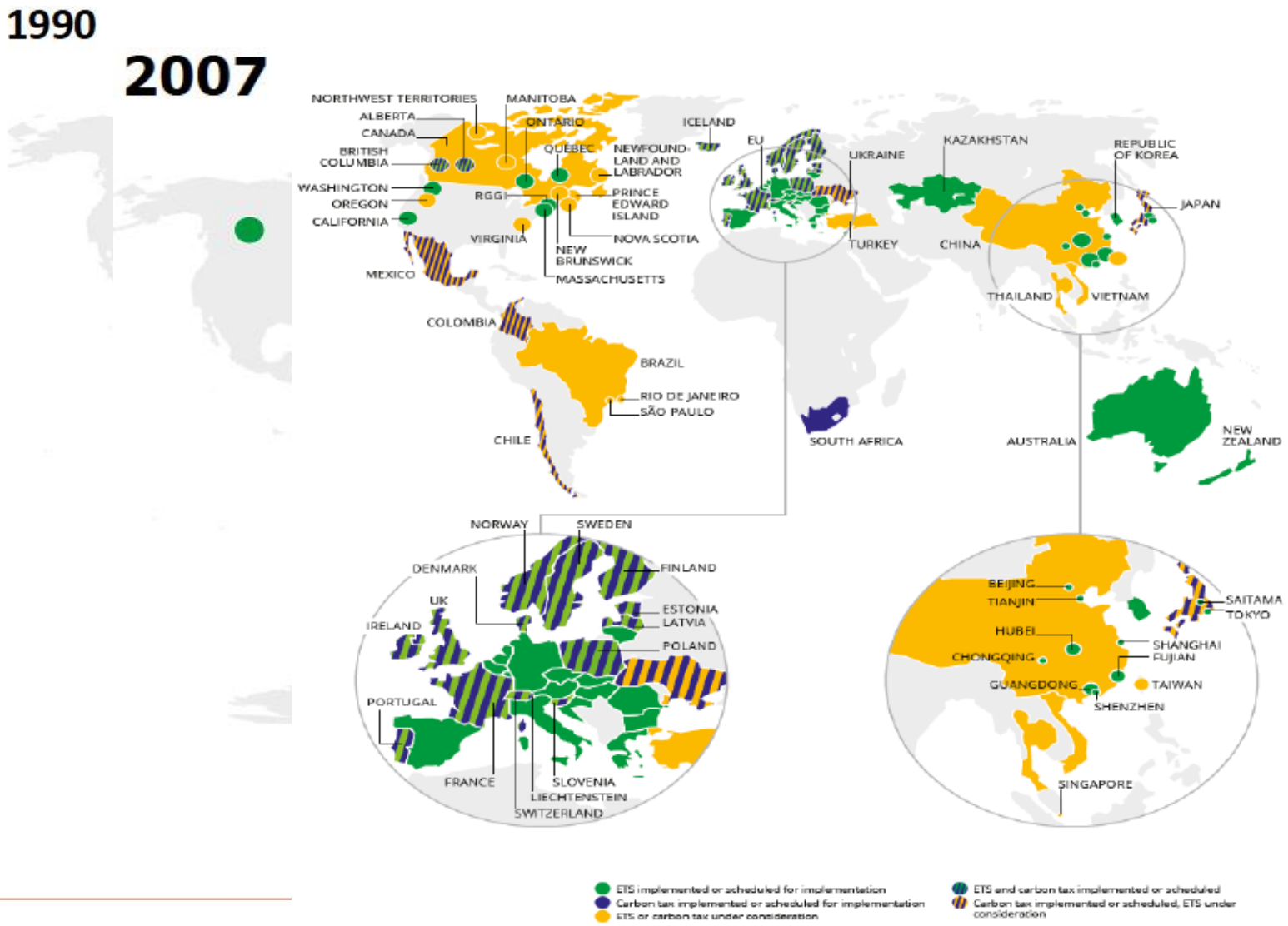
Viresco Solutions

End-to-end sustainability

The Bioeconomy Challenge – Scaling up on Working Ag Landscapes

Karen Haugen-Kozyra, MSc, PAg,
President, Viresco Solutions

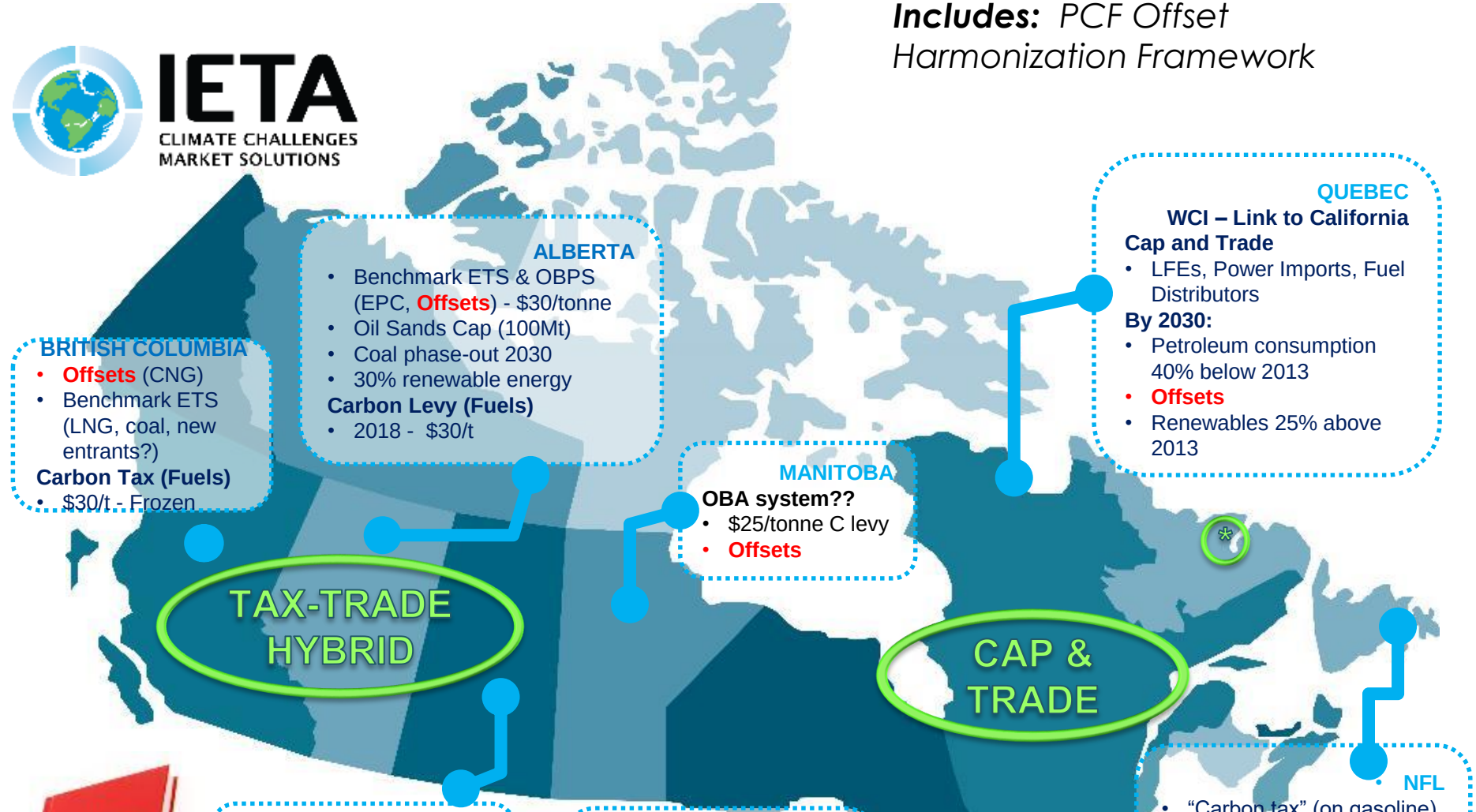
C Pricing Trajectory (World Bank/CPLC)



Policy Drivers - Pan Canadian Patchwork ;-)

Includes: *PCF Offset Harmonization Framework*

IETA
CLIMATE CHALLENGES
MARKET SOLUTIONS



BRITISH COLUMBIA
- **Offsets** (CNG)
- Benchmark ETS (LNG, coal, new entrants?)

