



Financing the Transition to Regenerative Agriculture and Beyond

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Pecan Street Inc.'s mission is to leverage big data and innovation for leapfrog advances in emissions reductions, climate resiliency, resource conservation, and quality of life. Founded in 2010, our model for change remains globally unique. Pecan Street is a proven leader in accelerating the development of innovative solutions for the climate crisis, and our success is grounded in the communities that partner with us to provide data, information and insights. These communities work hand-in-hand with university researchers, companies, and advocacy partners to develop solutions that work in our complex world.

You can learn more about Pecan Street's work on soil carbon at [www.pecanstreet.org/soil](http://www.pecanstreet.org/soil) or by contacting Jill Harlow at [jharlow@pecanstreet.org](mailto:jharlow@pecanstreet.org).

## Financing the Transition to Regenerative Agriculture and Beyond

*Science tells us building soil health reaps myriad environmental benefits. Easing access to capital is a linchpin.*

Trillions of dollars of return are possible from investments across the agricultural value chain in coming decades.<sup>1</sup> Access to capital to support the transition to regenerative land management practices that build soil health is a challenge and opportunity that looms large.

Interest is strong among investors seeking social, environmental, and economic returns, but dollars are only just starting to flow. There remains huge untapped potential to deploy capital across all asset classes – cash, fixed income, public equity, private equity, and real assets.<sup>2,3</sup> Billions of dollars can be put to work today on farms and ranches and throughout the ecosystem of entrepreneurial businesses that surround them.

Science tells us that changing how we manage agricultural lands can reduce greenhouse gas (GHG) emissions from food production, sequester carbon in the soil, and produce a host of other ecosystem benefits like water conservation. Research by the Soils Health Institute<sup>4</sup> and others has established that these regenerative practices reduce input costs (i.e., herbicides, pesticides, irrigation, etc.) and increase yields and profits to farmers and ranchers. A variety of federal, state, and corporate incentive programs have emerged to pay producers for adopting regenerative practices, and emerging carbon markets will eventually create opportunities for additional revenue generation. A 2021 Environmental Defense Fund (EDF) study revealed that many producers believe they could realize long term economic gains from changing their land management practices.<sup>5</sup> Yet, these same producers are stymied by the lack the upfront capital to begin the transition.

Loan products focused on soil health and/or regenerative agriculture are scarce. Though producers are beginning to express interest in specialized financing products, they

are also somewhat reluctant to bring lenders and investors closer to their land management decisions.<sup>6</sup> Equally, lenders are typically prohibited from requiring specific practices. Unfortunately, conventional loan underwriting does not give banks a way to use soil health to de-risk loans to increase access, lower interest rates, or implement cost sharing strategies. This needs to change.

Crop insurance, a main strategy for mitigating the risk of loans made to large producers, takes a negative and sometimes punitive view of practices not explicitly categorized as “Good Farming Practices” by the USDA Risk Management Agency. Until recently, even the USDA’s own Natural Resources Conservation Service recommendations were considered taboo. Insurance payout structures do not incentivize change. Producers are penalized for managing their land to build resilience, but receive benefits when disaster strikes. Smaller operations and those who cannot access crop insurance or who prefer production-system risk reduction strategies receive little to no benefits<sup>7</sup> when seeking debt financing. It is hard to measure reduced risk from crop diversification and/or cost savings in annual terms.

Making a business case for more capital can be tricky, as the payback period is often uncertain unless producers pursue a clearly defined three-year path to organic certification and associated premium pricing. Calculators like those published by Delta Institute<sup>8</sup> and American Farmland Trust<sup>9</sup> are finally emerging to help farmers quantify and even predict income at various stages of the transition to various regenerative practices. Growers Edge software has a sustainability module that can help banks begin to factor in some variables.<sup>10</sup>

Perhaps most important, early efforts are underway to develop new underwriting standards. The [AGree Economic](#)

[and Environmental Risk Coalition](#) makes a strong case for policy changes needed to reset crop insurance in ways that create incentives for producers to attend to soil health.<sup>11</sup> An article published in 2020 by the Conservation Finance Network describes the complexities of crop insurance and makes a compelling case for a variety of reforms.<sup>12</sup>

