Financing Climate Resilience

How private capital can support climate resilient agriculture

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EDF’s vision for U.S. working lands

Produce food, fuel and fiber

Protect communities from extreme floods and droughts

Provide ecosystem services like clean water and reduced greenhouse gases
Soil health and climate resilience
By mid-century climate change will have negative impacts on crops and livestock

**Increased Precipitation**

Increasing precipitation extremes will ruin crops and degrade soil resources unless conservation methods are implemented.

**Heat & Draught Damage**

Rising temperatures and incidences of draught will decrease crop and livestock productivity with innovating production.

**Weeds, Disease & Pests**

Many regions will face greater weed, disease and pests associated with changing climate conditions.
Soil health practices build resilience to extreme weather

A recent research paper (Kane et al. 2021) found that higher soil organic matter was correlated with higher yields and lower crop insurance payouts under drought conditions.

Ninety-seven percent of farmers in a recent Soil Health Institute project documented an increase in crop resilience to extreme weather from soil health institute.
Financial barriers
In field conservation practice adoption remains low

No- and reduced tillage is adopted on 50% of cropland

Cover crops are grown on less than 4% of cropland
Financial barriers prevent farmer investment in conservation

1. Farm profitability and working capital are low
2. Financing is annual and lacks long-term investments
3. Subsidized risk tools are substitutes for investments in resilience
4. Regional markets often limit crop choices
Agricultural lenders are at the heart of financing agriculture
The lender’s role in financing resilience

- Provide operating capital to bridge the planting to harvest period
- Can provide lending programs tailored to a specific set of farmers
- Cannot prescribe practices
- Evaluate the financial merits of farmer investments
Climate impacts on lending institutions

**Risks**
- Degraded asset values
- Portfolio shocks from extreme weather
- Increased financial regulation

**Opportunities**
- New markets for ecosystem services
- Public interest in sustainable ag
- Build climate resilience in portfolios
Financial case for soil health
Identifying and communicating the financial case for conservation is essential to scale adoption.

Limited understanding about the financial impacts of conservation.

Information GAP

Financial solutions targeting conservation adoption.
EDF and partners have advanced the business case for in-field conservation practices

Conservation budget analyses
Recently released analysis outlines specifics of the business case

01
Conservation tillage reduces operating costs

02
Cover crops can be part of a profitable system, especially as experience grows

03
Success with conservation practices is the outcome of a targeted and stepwise approach
Conservation tillage reduces operating costs

- Per-acre costs for corn fields with conservation tillage were lower ($404/acre) than those for conventionally tilled fields ($448/acre).

- The most substantial savings from no-till on corn came from equipment and fuel costs.

- Conservation tillage acres with and without cover crops had increased burndown costs.
Cover crops can be part of a profitable system, but experience is key

- Cover crops have upfront costs that cannot be ignored—and benefits can take time to accrue
- Farmers with >5 years of cover crop experience are more profitable than farmers who have recently adopted cover crops
- For soybeans, experienced adopters of cover crops had some of the highest net returns in our study

Net returns across practice categories for soybeans

- Cover crops (all): $251
- Cover crops (recent adopters): $173
- Experienced adopters: $123
- Conservation tillage (no cover crops): $251

For soybeans, experienced adopters of cover crops had some of the highest net returns in our study.
EDF and partners created a best practice guide to help others measure the business case

Outlines best practices for:

1. Selecting objectives and target audiences
2. Sample selection
3. Selecting and gathering data
4. Analyzing farm budgets
5. Communicating farm budget analyses
Financial solutions
Transition financing solutions

**Challenge**
Farmers face up-front costs, a learning curve, and long-term benefits

**Opportunity**
Adjust financing to address up-front costs, but delay repayment until long-term benefits are achieved

**Product**
Transition loan for conservation adoption

**Examples**
Organic transition loans

*Rabobank*
Farmers perceive risk to adopting sustainable practices.

Federal crop insurance does not measure the risk-reducing value of sustainable practices.

Crop Insurance Buy-Ups Warranties.
Innovative solutions

Community choice aggregation

1%
- Surcharge on restaurant meals

- Fund soil health investments in local farms

Water quality markets

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Monitoring & Verification

managed by:

Quantified Ventures
Iowa Soybean Association
Thank you!

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