Carbon Tax (Fuels)
- $30/t - Frozen

ALBERTA
- Benchmark ETS & OBPS (EPC, **Offsets**) - $30/tonne
- Oil Sands Cap (100Mt)
- Coal phase-out 2030
- 30% renewable energy

Carbon Levy (Fuels)
- 2018 - $30/t

QUEBEC

WCI – Link to California Cap and Trade
- LFEs, Power Imports, Fuel Distributors

By 2030:
- Petroleum consumption 40% below 2013
- **Offsets**
- Renewables 25% above 2013

MANITOBA

OBA system??
- $25/tonne C levy
- **Offsets**

TAX-TRADE HYBRID

CAP & TRADE

SASKATCHEWAN
- OBPS Style for Sectors
- **Offsets**
- Technology Transfers
- Coal Equivalency Deal

ONTARIO

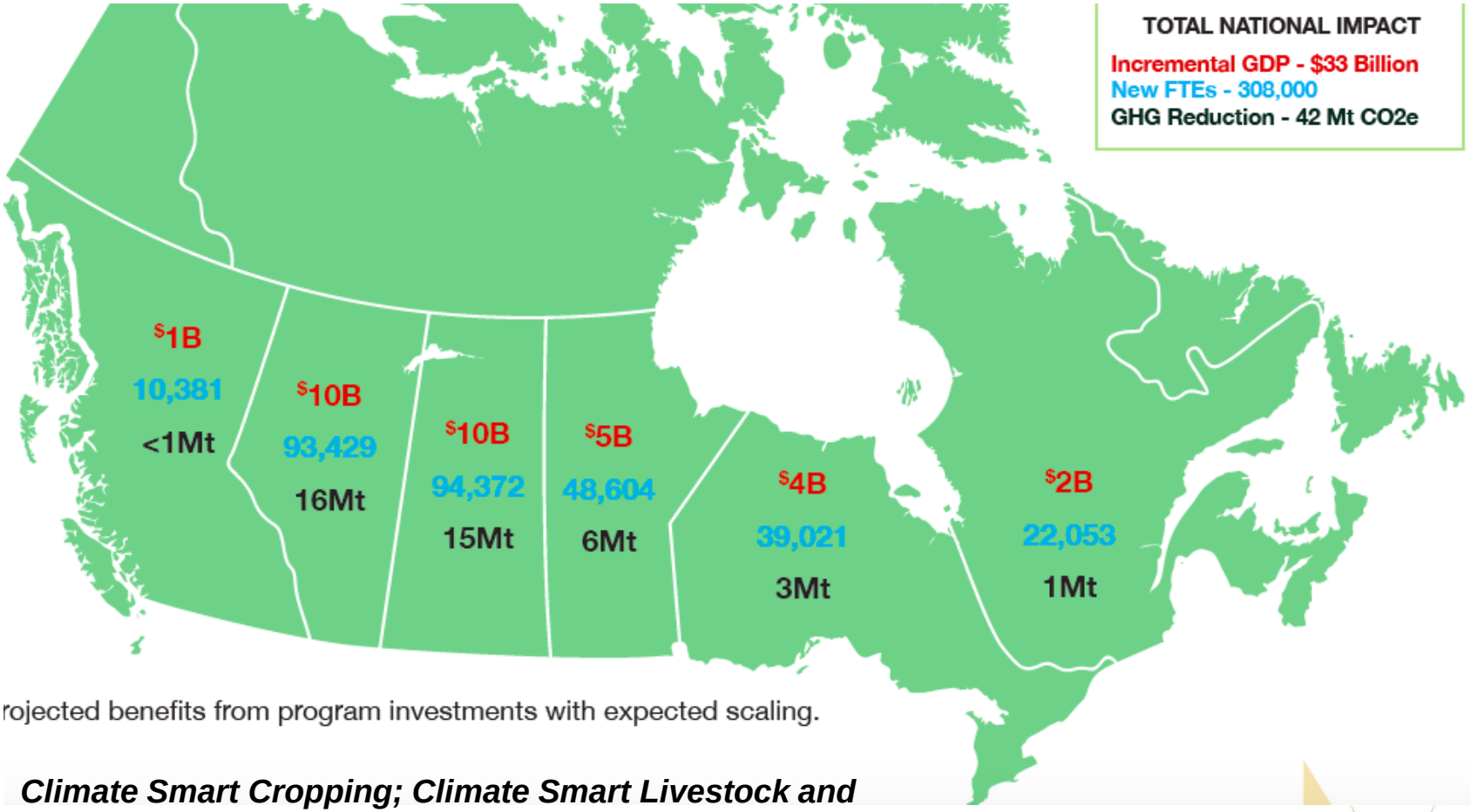
Made in Ontario Plan

Cap and Trade??

