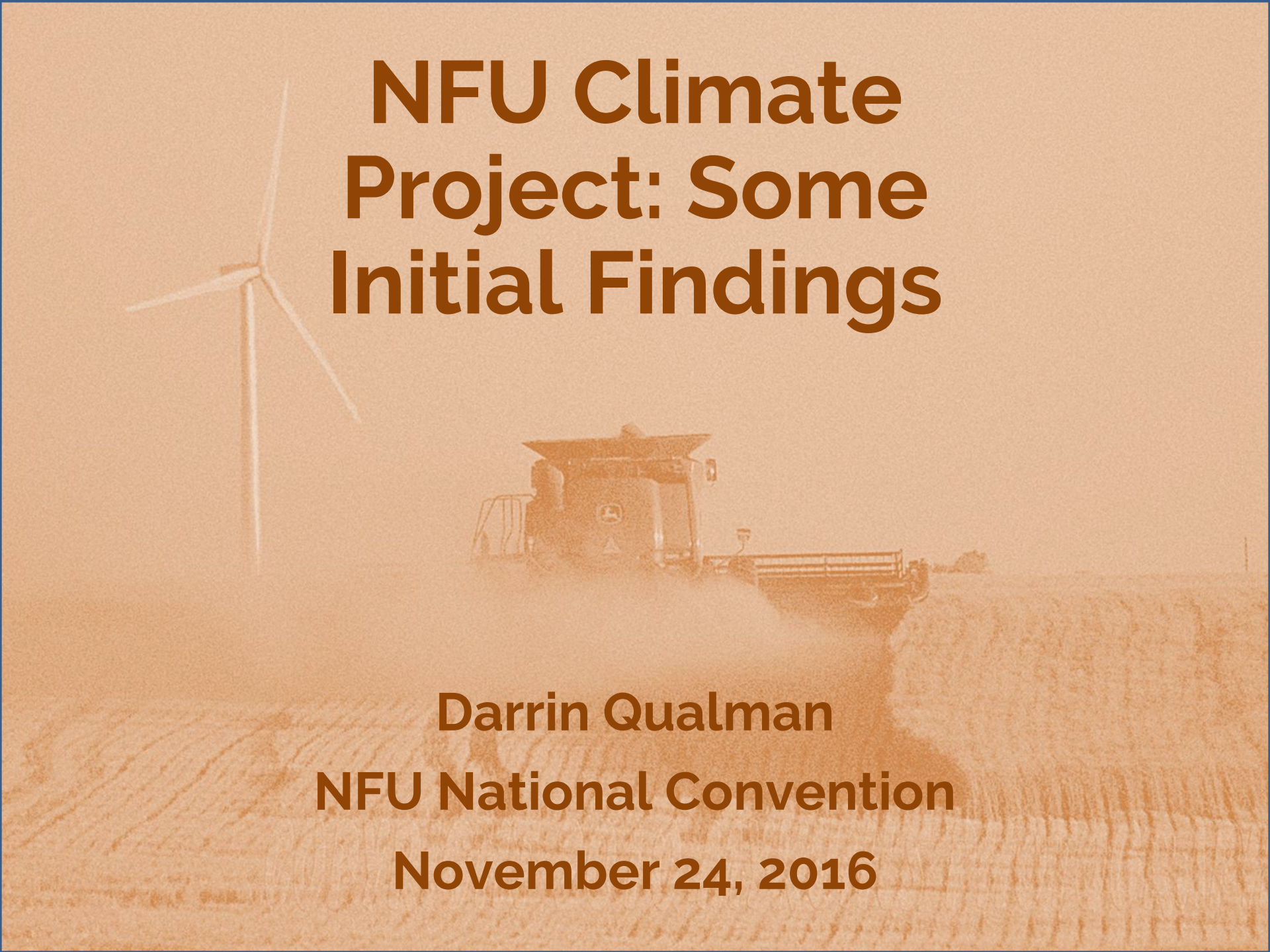
NFU Climate Project: Some Initial Findings



Darrin Qualman

NFU National Convention

November 24, 2016

Outline of my presentation

1. The NFU Manitoba Climate Project
2. The climate emergency
3. Agricultural emissions
4. Low-input agriculture as an emissions solution
5. Low-input agriculture as an income solution

The Manitoba Climate Change and GHG Emission Reduction Project

- Funded by the Manitoba Government
- 15-month project: Jan. 2016-Mar. 2017(?)
- Produce:
  - a major research report, and
  - a world-class, interactive website
- Our aim is to create a complete blueprint showing how farmers can achieve:
  - a 30% reduction in emissions by 2030, and
  - a 50% reduction by 2050.

