

**BILL MCKIBBEN: "WHAT CAN I DO?"**

# COMMUNITIES

**Life in Cooperative Culture**

Spring 2017 • Issue #174

## COMMUNITIES and CLIMATE CHANGE

**Paying for Our Carbon Meal**

**Climate Crisis, Dystopia, and Community**

**Lessons from Dancing Rabbit, ZEGG,  
Living Energy Farm, Heart-Culture,  
Ridgewood Ranch, and more**

**Soil, Permaculture, Biochar,  
and Energy Democracy**



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# COMMUNITIES

Life in Cooperative Culture

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## Letters



**D**ear Readers: We recently discovered to our distress that due to a website malfunction, all messages sent through our “Contact **COMMUNITIES** Magazine” online form had been entering a virtual black hole rather than reaching any of us, for a period of at least two years. (!) (Or perhaps %@#&\*%! says it better.) We have attempted to contact all those who tried to contact us. Among the messages we missed the first time around are the following two letters, which we share with you now:

## Technology and Disability

I really really enjoyed the Winter 2014 issue about technology in community [#165]. It came at a time when I was going through a lot of upheaval in life, and reevaluating the level of simplicity and sanctuary that I have in my small city life, as well as the lives of those I am in community with.

However, I didn't notice anything in that issue at all about technology in regards to living with disabilities. One of the biggest concerns I have heard about advocating for low-tech lifestyle choices is that it really excludes people for whom their autonomy, happiness, and basic mobility and survival rely upon things like motorized chairs or medical speaking devices. This has been a huge complaint about phrases like, “The revolution will not be motorized!” After all, any revolution most of us want to be a part of must include people of varying ability levels, right? I have to admit, I've been skeptical of this criticism, even though I want so bad for us humans to have room in our communities for people of all kinds, including those living with disabilities. I'm skeptical because I also really want us humans to live in right relationship with the earth. I simply don't believe that we have to pick one, and I don't believe we need to harm the earth in order to have inclusive communities. How can we do both? There must be a way! Perhaps some folks are already learning this together. Perhaps it's time for a **COMMUNITIES** magazine theme about community and ability variance. And let us remember, as some folks at Free Cascadia Witch Camp say, “Able bodies and minds are often temporary experiences.”

I also want to say that my favorite article was “Back to Life” by Ethan Hughes. It felt so good to read that. Like someone spoke my heart to me. The part that felt most difficult to read was the challenge to do any change-making work in the world without relying on technology that carries destructive effects to the earth. It left me thinking, is that even possible for certain things? How can I visit prisoners without cars when prisons are often in the middle of nowhere on roads unsafe for bikes? And if a prison is closer to a city, is it safe for a small woman like me to be alone on a bike in a place like Attica, where I know (and it brings sadness to my heart) what the guards there are capable of? Must we make compromises? Must we choose between compassion for fellow humans, and compassion for the earth? Again, I don't believe we have to choose. But until I figure out how to do both at the same time, I'll be trying my very best to be true to myself in every moment, listening to my heart and accepting my imperfection.

Yours with wonder,

Mars Goetia  
Santa Cruz, California

## Wholeo Dome

My name is Laura, I live on The Farm in Summertown, Tennessee—which since 2004 has been home to the Wholeo Dome. The Wholeo Dome is an incredible work of stained glass art; a dome that is 7 feet tall and 14 feet across, and holds over 120 stained glass panels all created by an amazing woman named Caroling Geary.

So I was shocked to see a photo of the Wholeo Dome in the latest issue of your magazine [#168]. It's on the very last page heading an article called "Establishing a Community: Perspectives from the FEC." It was at first a pleasant shock...and then a disappointed one. There is absolutely no information about the photo whatsoever...nothing referring to the artist, or even to the person who took the photograph.

