

CDP Agriculture Supply Chain Pilot 2011

The Carbon Disclosure Project

Betty Cremmins

Common Fields

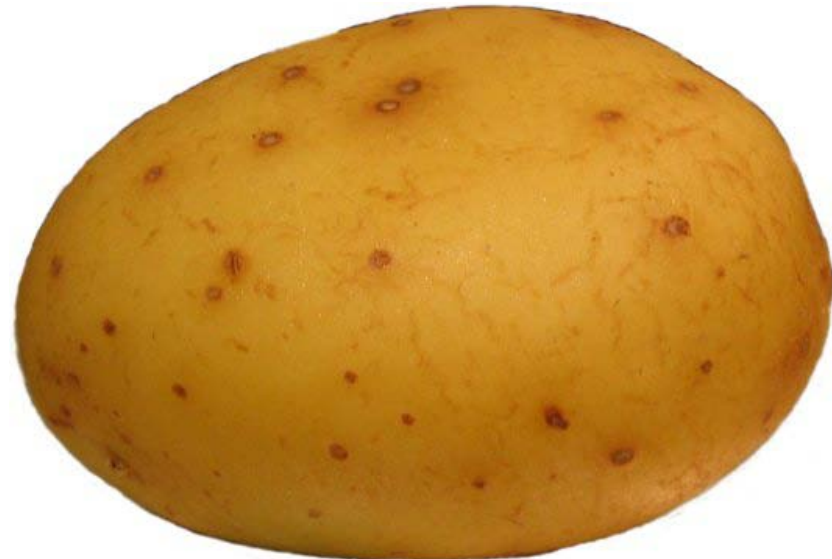
Ryan Meinke

**Preliminary Findings –
Forthcoming Report**



CDP's Expansion into Agriculture

- Focus on tomatoes & potatoes for the pilot year
- Working with ConAgra Foods, HJ Heinz, PepsiCo and Walmart
- Expand disclosure, field test metrics, develop capacity, facilitate emissions reductions
- Challenge the sector to address difficult issues

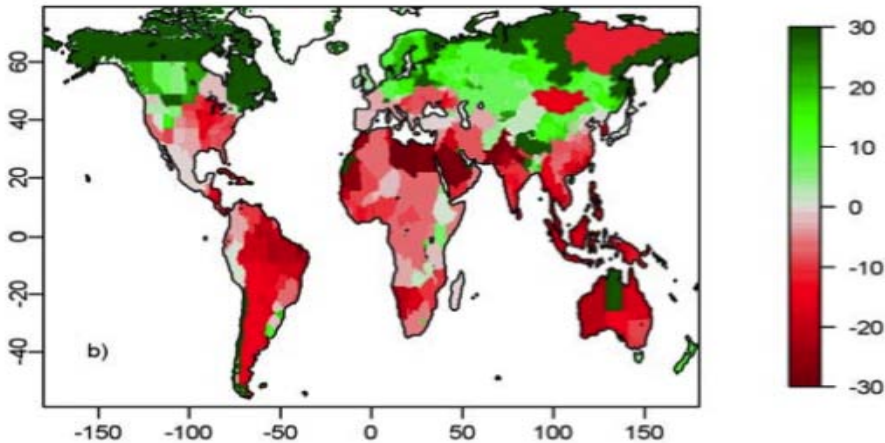


- 1. Agriculture in a Changing Climate**
- 2. Best Practices for Lowering Emissions in Agriculture**
- 3. Measuring Emissions: A Farm-Level Pilot**
- 4. Overcoming Challenges: The Right Questions and the Right Answers**
- 5. A Call to Action**