At the same time [LandCore](#) is working to “build an actuarially-sound, predictive model of the risk-mitigating benefits of soil health practices, designed as a tool to inform lenders and insurers”<sup>13</sup>. Compeer Financial is participating in the development of LandCore’s model and expects to pilot various incentive options for loans based on its use in Illinois, Minnesota, and Wisconsin.<sup>14</sup> Compeer Financial is the third largest cooperative of the Farm Credit System, which collectively accounts for 41% of farm debt across the United States (just one percent behind commercial banks, with the balance being made up of farm service loans and private debt).<sup>15</sup> The majority of banks responding to a recent American Bank’s Association agricultural lenders’ survey viewed the Farm Credit System as a primary competitor.<sup>16</sup> Combined with increased global demand for financial institutions to address climate risks within their portfolio, successful demonstration of LandCore’s model in Compeer markets may incentivize other commercial lenders to follow suit.

Although the federal Farm Service Agency does allow loans that support the transition to regenerative agriculture, it is typically the lender of last resort for farmers and ranchers. It only makes up about 3% of agricultural debt nationally. Even private financing from individuals, foundations, and other sources comprises a much larger share of the financing market than government loans.

Though changes to commercial underwriting remains a critical lever to change the financing landscape for regenerative agriculture at scale, private debt offerings provide powerful catalytic capital. There are numerous instances of individuals and foundations capitalizing private revolving loan funds, sometimes pooled with other investors, crowd funded, or even funded through donations to

enable private debt through intermediary lenders. The most notable example of this model at scale is [rePlant Capital](#), which last year announced it had raised \$250 million from private impact investors<sup>17</sup> to launch a Soil Fund focused on making transition loans to farmers and will deploy \$2 billion by 2030 (total U.S. agricultural debt in 2020 was \$425 billion).<sup>18</sup> CoFounder Robyn O’Brien recently told Forbes that most of rePlant’s capital is coming from female high-net worth philanthropic investors.<sup>19</sup> EDF also just announced a pilot \$25 million fund, to provide operating lines of credit at reduced interest rates to farmers who meet certain climate benchmarks.<sup>20</sup>

Several smaller funds broadly aimed at sustainability, local foods, or the transition to organic that also encompass regenerative practices can provide resources to small and medium farms and ranches attending to soil health. A sampling of these efforts include:

- The [Carrot Project](#) provides loans for a variety of smaller (less than \$500K) food system related businesses in Massachusetts, Rhode Island, Connecticut, as well as some crowd funded loans based on the Kiva platform.
- [Steward](#) is a crowd-funded private lending platform that connects lenders and borrowers. Regenerative agriculture is one of its pillars.
- MadAg’s [Perennial Fund](#) makes flexible loans to farmers transitioning to organic practices.
- [Propagate Ventures](#) helps finance the inclusion of agroforestry solutions.
- [Slow Money](#) relies on donations to provide 0% loans voted on by the membership of local groups to enable a wide range of sustainable food-related businesses.
- [Foodshed Investors](#) has an EQUIP bridge loan.
- [Rabo Agri Finance](#), through a partnership with Pipeline Foods, has announced an organic transition loan product.
- [PV Investment Fund](#) connects food producers and investors in Massachusetts.

Beyond direct lending to producers, there are a variety of other opportunities to help build soil health and wealth by leveraging other asset classes. Land holders like [Clean Frontier](#) purchase farms and lease land to farmers who wish to practice regenerative practices. [Iroquois Valley Farmland Trust's](#) offers impact investors direct ownership in a diversified pool of organic farmland and fixed income security option through its unsecured soil restoration notes. Producer-focused equity investments are also possible through programs like [Harvest Returns](#). The [Croatan Institute](#) is piloting a model for a special purpose tax district and land-secured, property assessed financing mechanism.<sup>21</sup> Some entities are now also looking at ways to leverage opportunity zone status to increase appeal for potential investors.

Increases in depository products (i.e., impact-oriented CD's or money market accounts) linked to regenerative agriculture have the potential to increase liquidity for loans.<sup>22, 23</sup> Maine's new [Maine Harvest Credit Union](#), represents this kind of virtuous cycle, though it is oriented toward small producers within the local food system rather regenerative agriculture specifically. Soon-to-launch [Walden Mutual](#) in New Hampshire will have a similar mandate but will be incorporated as a mutual bank.