Backstop?
- Will include offsets
- **Offsets**

NFL
- "Carbon tax" (on gasoline)
- AB SGER-model (>25kt onshore)
- (Price not yet listed)
- **Offsets**

Traditional Bioeconomy Potential – 24 Mt CO_2e by 2030



rojected benefits from program investments with expected scaling.

Climate Smart Cropping; Climate Smart Livestock and Climate Smart Lands

Market Drivers – Outside of Policy

SCIENCE BAS TAR

DRIVING AMBITIOUS CORPORATE C

- Collaboration betwe

WORLD RESOURCES INSTITUTE

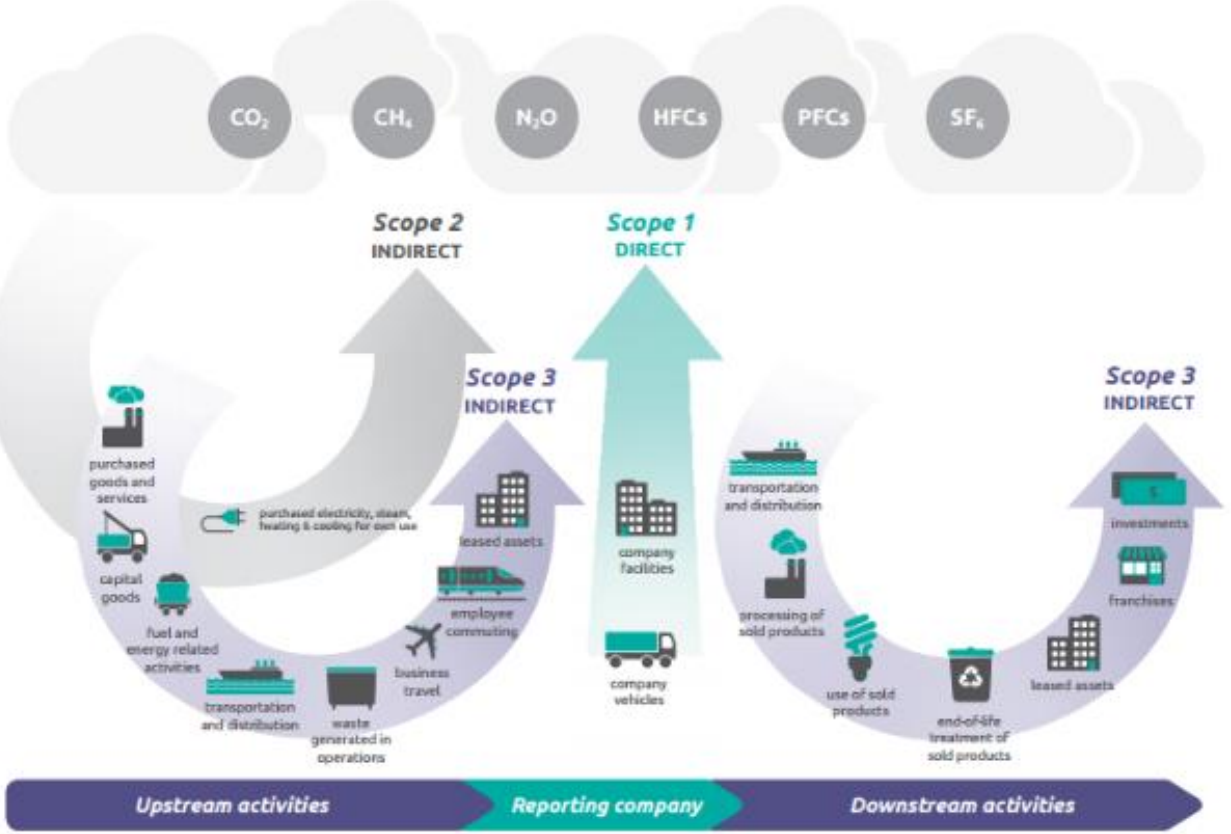
UN GLOBAL COMPACT

United Global

WWF

WE MEAN BUSINESS

- Encourages emission reduction targets in line with level of decarbonization