1. Agriculture in a Changing Climate

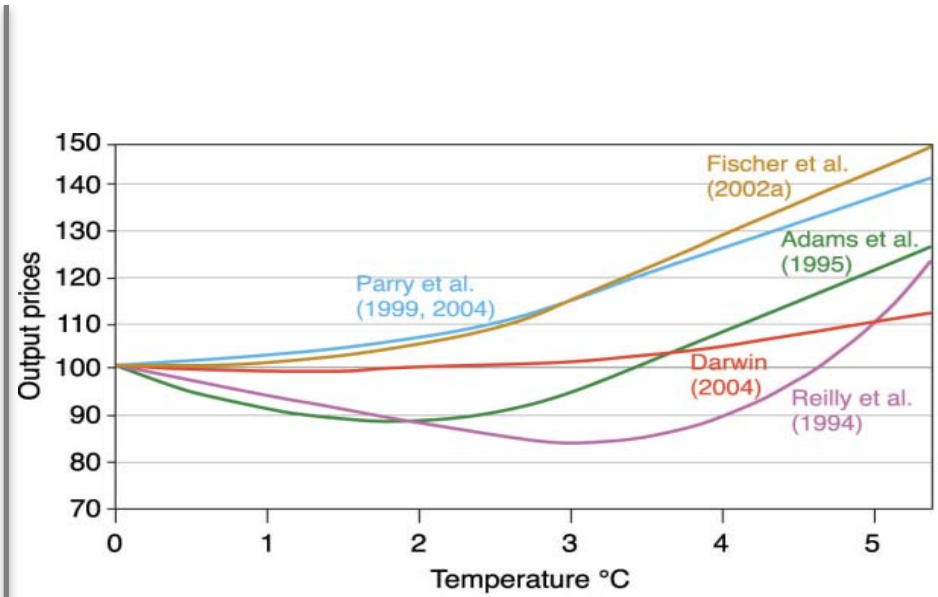


“Farmers may not know climate – but they know weather.”



Crop yields in 2050 as a result of changing temperature and rainfall (% change relative to 2000)

Source: World Bank

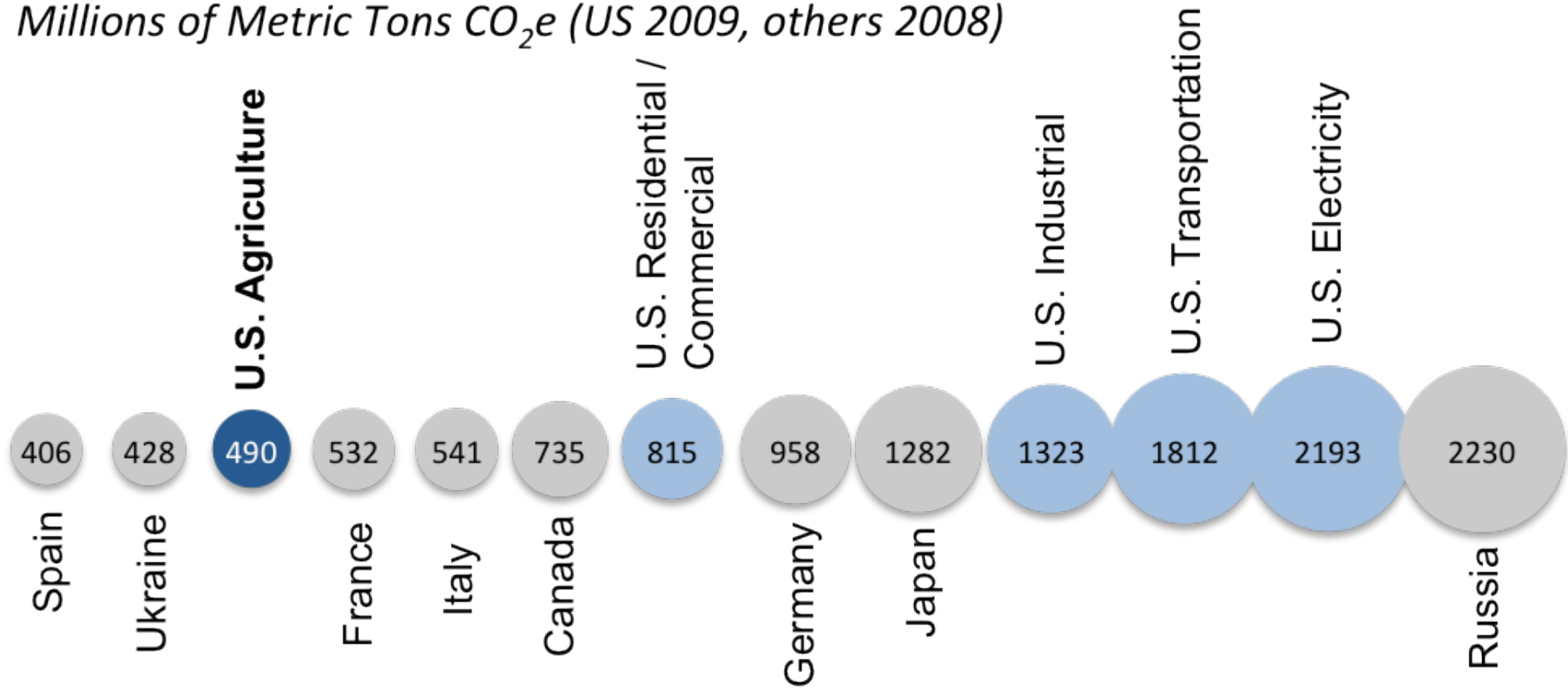


Cereal prices (as percent of baseline) versus global mean temperature increase

Source: IPCC, WGII, fourth assessment (2007)

