitoring and improving water quality, restoring and rehabilitating habitats, and implementing many other stewardship activities designed to provide environmental benefits. They also have over 70 years of administrative capacity and have built trust with local landowners by working together on a wide range of conservation projects. For these reasons, conservation authorities are ideal candidates to implement and administer environmental markets in Ontario – particularly those markets that are more localized in nature, such as water and biodiversity markets.

Buy-in: Obtaining "Buy-in" for the local community is crucial to the successful implementation of environmental markets. This was made evident during the consultation phase of the Lake Simcoe Phosphorous Offset Plan. Program administrators explained that watershed residents often associated the terms “trading” and “credits” with a quick way for developers to get away



Knowledge base: There is still need to better understand how, when and where environmental markets can be used – this is particularly true for water and biodiversity markets. A strong knowledge base could support continuous improvement of environmental markets' policies, guidelines and structures. Sustainable Prosperity supports research on this regard; focusing mostly on the policy and economic aspects of environmental markets.

Need for a legal enabler: The development — and passing — of legislation to enable and encourage environmental markets is crucial to their expansion in Ontario. By creating province-wide policies and guidelines that allow water-quality trading, there would be growth of these markets and provide guidance on when and where these markets could be considered. Ontario's and Quebec's announcement to create a common set of rules to allow the purchase of carbon offsets as a form of compliance under the cap-and-trade system would boost the carbon offset market in Ontario. Right now this market is small as it is entirely voluntary.

Untapped potential: There's an untapped potential for the use of environmental markets in Ontario. Used in conjunction with other policies, these can help deliver desired environmental outcomes in a cost-efficient and flexible way. Water quality trading is an obvious market mechanism to explore further. Successfully implemented markets like the South Nation River water quality trading program have
demonstrated that these markets can reduce pollution levels while dramatically bringing down the cost of obtaining environmental objectives. Similarly, there is an opportunity to consider the use of biodiversity offsets beyond endangered species. Along with other conservation policies, these can help mitigate biodiversity loss caused
by urban development and increased economic activity. In addition, to established markets, there are opportunities for Ontario to further explore payment programs. Programs like the Ontario Species at Risk Stewardship fund and Ontario's ALUS have helped farmers and

Ontario's projected economic and population growth, coupled with the effects of climate change and invasive species, can put a great burden on the province's environment. The use of environmental markets could help internalize the cost of pollution and the benefits of environmental protection into the decision-making process of policy makers, project developers and private landowners. The big move on Ontario's carbon markets (the newly announced cap-and-trade) could set the stage for the additional use of environmental markets. Their implementation can help Ontario get ahead of the curve by seizing the opportunities of a low-carbon economy early on.

Thanks!

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