In 2020, agriculture was integrated as a criterion in the Climate Bonds Standards and Certification Scheme,<sup>24</sup> and the growth of agriculture green and climate bonds could be targeted in ways that have positive implications for the development of soil-focused options within the secondary loan market<sup>25, 26</sup> on which so many small banks rely. [Quantified Ventures](#) is pioneering a private multi payor outcomes-based financing model. Its [Soil and Water Outcomes Fund](#) was launched in partnership with the Iowa Soybean Association's AgOutcome program and pays farmers in Chesapeake Bay watershed, Illinois, Iowa, and Ohio with 50% of qualified incentives up front

to assist with transition. The [Midwest Row Crop Collaborative](#) hosts a variety of special projects.

Publicly traded companies are also appealing to green-oriented investors by touting their commitments to regenerative agriculture. The most forward looking of them are, in turn, investing in their producers in a variety of ways from funding pilot projects to negotiating multiyear contracts that offer security during the transition period. Early leaders included Danone, General Mills, Unilever, and VF Group. In June, McCain announced that it will implement regenerative agriculture on 100% of its 370,000 acres of potato farms by 2030.<sup>27</sup> Agricultural giant Cargill announced its RegenConnect commitment this fall.

Equally, both market-rate and mission-driven investors are looking to place dollars with the entrepreneurial companies that surround farmers and ranchers – from inputs needed on the farm like new classes of soil amendments, biologics, seed varieties, and technologies that enable precision agriculture – to the distribution and retail networks that add value in marketplace. [S2G Ventures](#), [Agriculture Capital](#), [ReHarvest Partners](#), [Tin Shed Ventures](#) and a variety of others are focused on these opportunities. For the first time in seven years upstream investments – those closer to the farm – exceeded downstream investments.<sup>28</sup>

We finally see real movement of capital to support regenerative agriculture. Ultimately, more money needs to be moved faster. Pecan Street are excited to do our part. Data and equity, two pillars of our work, will play a role in harnessing the potential of these financial vehicles to reverse soil degradation, maintain resilient production of food and fiber to meet growing global demands, and support the drawdown of atmospheric CO2 to help stabilize our climate. Those are powerful returns on any class of investment.