Figure 3: U.S. GHG Emissions by Sector in World Context

Millions of Metric Tons CO₂e (US 2009, others 2008)



U.S. Data is CO₂ equivalent Emissions, 2009 (U.S. EPA)

Rest of World Data is CO₂ equivalent Emissions excluding LULUCF, 2008 (UNFCC)

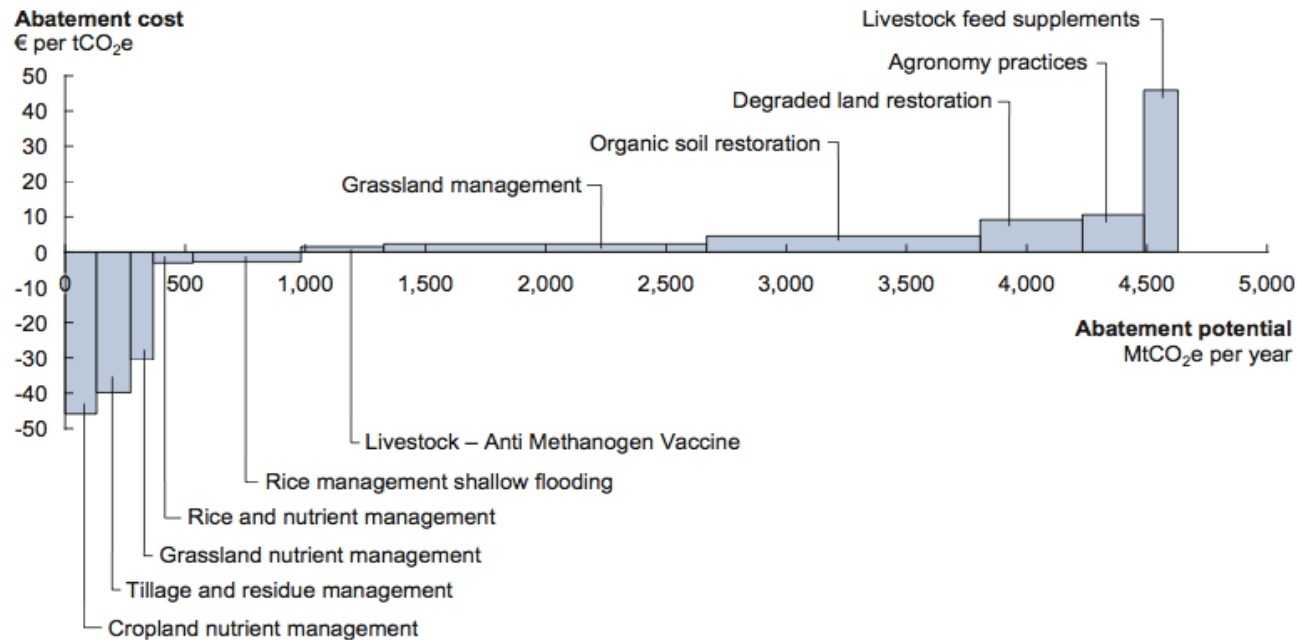
1. Sustainable agriculture makes business sense

“Whether or not you believe in climate change, reducing carbon is a great way to reduce costs”

2. A great variety of practices can be employed

Global GHG abatement cost curve for the Agriculture sector

Societal perspective; 2030



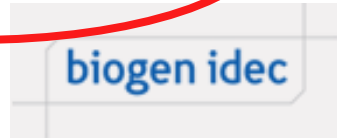
Note: The curve presents an estimate of the maximum potential of all technical GHG abatement measures below €60 per tCO₂e if each lever was pursued aggressively. It is not a forecast of what role different abatement measures and technologies will play.
 Source: Global GHG Abatement Cost Curve v2.0