<u>What we learn can be applied in all NFU Regions</u>

Why is this work important?

Why should NFU members take a deep interest in climate change and work hard to solve the problem?

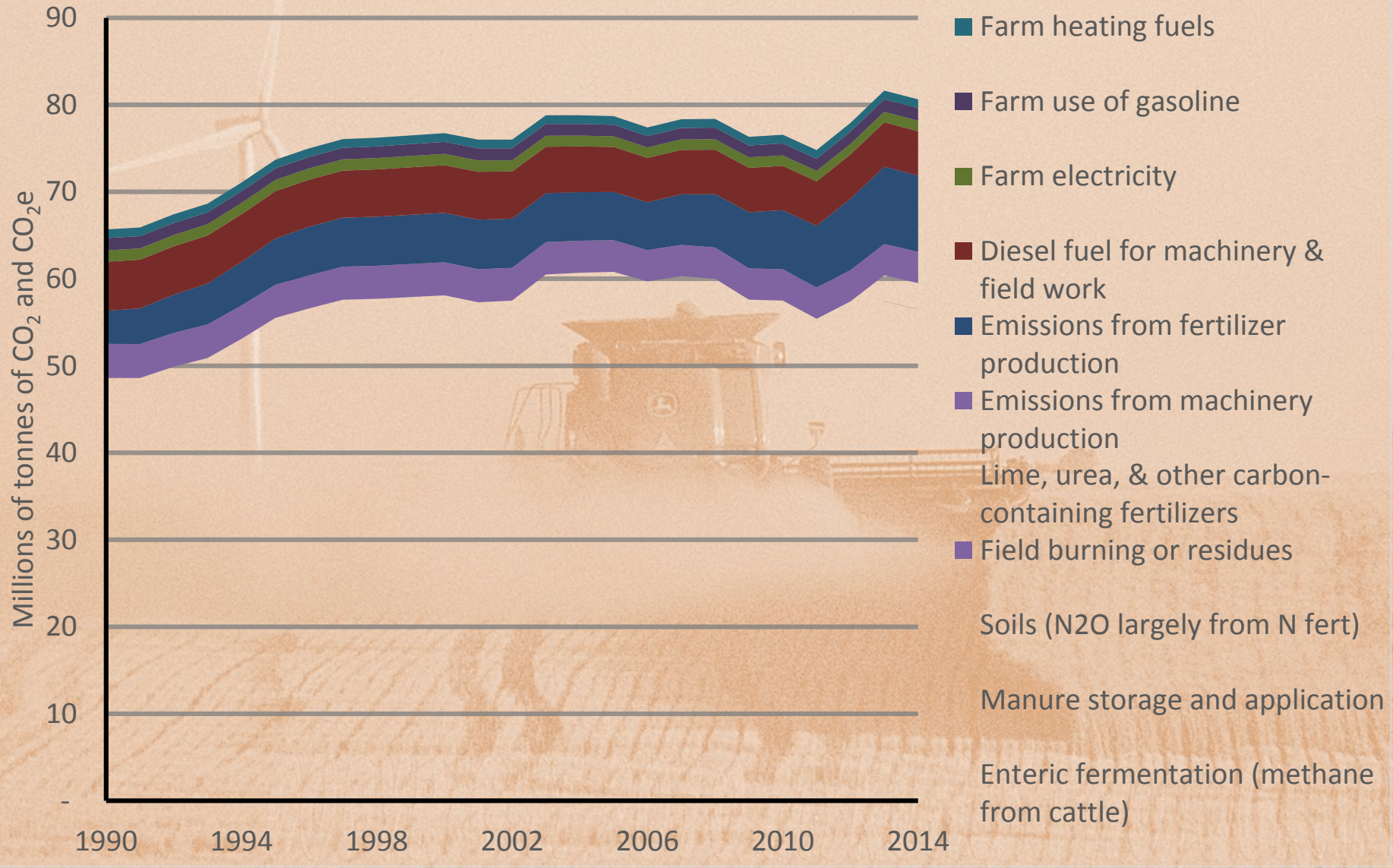
1. The climate emergency (self interest)
2. Justice (the interests of others)
3. A chance to transform our food system
4. Emissions solutions can be income solutions
5. Big changes are coming