## References

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- <sup>1</sup> CREO. (2021, May). Unlocking Investments in Regenerative Agriculture. <https://creosyndicate.org/news-collection/2021/5/20/creo-investment-report-release-regenerative-agriculture>
- <sup>2</sup> CREO
- <sup>3</sup> Croatan Institute, Electris, C., Humphreys, J., Lang, K., LeZaks, D., & Silverstein, J. (2019, July). SOIL WEALTH Investing in Regenerative Agriculture across Asset Classes. <https://croataninstitute.org/wp-content/uploads/2021/03/soil-wealth-2019.pdf>
- <sup>4</sup> Economics of Soil Health Systems. Soil Health Institute. Retrieved October 28, 2021, from <https://soilhealthinstitute.org/economics/>
- <sup>5</sup> Environmental Defense Fund, The Nature Conservancy, BeckAg, MidWest Row Crop Collaborative, & Practical Farmers of Iowa. (2021, September). Banking of Soil Health: Farmer Interest in Transition Loan Products. <https://www.edf.org/sites/default/files/content/Banking-on-Soil-Health.pdf>
- <sup>6</sup> Environmental Defense Fund, The Nature Conservancy, BeckAg, MidWest Row Crop Collaborative, & Practical Farmers of Iowa.
- <sup>7</sup> Environmental Defense Fund, K•Coe Isom, Long Rows Consulting, AGree Economic and Environmental Risk Coalition. (2020, September). Financing Resilient Agriculture How agricultural lenders can reduce climate risk and help farmers build resilience. <https://www.edf.org/ecosystems/how-agricultural-lenders-can-boost-climate-resilience>
- <sup>8</sup> Delta Institute. GitHub – Delta Institute/Financing-Soil-Wealth-Financial-Calculator: The Financing Soil Wealth calculator was created to assist farmers, lenders, and investors in determining profitable approaches to transitioning to regenerative organic farming for cropland. GitHub. Retrieved October 28, 2021, from <https://github.com/DeltaInstitute/Financing-Soil-Wealth-Financial-Calculator>
- <sup>9</sup> CIG Retrospective Soil Health Economic Calculator. (2021, July 13). American Farmland Trust. Retrieved October 28, 2021, from <https://farmland.org/cig-retrospective-soil-health-economic-calculator/>
- <sup>10</sup> Growers Edges Launches DigitalAg Lending Platform. (2021, October 7). Growers Edge. Retrieved October 28, 2021, from <https://www.growersedge.com/news/growers-edge-launches-digital-ag-lending-platform/>
- <sup>11</sup> AGree Economic and Environmental Risk Coalition. (2021, June). The Case for Next Generation Crop Insurance. [https://s31207.pcdn.co/wp-content/uploads/sites/4/2021/06/AGree\\_SynthesisCropInsurancePaper.pdf](https://s31207.pcdn.co/wp-content/uploads/sites/4/2021/06/AGree_SynthesisCropInsurancePaper.pdf)
- <sup>12</sup> The Case for Crop Insurance Reform. (2020, April 8). Conservation Finance Network. Retrieved October 28, 2021, from <https://www.conserva-tionfinancenetwork.org/2020/04/08/the-case-for-crop-insurance-reform>
- <sup>13</sup> Land Core. Retrieved October 28, 2021, from <https://landcore.org/programs>
- <sup>14</sup> Compeer Joins Land Core Initiative. (2021, June 1). Compeer. Retrieved October 28, 2021, from <https://www.compeer.com/press-releases/2021/june-2021/compeer-joins-land-core-initiative>
- <sup>15</sup> Environmental Defense Fund, K•Coe Isom, Long Rows Consulting, AGree Economic and Environmental Risk Coalition. (2020, September). Financing Resilient Agriculture How agricultural lenders can reduce climate risk and help farmers build resilience. <https://www.edf.org/ecosystems/how-agricultural-lenders-can-boost-climate-resilience>
- <sup>16</sup> FarmerMac & American Bankers Association. (2020, November). 2020 Agriculture Lender Survey Results. <https://www.farmermac.com/wp-content/uploads/2020-Ag-Lending-Survey-Report.pdf>
- <sup>17</sup> rePlant Capital Launches \$250M Soil Fund I to Support Scalable Regenerative Shift. (2020, October 1). Global AgInvesting. Retrieved October 28, 2021, from <https://www.globalaginvesting.com/replant-capital-launches-250m-soil-fund-support-scalable-climate-solutions/>
- <sup>18</sup> Widmar, D. (2020, February 17). Farm Debt and Working Capital Continue to Deteriorate. Agricultural Economic Insights. Retrieved October 28, 2021, from <https://aei.ag/2020/02/16/farm-debt-and-working-capital-continue-to-deteriorate>.
- <sup>19</sup> Marquis, C. (2021, October 13). rePlant Fuels Food System's Shift To Regenerative Agriculture With \$2 Billion For Farmers To Build Soil Health. Forbes. Retrieved October 28, 2021, from <https://www.forbes.com/sites/christophermarquis/2021/10/05/replant-fuels-food-systems-shift-to-regenerative-agriculture-with-2b-soil-fund-and-support-for-farmers/?sh=235177bb63a0>
- <sup>20</sup> Farmers Business Network and Environmental Defense Fund Launch New Farm Operating Line of Credit that Incentivizes Farmers Who Implement Regenerative Ag. (2022, January 11). Environmental Defense Fund. Retrieved January 19, 2022, from <https://www.edf.org/media/farmers-business-network-and-environmental-defense-fund-launch-new-farm-operating-line-credit>
- <sup>21</sup> Regenerative Organic Agricultural Districts (ROADs). (2021, October 27). Retrieved October 28, 2021, from <https://croataninstitute.org/roads/>
- <sup>22</sup> CREO
- <sup>23</sup> Croatan Institute, Electris, C., Humphreys, J., Lang, K., LeZaks, D., & Silverstein, J.

<sup>24</sup> Agriculture Criteria. (2021, September 21). Climate Bonds Initiative. Retrieved October 28, 2021, from <https://www.climatebonds.net/standard/agriculture>

<sup>25</sup> CREO

<sup>26</sup> Croatan Institute, Electris, C., Humphreys, J., Lang, K., LeZaks, D., & Silverstein, J.

<sup>27</sup> Isaev, M. (2021, September 10). McCain Foods commits to regenerative agricultural practices for all its potatoes by 2030. PotatoPro. Retrieved October 28, 2021, from <https://www.potatopro.com/news/2021/mccain-foods-commits-regenerative-agricultural-practices-all-its-potatoes-2030>

<sup>28</sup> AgFunder. (2021, July). AgriFoodTech Investment Report