You see, the Wholeo Dome has recently had to be taken apart due to damage and need for relocation on The Farm...we have a committee of passionate members who have been working VERY hard to promote this magnificent piece of artwork so that we may put it back together and continue to share it with the world. [Supporters have created a Facebook page for this effort at [www.facebook.com/save.the.wholeo](http://www.facebook.com/save.the.wholeo).] It is something that should definitely be shared and displayed in magazines and publications like yours, but with no credit to Caroling and her hard work, it is a bit disheartening.

The Wholeo Dome is very near and dear to my heart—it is the entire reason I am living on The Farm, and in an intentional community at all. I just had to write and stand up for it! Thank you for hearing me.

Laura Look

Summertown, Tennessee

*Editor's Note: We apologize for omitting that information. We received the photo as an illustration for the article without any accompanying description, and so printed it that way. Thank you for letting us know more about it; we're happy to pass this information along to our readers.*

## Thanks to COMMUNITIES' Indexer

I would like to call attention to the work of Lyman Tower Sargent for indexing all of the articles of COMMUNITIES magazine and one of its predecessor journals. This is a great service for activists, academicians, students, and reporters researching community. Go here: [www.ic.org/communities-index](http://www.ic.org/communities-index). While Sargent has only one article in the index, his many other writings on utopianism are here: [en.wikipedia.org/wiki/Lyman\\_Tower\\_Sargent](http://en.wikipedia.org/wiki/Lyman_Tower_Sargent).

There are about 3,150 article titles in the index, listed by author. Currently a user has to copy-and-paste the 200+ page index into a document then search key words or topics. Hopefully it will be continually updated, made easier to download, and someday be searchable by subject!

By facilitating the analyses of the communities movement the COMMUNITIES index enhances our voices on any aspect of intentional community over time, making more evident the joy, love, and wisdom of those who participate in the art of cultural self-determination.

Allen Butcher

Denver, Colorado

## The Mission of COMMUNITIES

I appreciate your work as Editor, and the call for support. You've got me thinking about the mission. Forty years ago, when I became a part of the COMMUNITIES publishing collective, as an editor, we moved the magazine from an almost exclusive focus on land-based intentional communities as a movement, to a wider perspective about a movement towards community, cooperation, and social justice. The return to the niche of intentional, land-based communities over the past few decades has produced some excellent insights, but maybe tends to limit identification, participation, and sales.

Is "community" a movement or an organizing principle? Friday, my wife and I attended a high school choral concert in a poor, small Connecticut town (our nephew's girlfriend was in it). The concert was an expression of the town and an experience of shared community with those in the audience. Saturday night, we drove into Manhattan for the annual Paul Winter Solstice Concert at the Cathedral of St. John the Divine. The thousand or so folks may have shared the event their \$50 or \$100 tickets bought them, but aside from whatever friend and family connections, we were not a community.

What would COMMUNITIES be like, and could it be more sustainable, if it explored and dramatized what the experience of community has to offer the US and global society? What are the core principles which collectively make up what distinguishes that experience? Without losing the potent example of intentional communities as perhaps the most complete expression of community, is there a bridge to other movements/events which are mutually intriguing and challenging?

A few days ago, my wife received a note from Senator Chris Murphy, accounting for the recent passage of a landmark mental health bill. The story of building a passionate consensus, in my mind at least, rose to the level of communion. It coalesced a part of the population that included the President, Senators and Representatives across party lines, healthcare leaders like my wife, and above all, tens of thousands of parents and children who share a common bond of distress.

Chris' essay, as well as the occasion of a small town chorale are the kind of pieces that I think we need if the communities movement is to offer an alternative to the divisiveness the next few years are likely to present.

Cheers,

Paul Freundlich

Higganum, Connecticut

*Editor's Note: "Community Where You Are" (meaning not necessarily in intentional community) has been part of the magazine's explicit focus for more than a decade, but it's true that the amount of that to be found in our pages varies from issue to issue. We welcome more of this broader meaning of community in the magazine, and thank Paul for drawing attention to this.*

We welcome reader feedback on the articles in each issue,  
as well as letters of more general interest.