The Climate Emergency

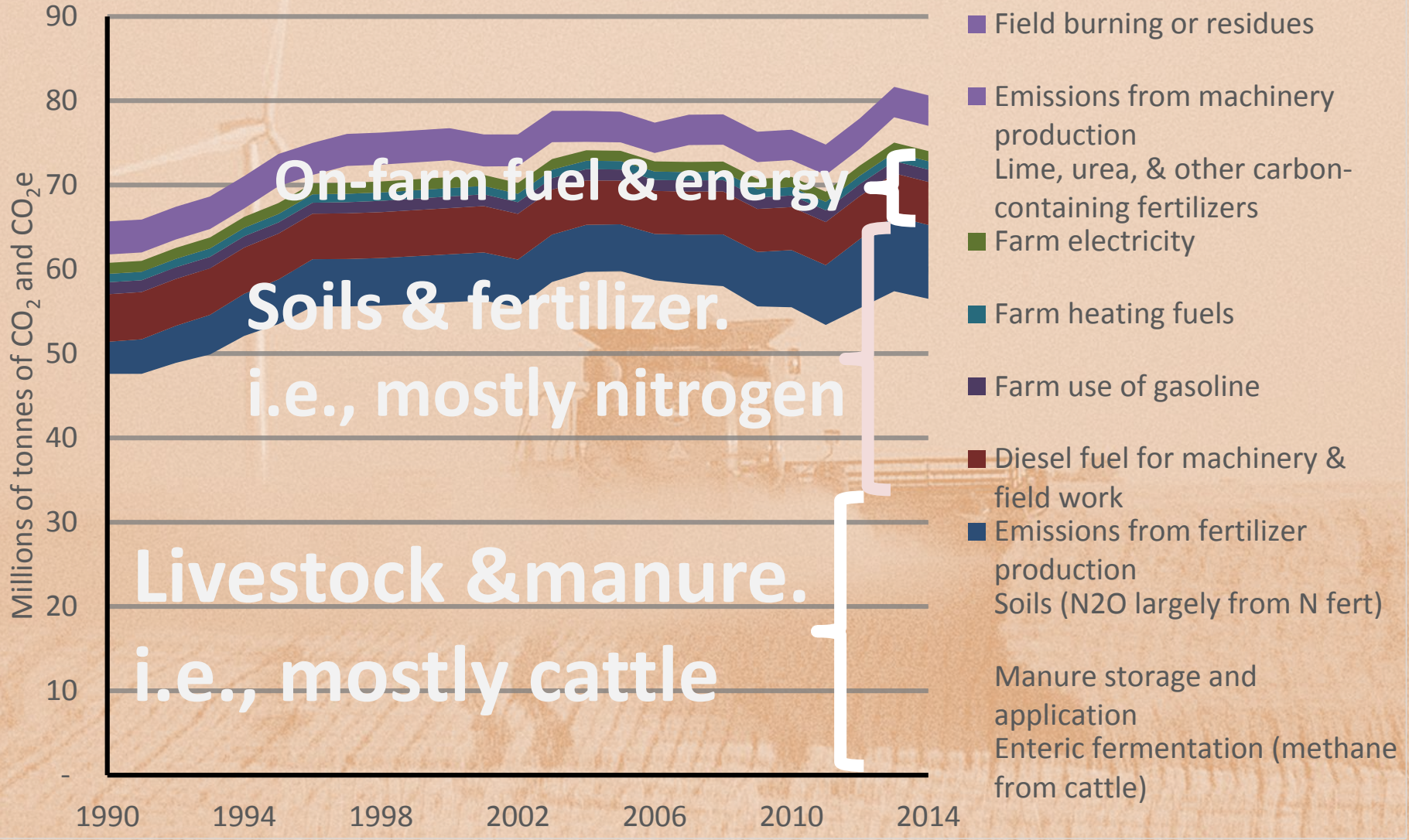
**Despite important and ongoing progress,
as we now stand,
the Paris Agreement has put us on track
for a global temperature increase
this century
of not 1.5 degrees Celsius,
and not 2 degrees;
we are on track to warm 3.2 degree Celsius.**

