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## Upfront: The weather underground

*Fighting climate change through better soil, and other MCF funding highlights...*

by [Peter Seidman](#)

When officials at the Marin Community Foundation announced a five-year, \$10 million initiative aimed at sparking local efforts to combat climate change, they probably didn't expect a barrage of criticism over what they were not funding.

Why, critics asked, wasn't the Marin Community Foundation (MCF) helping to fund the startup for Marin Clean Energy? Why wasn't the foundation joining with the county in energy efficiency programs? Lost in the underbrush of criticism were the programs the foundation actually was funding.

Marin Clean Energy is a government agency, the reasoning went, and as such should be able to proceed without critical-care help from the foundation. In addition, not all cities in the county are on-board the Marin Clean Energy train, and that played a part in the decision to use the initiative funds for other programs. Also, the county already has its own energy efficiency programs, and the foundation's programs can act as an adjunct to them. Allocating funds to programs beyond the government-agency scope can expand the climate-change effort in the county.

While the decision to eschew Marin Clean Energy and some other programs can be debated, it's too easy to lose sight of the programs the foundation actually is funding. And that's more or less what happened.

"This is a five-year initiative, and we have indicated we will put in a minimum of \$10 million over that five years for a range of efforts," says Thomas Peters, MCF president and CEO. "It's a big commitment. It's got quite a bit of range, all the way from research on agricultural lands out in West Marin to helping schools and neighborhoods further develop their Safe Routes to Schools programs."

The two programs Peters mentions, along with awarding grants and loans to the Dixie School District to help install solar panels and working to increase public awareness of water and energy efficiency, are indicative of the foundation's priority list for grants: Will a program benefit Marin while at the same time serving as a model for other communities?

A prime example is Safe Routes to Schools: The foundation awarded a \$175,000 grant to launch a Greenways to School Campaign. While funding a program that encourages kids to get to school on foot, by bike, bus and carpool may seem an insignificant goal to combat global warming, the numbers tell another story.

Safe Routes got off the ground in 2000 as an initiative of the Marin Bicycle Coalition, which sought to find ways that would reduce traffic and promote health among school kids. In 2001, a grant from the National Highway Traffic Safety Administration helped develop a model program. MCF contributed a \$25,000 grant, and Fairfax received another \$25,000 from the state to participate in a pilot project. In 2005, the Transportation Authority of Marin started managing the Safe Routes program, boosted by income from Measure A, the Marin County transportation tax initiative.

The foundation's initial seed money helped nurture a program that has received national recognition and has been replicated across the country. That's nice, say skeptics, but some question whether getting kids to ride and walk to school really has that much of an effect on climate change.

According to the Marin Congestion Management Agency, 21 percent of traffic in the morning local commute consists of parents driving kids to schools. And for a further bit of perspective: The transportation sector accounts for 62 percent of all carbon emissions in the county.

"When we started the program, we had nine schools, and the number of kids being driven was at 62 percent," says Wendi Kallins, Safe Routes to Schools program director. "By spring 2008 we were at 47 percent. The Safe Routes program promotes an education campaign in the schools. It also pushes for infrastructure improvements that make biking and walking to school safer, a perennial concern among parents. And the program supports efforts to enforce traffic laws that protect walkers and bicyclists. Safe Routes also encourages carpools and bus transportation."

The foundation's grant will help Safe Routes "shift 800 students" to non-automobile transportation, which Kallins says can reduce carbon emissions by 430 metric tons. MCF's overall goal for all of the programs in its five-year climate-change initiative is to

reduce more than 2 million metric tons of emissions, the equivalent of taking more than 326,000 cars off the roads.

"Our view is that [the funds for Safe Routes] is an enhanced investment in something that's already been enormously successful in several criteria," says Peters. "It reduces car trips. It helps eliminate congestions. It is enormously good for the kids. And it has proven to be an enormous family and community benefit."

One of the programs at Safe Routes to Schools encourages parents to join a School Pool, sort of a school-community carpooling program. And parents also can make contact with each other to share responsibilities for getting their kids to walk and bike together with adult oversight.

The newest Safe Routes program, the Greenways to School Campaign, will kick off at the Marin Connections Center at 3240 Kerner Blvd. on Jan. 21 at 4pm. Greenways will use classroom competitions, with cash awards ranging from \$100 for individual classes to \$2,000 for top-performing schools. It's a fun competition, but it has a serious goal.