Please send your comments to [editor@ic.org](mailto:editor@ic.org) or COMMUNITIES, 81868 Lost Valley Ln, Dexter OR 97431.

Your letters may be edited or shortened. Thank you!

**COMMUNITIES** Editorial Policy

COMMUNITIES is a forum for exploring intentional communities, cooperative living, and ways our readers can bring a sense of community into their daily lives. Contributors include people who live or have lived in community, and anyone with insights relevant to cooperative living or shared projects.

Through fact, fiction, and opinion, we offer fresh ideas about how to live and work cooperatively, how to solve problems peacefully, and how individual lives can be enhanced by living purposefully with others. We seek contributions that profile community living and why people choose it, descriptions of what's difficult and what works well, news about existing and forming communities, or articles that illuminate community experiences—past and present—offering insights into mainstream cultural issues. We also seek articles about cooperative ventures of all sorts—in workplaces, in neighborhoods, among people sharing common interests—and about “creating community where you are.”

We do not intend to promote one kind of group over another, and take no official position on a community's economic structure, political agenda, spiritual beliefs, environmental issues, or decision-making style. As long as submitted articles are related thematically to community living and/or cooperation, we will consider them for publication. However, we do not publish articles that 1) advocate violent practices, or 2) advocate that a community interfere with its members' right to leave.

Our aim is to be as balanced in our reporting as possible, and whenever we print an article critical of a particular community, we invite that community to respond with its own perspective.

**Submissions Policy**

To submit an article, please first request Writers' Guidelines: COMMUNITIES, 23 Dancing Rabbit Ln, Rutledge MO 63563-9720; 800-462-8240; editor@ic.org. To obtain Photo Guidelines, email: layout@ic.org. Both are also available online at [ic.org/communities-magazine](http://ic.org/communities-magazine).

**Advertising Policy**

We accept paid advertising in COMMUNITIES because our mission is to provide our readers with helpful and inspiring information—and because advertising revenues help pay the bills.

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**What is an "Intentional Community"?**

An "intentional community" is a group of people who have chosen to live or work together in pursuit of a common ideal or vision. Most, though not all, share land or housing. Intentional communities come in all shapes and sizes, and display amazing diversity in their common values, which may be social, economic, spiritual, political, and/or ecological. Some are rural; some urban. Some live all in a single residence; some in separate households. Some raise children; some don't. Some are secular, some are spiritually based; others are both. For all their variety, though, the communities featured in our magazine hold a common commitment to living cooperatively, to solving problems nonviolently, and to sharing their experiences with others.

# No HOPE?



**I**ntentional communities have no hope of meaningfully addressing climate change. Yeah, you heard me right. Why would I say that? Am I just trying to be provocative? Maybe. But as much as I'm an idealist, I'm a pragmatist, and when it comes to the future of the world and humanity, I'm not willing to leave it to hope.

Intentional communities are clearly more ecologically friendly than most other social arrangements. Even the communities out there doing very limited resource-sharing are still consuming and wasting less than the American average (though, admittedly, that might not be saying much). As a model, intentional communities could, in theory, meaningfully address climate change.

True, they currently represent a very small percentage of the population. In the US, from what I know, I estimate that there are approximately 100,000 people living in some form of intentional community, which represents about 0.03 percent of the population. However, the number of intentional communities and the people living in them could dramatically increase, and the lessons they're learning could be systematically applied to the broader society. Can this happen?

A favorite quote amongst social activists comes from Margaret Mead: “Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has.” But here's the rub: a small group of citizens *doesn't* change the world. Lots of small groups of citizens change the world. Sure, maybe it starts with one group, but it doesn't end there.

Major change in the modern world is brought about by social *movements*, and while we like to talk about the “communities movement,” this movement doesn't currently have widespread recognition as such, even by those within it. I would guess that relatively few people in intentional communities right now think of themselves as being part of a movement or feel a sense of day-to-day connection between the communities in which they live and the rest of the communities, not only around the country, but around the world.

