

## One Farm's Experience

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In March 2005, Patterson Farms signed a 10-year renewable contract with Environmental Credit Corporation (ECC), a Chicago Climate Exchange (CCX) recognized aggregator. Initially ECC aggregated the farm's manure methane destruction credits, and just recently they have begun to qualify Patterson Farms' no-till and food waste credits. This is a narrative of how Connie Patterson's family farm made a decision to trade agricultural offsets on CCX, what it entailed and how they're making out financially from their registered offsets.

### Manure Odor Leads to Carbon-Credits

Patterson Farms 980 dairy-cow herd in Auburn, NY had an issue with odor from their earthen manure storage. In order to reduce odor, they looked into a variety of income streams including grants for anaerobic digesters to subsidize the cost. Other potential revenue streams came by negating electricity bills and displacing bedding costs with digested manure solids. They designed a complete mix digester that subsequently provided the opportunity to accept food waste and earn tipping fees. Somewhere in the process a representative from an aggregator, Environmental Credit Corporation (ECC), knocked on Connie's door and talked to her about carbon credits. In March 2005, Patterson Farms signed a 10-year renewable contract with ECC to aggregate a variety of agricultural offsets on farm. Initially, the contract was just for manure methane destruction, but Patterson Farms encouraged ECC to help the farm qualify for No-Till and anaerobic food-waste methane destruction. In 2008, the farm expects additional credits from these two offset categories and the next verification round will include these offsets.

### The Contract

The contract with ECC is ~20 pages long and Patterson Farms had their lawyer review it as well as reviewing it page by page with ECC at least twice. It is a 10-year renewable contract with a 50/50 split of the verified credits produced. To earn its half of the credits, ECC is responsible for all costs to qualify, verify, register and monetize credits. Patterson Farms is responsible for the costs in making the agricultural offsets, documenting these efforts and reporting their logs. The third party verifier has visited the farm once, in the spring of 2006. The verifier confirmed cow numbers, looked at the anaerobic digester system, took pictures, and reviewed the farm logs. While Connie has not seen the verification report, the third party verifier sent a report to ECC and CCX and credits began accruing in an account on the CCX registry. Annually, Connie takes 5 minutes to email her documentation logs to the verifier. These logs are files the farm already collects for accounting and include her monthly food waste tipping fee log (in gallons, from whom, from where) and her monthly daily goals sheet (number of cows, number of heifers, and lbs of milk).

### The Credits

On October 8, 2005, Patterson Farms' anaerobic digester started generating electricity and they also started their tally of carbon credits. From October 8, 2005 to March 31, 2007, they have accrued 128 Carbon Financial Instruments (1 CFI = 100 tons of CO<sub>2</sub>e) or 12,800 metric tons of CO<sub>2</sub> equivalents (CO<sub>2</sub>e). Patterson Farms' methane destruction credits are calculated based on herd size. Connie does not sell future credits. She has no obligation to produce methane destruction credits. If Connie sold her herd tomorrow, or if her digester stopped functioning for some reason, she would not be penalized. Patterson Farms simply receives credit for the measured and verified methane destruction offsets she produces annually.

From October 8, 2005 to March 31, 2007, Patterson Farms had produced 128 CFI and banked their 50% or 64 CFI.

Carbon Financial Instruments (CFI) 1 CFI = 100 tons CO <sub>2</sub> e	Date
8	October 8, 2005 - December 31, 2005
9	January 1, 2006 - March 7, 2006
39	March 8, 2006 - December 31, 2006
8	January 1, 2007 - March 31, 2007
?	Remainder of 2007
<b>TOTAL</b>	<b>64+ CFI</b>
	<b>As of March 2008, 64 CFI = \$14,299</b>

When Patterson Farms banks the credits, they go into a general ECC pool. Upon banking the credits, they lose the vintage (vintage refers to the year the offsets were credited) and like a mutual fund, Patterson Farms now owns units in the pool of ECC aggregated credits. Patterson Farms receives a monthly statement from Environmental Carbon Credit Pool and the April 5, 2008 summary is shown below.

#### Your Personal Monthly Activity Summary: 3/1/2008 – 3/31/2008

*The summary below reflects the performance of your personal account participating in the Environmental Carbon Credit Pool, LLC.*

3/1/2008	Balance Forward	\$12,522.89			
	Deposit of Credits	\$ 0.00			
	Withdrawals	\$ 0.00			
	Profit/Loss	\$1,476.07			
	Management Fees	\$ 9.19			
3/31/2008	Ending Balance	\$14,298.96			
Capital Changes	Unit	Net Asset Value	Market Value	Period Performance	Year to Date Performance
\$1,476.07	115.830	\$ 123.45	\$14,298.96	11.51%	40.21%

Notice that in one month, without adding any new CFI, Patterson Farms' credits increased in value by \$1,476 and that is a function of the change in price paid per ton. Looking at the CCX Exchange activity, it becomes clear how she has 11% returns for the last month and 40% for this year – both the price and the trading volume increased.

#### The Overall Economics

The Patterson Farms digester system cost roughly 1.5 million dollars. Patterson Farms received 1.2 million dollars in NYSERDA, Rural Development and Agriculture Environmental Management grants. This year, Patterson Farms has saved roughly 80 thousand dollars by generating their own electricity from their digester (half of that or more is spent in oil, repairs and labor to keep the generator running). They also receive \$0.06/gallon in food waste tipping fees. They have banked all carbon credits to date, and their most recent summary (64 CFI, October 2005 - March 2007) is valued at \$14,299. Obviously, carbon credits don't pay for their odor control project. But the price paid per ton three years ago when they started was \$2.00 and now it is \$6.00. By banking the credits in a pool, Patterson Farms has had a 46% return from their carbon-credit venture. It is not much compared to the cost of the larger system or the other revenue streams earned from the odor control project, but in itself it has been a good venture thus far.