Source: United Nations Environment Programme (UNEP),
The Emissions Gap Report 2016, p. 16

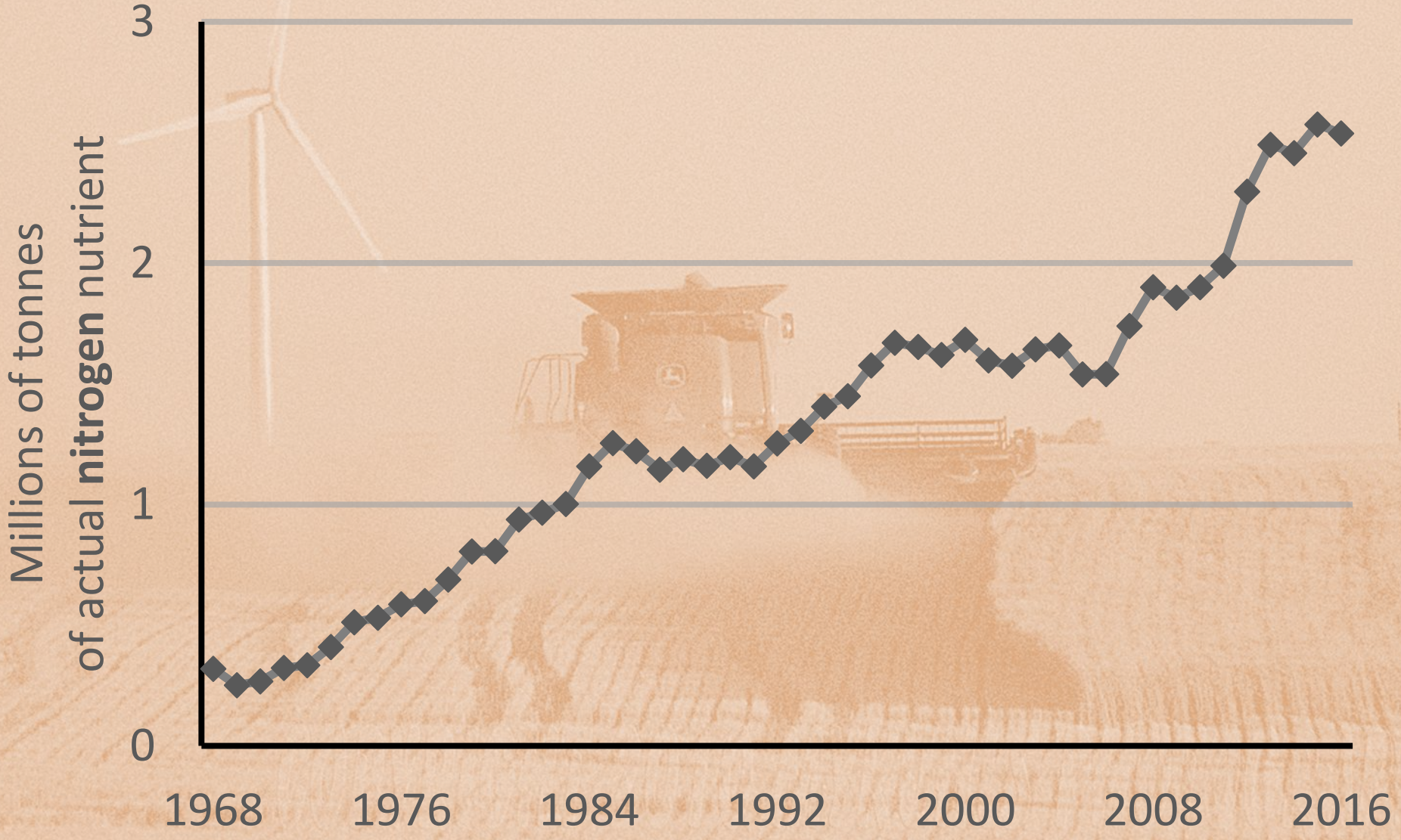
Canadian agricultural emissions



Canadian agricultural emissions



Canadian N fertilizer use, 1968-2016



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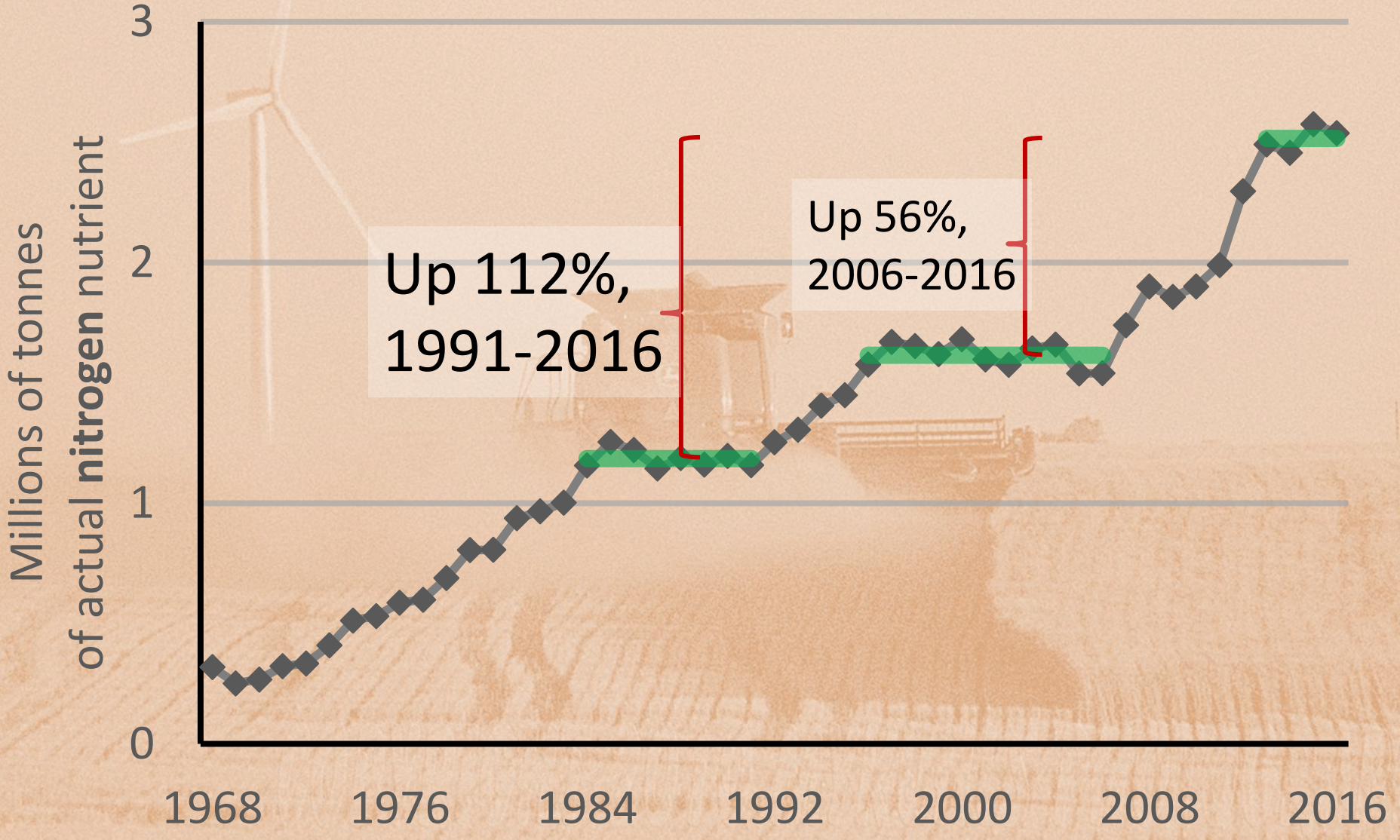


The North American food system

Energy in : energy out
13.3 : 1*

For every Calorie of food energy that reaches our mouths, we consume 13.3 Calories of (mostly fossil fuel) energy.

In terms of energy efficiency, our is the least efficient in the world, and in history.