2. Best Practices for Lowering Emissions in Agriculture

CDP Supply Chain Members 2011

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- **Kraft Foods** has a target to increase sustainable sourcing (defined as third-party certification or verification) of agricultural commodities by 25% by 2015, from a 2010 baseline.
- **H. J. Heinz** conducts sustainable farming training sessions for growers, and has a target to reduce the carbon footprint of tomato crops by 15% by 2014 in 3 California regions, from a 2009 baseline
- **PepsiCo** is piloting a farm sustainability platform with grower reporting requirements in 9 environmental indicator categories. PepsiCo seeks to leverage existing quality and food safety auditor farm visits to enhance sustainability verification
- **ConAgra Foods** aims to reduce their emissions per pound of product by 20% by 2015, while engaging suppliers through a variety of initiatives including an information database and regional dashboards sharing best practices and field/crop input and yield benchmarks
- **Walmart** has a target to eliminate 20 million metric tons of greenhouse gas (GHG) emissions from its global supply chain by the end of 2015; as one of the largest buyers of agricultural products and processed food, it can be expected that a significant percentage of these reductions will be realized through their food and agriculture supply chain.

3. Measuring Emissions: A Farm-Level Pilot



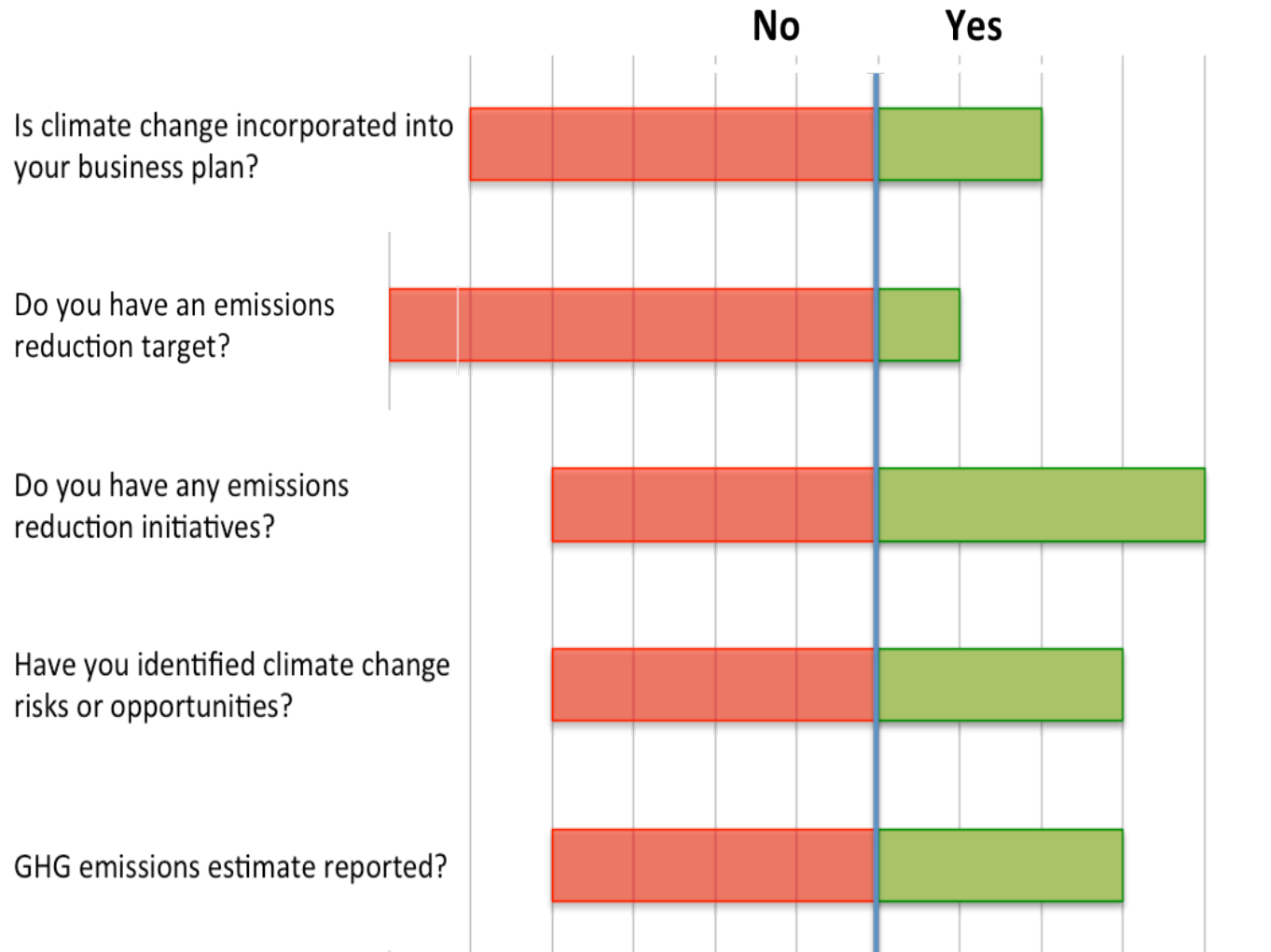
- **CDP Agricultural Supply Chain Pilot Objectives**
 - Identify the best practices associated with successful GHG emissions management from select agricultural suppliers to CDP Supply Chain Member companies
 - Seek to develop ways in which this knowledge could be used to improve supplier performance
- By requesting primary GHG emissions data from farmers on behalf of their largest corporate customers, CDP strove to field-test existing and developing metrics to establish how changes in land use practices in agriculture result in reductions of GHG emissions and cost savings.