While many communities are actively engaged in outreach and education, putting themselves out to the public in hopes of reaching significant numbers of people, for many others that is a low priority, and even those groups which are doing this work often feel less than fully successful at it. The organizations that are working to expand this movement (including the FIC, publisher of this magazine) are small and underfunded. A movement implies direction, not exactly focus, but forward motion towards something that large numbers of people identify with, are inspired by, and feel a drive to perpetuate and expand. This is not entirely absent right now, but it's not pervasive either.

It *is* a movement in the sense that there is this decentralized network of individuals, communities, and organizations all working to develop projects and models that are linked together by relationships and definitions. Certain definable characteristics, aspirations, and values are shared; inherent to the work being done is a desire to change society. I think the communities movement is one of the most important out there. I wouldn't be working for the FIC otherwise.

I want the communities movement to transform the world, and I think it can. But I don't think transformation is possible unless you're honest and accepting of what is. If it's not clear that our trajectory is towards success, it's not realistic to sit back and hope that what we're doing now will get us where we want to go. Dynamics and patterns have a tendency to persist and self-perpetuate. If we don't continually assess and re-evaluate our efforts, look for unrecognized motivations and



influences, acknowledge the impacts of our actions, and seek to understand what's missing and what's in the way of creating what we want, we'll just keep recreating more of the same. We have to keep trying new things, experimenting, analyzing, critiquing, starting over, retooling, both within ourselves, and in the work we do in the world.

Climate change is terrifying. Seriously. If you don't occasionally stop short in terror at the kind of world we may be creating, one that many of us alive today will have to live through, you're not paying attention. The factors at play are so monumental, the problems so complex, and the power to effect change on those levels so beyond the reach of any one of us, that to try to face it is overwhelming. And part of what's so terrifying is that there's no escape. If your house is on fire, you can run outside. Outside of planet earth isn't an option. Given what we're faced with, I don't have much hope. But does that mean I'm giving up? Of course not.

Years ago, I watched a video of a moderated conversation between author and activist Alice Walker, and Buddhist nun Pema Chodron. Alice talked about the hope of activism, and Pema responded with the classic Buddhist perspective on hope, which is that it's just another form of attachment. But without hope, Alice asked, how can you work for change? You don't do what you do because you hope it will change things, responded Pema, you do it because you believe that's the right thing to do.

Doing the right thing isn't easy. Denial won't help. Blind hope won't help. We have to face the reality. But falling into despair won't help. Martyring ourselves won't help.

I'd like to rephrase the statement I started this essay with:

Intentional communities, *acting alone*, have no hope of meaningfully addressing climate change. And even when we act together, the word "hope" may not accurately reflect what we find. But we do find something—something that we lack when we think of ourselves as alone—when we explore what it means to be a movement, and act to nurture that movement. We may be able to leverage our impact in a way that transforms a "hopeless" situation into something better. I have faith that what we can do together can transform the world, and I'm committed to putting effort towards that.

Acceptance will help. Love and compassion will help. Solidarity will help. Caring for ourselves and others will help. Faith that all people can be healthy and happy, and that all life on the planet can be protected and nurtured, and effort to make that faith a reality, will help. 🐦

*Sky Blue (sky@ic.org) is Executive Director of the Fellowship for Intentional Community.*



# Support the FIC

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**Happy 30th Anniversary, FIC!**  
—Raines Cohen & Betsy Morris



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# Climate Crisis, Dystopia, AND COMMUNITY



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First, we want to thank all those who responded to our appeals for support for the magazine around the turn of the year. By December 2016, FIC's discouraging financial picture and the magazine's own negative balance sheet had led to Board discussions about emergency measures, including suspending or ceasing magazine publication. Following our emailed call to readers and contributors, the FIC's online store experienced its highest-ever single-month revenue (much of it consisting of magazine subscriptions, back issue orders, and donations, supplemented by FIC memberships and other orders). The magazine pushed from the red into the black for the year, as did FIC, and we won a reprieve for the print journal. We have also taken cost-cutting measures, including trimming wholesale accounts (while we like making the magazine available on newsstands, this venue has sometimes been a large financial drain) and a switch of printers (again), and are exploring possible organizational collaborations that could aid the magazine's resilience. We appreciate all those COMMUNITIES readers who rose to the occasion, and who continue to do so, in order to assure the continued existence of this venerable journal of the communities movement.