*Calculation based on USDA, *Energy Use in the U.S. Food System* ; USDA, *Agriculture Fact Book*

Low-input agriculture

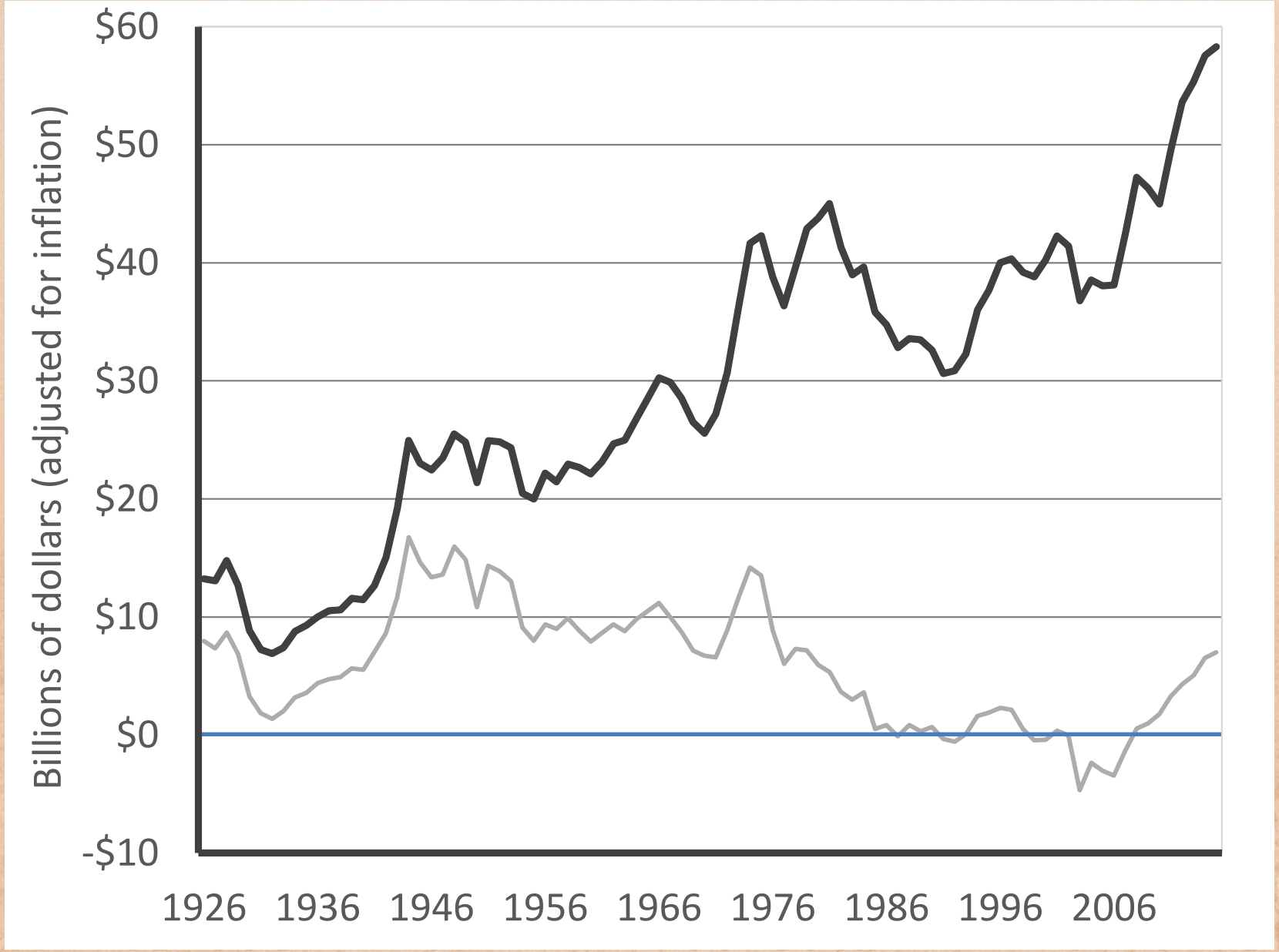
Farming does not produce GHG emissions: Humans have been farming for 10,000 years and we haven't affected the climate, until recently.