A Safe Routes school assembly program seeks to show kids that an individual action can expand to a community action and then to a collection of community actions. "One little trip to school may not take that much CO2 out of the air," says Kallins, "but the more [that kids and parents] develop these habits to get around, that can start snowballing. You see people starting to bike to destinations other than schools: to soccer practice, to friends' houses. You see families biking together. Little steps together can create a cultural shift, show people they don't need a car to get everywhere."

Peters says the Safe Routes program is a fundamental example of the community foundation's philanthropic philosophy. "First and foremost we want to make sure we are investing in programs that work here. When there can be a model that can be replicated elsewhere, that's a major accomplishment." Peters says that when people ask him what kind of program represents a true success story for MCF, he often points to Safe Routes.

While the methods of the Safe Routes effort are grounded in transportation initiatives, another program in MCF's climate initiative deals with issues not as well understood as transportation. Many Marinites don't realize that an innovative program in West Marin could turn the whole climate-change debate on its head. At least that's the hope.

The Marin Carbon Project is the recipient of about \$1 million in MCF funds for work to determine the effectiveness of carbon sequestration on agricultural lands. The foundation previously awarded the carbon project \$240,000. Although people have heard the term carbon sequestration, many don't fully understand the potential.

John Wick understands the possibilities. He's the carbon project's director; he also owns a ranch in West Marin with Peggy Rathmann, author of the classic children's book *I Goodnight, Gorilla*. Their Nicasio Native Green Ranch is a testbed for education and outreach at the carbon project, which also includes the Marin Agricultural Land Trust; the USDA Natural Resources Conservation Service; Marin Organic; the University of California Cooperative Extension, Marin and Sonoma counties; the Marin Resource Conservation District; and the University of California, Berkeley, Department of Science, Policy and Management.

It's an impressive list that includes mainstream participants. But the work those participants are engaged in is far from mainstream. Using agricultural practices to reduce atmospheric carbon has garnered the name carbon farming. Although it's been under the scientific radar, the ideas behind it are beginning to make a blip.

"Marin County produces 3 million tons of CO2 equivalents a year," says Wick. "Marin County has 140,000 acres of grassland, and more than 100,000 acres are managed as food-producing rangeland. Our early research suggests that increasing the soil organic material by applying compost could fully offset one-half of the county's emissions." The funding from the community foundation will pay for analysis of the number of grazing animals in West Marin, the amount of potential compostable material and other factors that could point to a successful carbon sequestration program, one that could be duplicated around the world.

Rather than dump compostable material into landfills, it should be composted--that's now mainstream. But Wick and his carbon project colleagues have some intriguing ideas: mix that compostable material with cow manure to improve the process. Then the dried material can be spread on grasslands. There's enough potential capacity in West Marin, according to some of the project's scientists, to allow adding material for 10 to 15 years. Others in the project say it can be deposited in perpetuity.

The material adds to the organic matter in the soil. That could be a boon to agricultural lands around the world that have lost a significant amount of topsoil due to destructive farming practices. "The soil in the Great Plains used to be 42 feet thick, and now [most of] that soil has washed away." The early results associated with carbon farming to help alleviate the problem of lost topsoil "are astonishing."

Wick says the carbon project is basing its projections on "150 million years of research and development." Grasslands and rangelands need herd animals to thrive. The animals eat the grasses, and in turn, their grazing stimulates the grasses to proliferate. But, says Wick, modern grazing habits, overgrazing, have destroyed the paradigm. To restore balance, herds should move around the range without lingering on any one plot. Wick says he "borrows" a herd of cattle to feed on the grass at his ranch. When they are finished, they go back to their owners, who get "free room and board" for their animals. In exchange, the grasses on Wick's ranch get the benefit of natural stimulation. "We are mimicking the system of ancient predators and herd

animals. The herd must move."

When the animals trample grass, it gets pushed into the soil, where worms and other organisms break it down, ultimately leaving carbon in the soil. That process, along with the composting, creates a carbon-rich soil that holds more water and is stronger and more stable. The process takes carbon out of the atmosphere through plant photosynthesis and decomposition.

The idea turns on its head the theory that herd animals are a major source of carbon emissions. Wick and other carbon farmers think herd animals (and the grasslands on which they feed) could be the answer to curbing carbon emissions.

"I am a carbon farmer. I take a resource like atmospheric CO<sub>2</sub>, and I harvest it by growing plants. I am enormously excited. We have an amazing resource for free now. It's totally cool. These are great times."

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