• • •

Saving a magazine is one thing—saving a livable planet is another. In this issue, we explore how people, banding together, may be able to prevent or counteract those elements and effects of climate change that we have some influence over, as well as to respond to those that we don't. If crisis brings people together, if adversity builds community, then we as a species have been given an unprecedented opportunity to demonstrate the power of community to help make daunting circumstances "better" than they would have been otherwise.

How much better can we make them? This is up for debate. On a smaller scale, as many of these stories illustrate, the opportunity to take positive action and make a difference is substantial. Added together, and replicated more widely, efforts like those described in these pages could measurably mitigate climate change and its destructive impacts around the world, while creating the opportunity for a regenerative future for humanity on the planet. Will that happen? We don't know, but the first step is envisioning a world in which it might—where we do indeed meet the challenges of what has clearly become a global crisis, and survive to tell the tale.

To be honest, it is not at all clear to me that we will do the latter. What is clear to me is that the

inherent human propensity for and need for community in its various forms will manifest as we confront this crisis, no matter what the ultimate outcomes. We come together in times of trouble. We may come together in the years ahead as we never have before—at least not since those days when our population was a fraction of what it is now.

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To be even more honest: I would be lying if I professed optimism about the larger scale, at least in the short term. For me the past year-plus has been dystopian on a personal as well as a national and global level. Forces that I've felt unprepared to handle have emerged in my life—and the same process seems to have been mirrored society-wide. I could sum it up thus:

*An archetype of aggressive power—which could be conceived of as the unethical, dishonest, greedy “con man,” or the sparkly mirage that fools some but reveals itself as without substance when the light changes—has threatened to disrupt and destroy long-term viability at every level. The potential consequences are devastating.*

You may conclude that these are code words meant to describe a certain new commander-in-chief, but that is only partially the case. While they may apply to an individual public figure, these words also apply to entire industries (like the fossil fuel industry), to entire lifestyles (like the modern consumerist lifestyle), and, in my own life, to a medical professional who performed an unnecessary surgery which has turned my waking existence into a continuous attempt, only partially successful, to retain some semblance of sanity (or failing that, a sense of humor rather than doom). To wit: a high-pitched siren (a.k.a. constant tinnitus) has been sounding in my right ear ever since a surgeon drilled out part of my skull (for what I learned later was no good reason) the day before Earth Day, 2016. Like a wilderness area infringed upon by noise pollution from a round-the-clock strip mine, or a family forced to live in a single room next to a building's noisy central heating system (with a television that won't turn off on the other side of the wall), I have lost the capacity to experience quiet. Whereas for decades I found refuge and restoration in quiet settings, especially in immersion in the natural world—something my life in rural intentional communities allowed me to enjoy with deceptively dependable regularity—any peace that I do find now can no longer be traced to the outer world or to sensory experience.

My personal ecosystem, no different from an abused terrestrial ecosystem or a population under attack, has been in crisis ever since this event, with major impacts on my ability to function in daily life and no clear exit from what often seems like a bad dream—something sold to me as a “healing experience” that turned out to be anything but. If “the world in crisis” was ever mainly an intellectual concept for me, one I was concerned about but not usually in touch with on an experiential level, insulated by good fortune or just blind chance, that has changed for me; as is true for more and more individuals and communities worldwide, this crisis has become a daily, lived reality.