Agricultural *inputs* produce GHG emissions.*

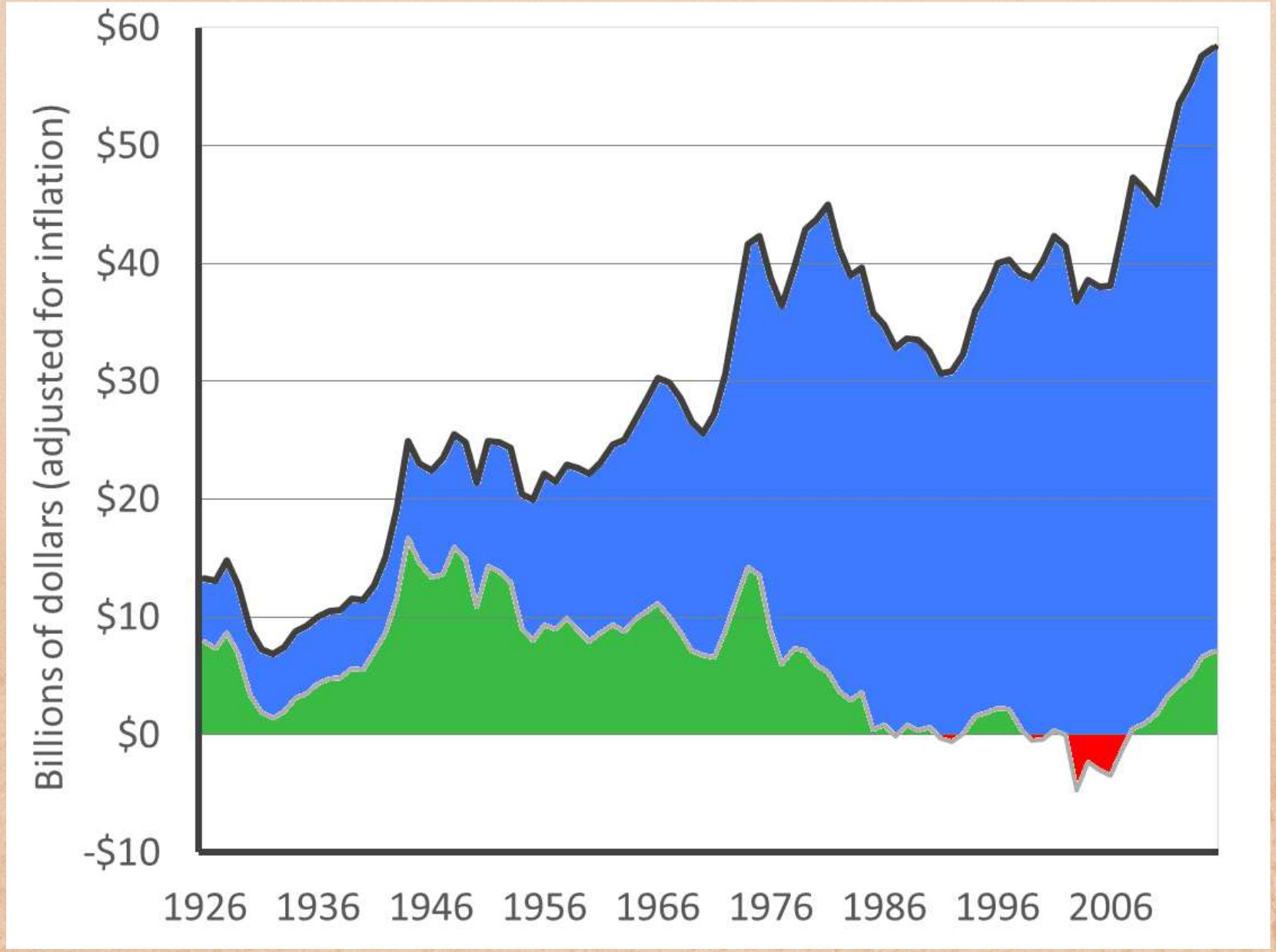
Low emission food production systems will be low-input systems.

Embracing low-input, low-emission ag. can also help solve our net income problems

Gross and net income, 1926-2014



Gross and net income, 1926-2014



The long term view

Humans have practiced agriculture for 10,000 years—100 centuries.

For 99 centuries, it was solar powered and zero-net-emission.

For 1 century it has been fossil fuelled, high-input, and high emission

Low-emissions systems will almost certainly be low-input systems.

…and these can be high net income systems

Massive transformation

In the first half of the 20th century, we replaced solar-powered, zero-net-emission farming systems with fossil-fuelled, high-emission systems.

In the first half of the 21st century we must largely accomplish the reverse.

Just as the first half of the 20th century saw our farms and food systems *transformed*, so too must the first half of the 21st.

Thank you

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