- Pilot targeted 11 suppliers: 7 tomato growers and 4 potato growers
- ConAgra's growers selected were chosen based on "good working relationships, solid accounting practices and record-keeping. They tended to be larger operations with a progressive bent."
- Heinz selected a representative sample, including both "likely and unlikely to respond" in order to determine if and what differences exist in reporting capabilities.
- The 11 growers were sent instructions and a link to a 14 question, online questionnaire



- **Section 1: Core CDP Questions**
 - **Management**
 - Is climate change integrated into your business strategy?
 - Did you have an emissions reduction target?
 - **Risks & Opportunities**
 - What are your physical, regulatory and other risks and opportunities from climate change?
 - **GHG Emissions**
 - What standard, protocol or methodology was used
 - What were your scope 1 & 2 emissions and emissions intensity?
- **Section 2: Agriculture Module**
 - **Background**
 - What was your farm size, crop(s) produced and yield?
 - **Activities reducing impact on climate change**
 - Nutrient, Pest, Land Management, Farm Energy Use)
 - **Agricultural GHG Emissions**
 - Breakdown by GHG and source/scope

Eight growers responded



Category

Sample Initiatives Growers Are Enacting

Nutrient Management

- Install drip Irrigation (water & fertilizer)
- Monitor soil & leaf tissue samples to optimize fertilizer application
- Incorporate plant residue into soil

Pest Management

- Apply pesticides through drip irrigation to minimize drift
- Perform spot applications based on monitoring
- Utilize weed-seeking equipment that leverages chlorophyll sensors, reducing pesticide application by 70%
- Install owl boxes

Land Management

- Reduce equipment passes by increasing bed width (tomatoes)
- Minimize tillage
- Plant cover crops to sequester nutrients
- Increase crop rotation to improve soil health

Energy Management

- Install variable frequency drive pumps
- Upgrade farm equipment to higher efficiency models
- Upgrade lighting in buildings to minimize electricity usage
- Perform equipment maintenance to ensure optimal performance

- **Create a clear, simple data request**
 - Primary data
 - Non-technical audience
- **Explain the benefits of measurement and reporting**
 - Better communicate value of reporting
 - Ensure clear communication from buyer
 - Work with food processors
- **Optimize timing and potential impact**
 - Accommodate non-harvest times
 - Expand to new crops strategically

4. Overcoming Challenges: The Right Questions and the Right Answers



- **Understanding**
 - Why are you asking for this data?
 - How will it be used?
 - What do I have to do with climate change?
- **Logistics**
 - What tool should I use?
 - What protocol or reporting framework?
 - I'm getting too many separate data requests!
- **Incentives**
 - Why should I invest in initiatives that don't directly save me money?
 - Why should I take on the extra burden of reporting GHGs?

- **Understanding**
 - GHG reporting and climate change needs to be better understood
 - The business case needs to be better demonstrated
- **Logistics**
 - Farm-management software can be leveraged for data tracking
 - Standardization can reduce survey fatigue
- **Incentives**
 - The GHG reporting and reduction load needs to be shared
 - All players in the value chain must be engaged

- Pay grower a price premium
- Leverage customers to grow demand
- Extend the length of purchasing contracts
- Tie purchasing volumes to continuous improvement
- Use as a tiebreaker
- Provide non-monetary rewards
- Offer farm management software
- Facilitate the sharing of best practices and benchmarking



5. A Call to Action



“Smart brands and businesses will make money today by accelerating the transition to a sustainable future. They need to make it easy for consumers to go green by offering products and services which are not just better for the environment, but healthier, cheaper and longer-lasting.”
- Dr. Sally Uren, Deputy CEO, Forum for the Future



CDP is to the future of business what the X-ray was to the then- future of medicine — without it, we would never have seen the insides of the patient's health.

Christiana Figueres
Executive Secretary of the UN Framework
Convention on Climate Change (UNFCCC)

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