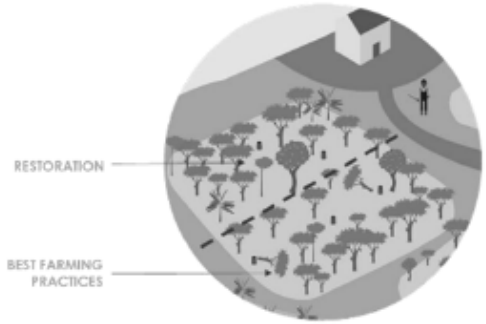
McDonald's

PEPSICO

Supply Chain Insetting 2018 – Major Investment Enabler

Credible accounting of emissions reduced by your interventions in your supply chain

Example - Corporate implements a series of restoration projects, maximising soil sequestration



- Part 1 - How to account for intervention (boundary, scope, baseline, MRV etc)
- Part 2 - How to include intervention emissions in corporate report
- Part 3 - How to communicate about the intervention and its relationship with carbon credits

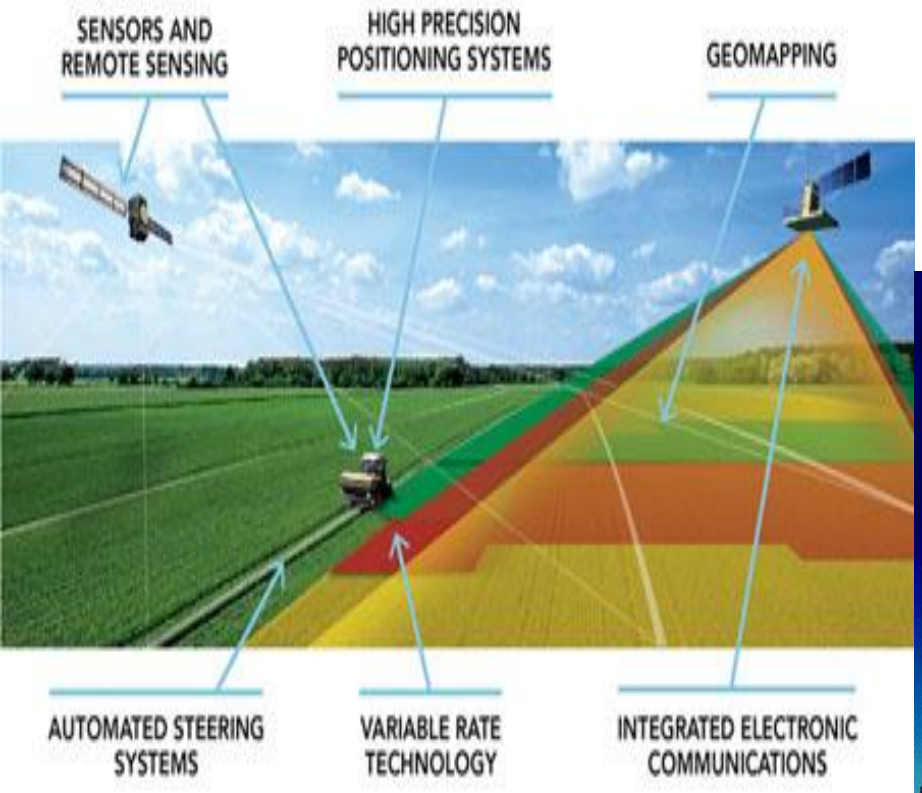
Developed by:

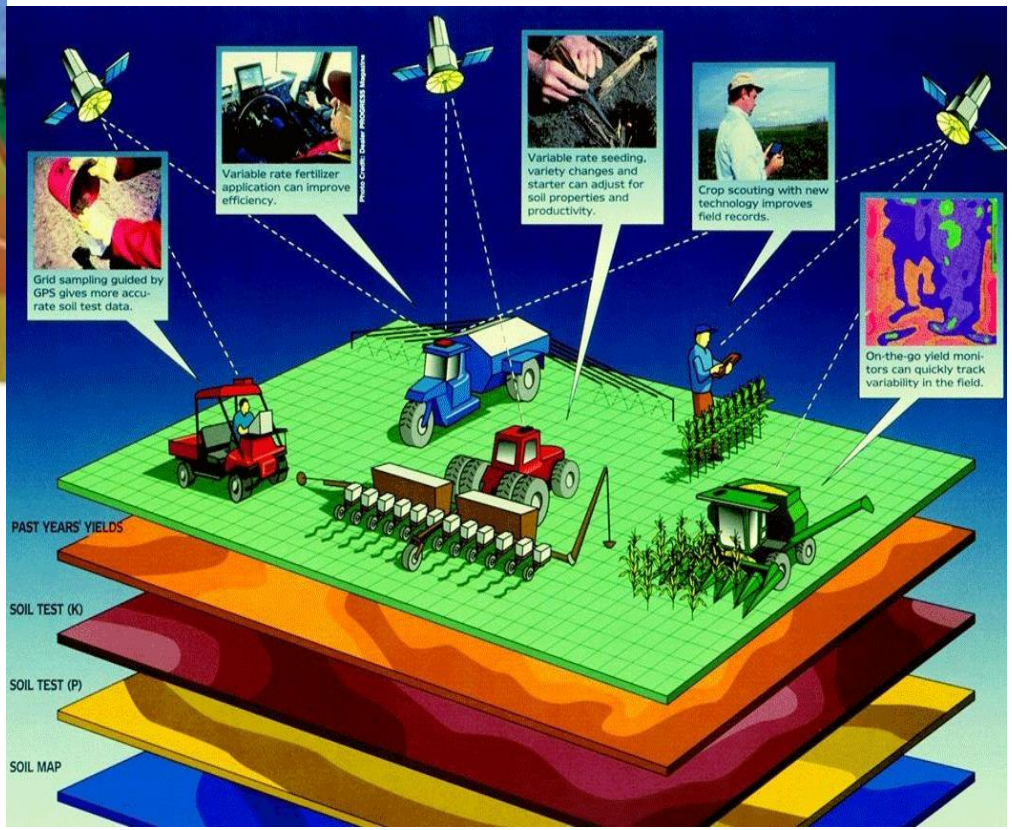
Gold Standard · Climate-KIC · Livelihoods Funds · World Resources Institute · CDP · Mars · Danone · Science Based Targets · WWF

First Corporate Working Group (Oct 2018) - Mars, Danone, General Mills, Cargill, Barry Callebaut, Ben&Jerry's, McDonald's, Chanel and L'Oreal

Purpose: Bridge the gap from Scope 3 accounting to 'intervention level' reductions and how Corporations make credible claims on impacts achieved by investments (offsets, insets or results-based financing)

New Data Capture Tools





Improved Supply Chain Accounting Tools – Cool Farm Tool v2.0

- Potatoes (new)
- Rice (new)
- Better integration
  - Basic batch data import/export

syngenta

Input data →

← *Results*

CFT

  - Enhanced APIs
    - Crop
    - Dairy
    - Beef
    - Custom APIs

AGRIBLE

SAI PLATFORM

POST →

← *RESULTS*

CFT

CFT

Data-Driven Analytics

Source: American Farm Bureau Federation

USDA – Corporate Testing and Deployment – ESG

- Key Components - Scalability
  1. **Flexible, credible carbon accounting framework** based on Alberta's learnings; aggregation enabling
     - Working to align with Gold Standard Scope 3 Guidance
  2. **Science-based quantification** – County level carbon coefficients for CSA practices based on Farm systems
     - Working to align w/ Gold Standard Soil Methodology
  3. **Low Cost-Low Touch verification system**s
     - Satellite based systems (OpTis – Applied GeoSolutions) to remotely identify tillage and cover crop practices/grassland health for $0.05 to $0.15 per acre

Key: On-Farm Based Systems - drive Innovation in Ag Tech/Clean Tech