As if to add injury to injury to injury (with no dearth of insult thrown in as well), the nightmare of the presidential election, the enshrinement of climate denial in the White House, executive orders issuing from the Oval Office since inauguration day to push forward on pipeline projects, censor the Environmental Protection Agency, reverse or thwart countless collective efforts to support more healthy human and social ecologies—and who knows what else by the time you read this, written in late January—have all reinforced my sneaking suspicion that we have entered an alternative, dystopian universe. On many different levels, the natural seems to have given way to the unnatural; the quiet to the loud; the gentle to the rough; respect and reverence to despoliation. Family, friends, and community offer some relief to me—are more important than ever before—and I'm sure this is an experience many of us share, but this doesn't make the larger picture much less daunting. In a world in which it appears true well-being (as distinct from the escapist variety) can no longer exist, the best we can do may be to attempt to simply mitigate a very bad situation that's not likely to get better anytime soon. In this context, it's hard to get genuinely overjoyed about anything.

Fortunately, my underlying sour mood doesn't seem to rub off universally on those around me, nor prevent me from assembling somewhat hopeful articles in this issue. I'm doing what I feel capable of doing. I still feel awe at the intricate complexity of life on earth, and at the human capacity for cooperation in service to the greater good. Knowing that those things are dependent on a planet whose ability to support them is imperiled by foolish decisions made with blinders on—decisions that may already have created a fatal condition—is sobering, even if we already know this planet has an inevitable “expiration date” in a few billion years. A few billion years seemed like a comfortable cushion; more recent timelines/estimates, in light of current trends? Not so much.

At least for now, I, you, and this magazine are still here. Thanks for being part of the conversation. 🌱

Chris Roth edits COMMUNITIES.

# RAISING CLARITY

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# The Question I Get Asked the Most

By Bill McKibben

The questions come after talks, on Twitter, in the days' incoming tide of email—sometimes even in old-fashioned letters that arrive in envelopes. The most common one by far is also the simplest: What can I do? I bet I've been asked it 10,000 times by now and—like a climate scientist predicting the temperature—I'm pretty sure I'm erring on the low side.

It's the right question or almost: It implies an eagerness to act and action is what we need. But my answer to it has changed over the years, as the science of global warming has shifted. I find, in fact, that I'm now saying almost the opposite of what I said three decades ago.

Then—when I was 27 and writing the first book on climate change—I was fairly self-obsessed (perhaps age appropriately). And it looked like we had some time: No climate scientist in the late 1980s thought that by 2016 we'd already be seeing massive Arctic ice melt. So it made sense for everyone to think about the changes they could make in their own lives that, over time, would add up to significant change. In *The End of Nature*, I described how my wife and I had tried to “prune and snip our desires,” how instead of taking long vacation trips by car we rode our bikes in the road, how we grew more of our own food, how we “tried not to think about how much we'd like a baby.”

Some of these changes we've maintained—we still ride our bikes, and I haven't been on a vacation in a very long time. Some we modified—thank God we decided to have a child, who turned out to be the joy of our life. And some I've abandoned: I've spent much of the last decade in frenetic travel, much of it on airplanes. That's because, over time, it became clear to me that there's a problem with the question “What can I do?”

The problem is the word “I.” By ourselves, there's not much we can do. Yes, my roof is covered with solar panels and I drive a plug-in car that draws its power from those panels, and yes our hot water is heated by the sun, and yes we eat low on the food chain and close to home. I'm glad we do all those things, and I think everyone should do them, and I no longer try to fool myself that they will solve climate change.

Because the science has changed and with it our understanding of the necessary politics and economics of survival. Climate change is coming far faster than people anticipated even a couple of decades ago. 2016 smashed the temperature records set in 2015 which smashed the records set in 2014; some of the world's largest physical features (giant coral reefs, vast river deltas) are starting to die off or disappear. Drought does damage daily; hundred-year floods come every other spring. In the last two years we've seen the highest wind speeds ever recorded in many of the world's ocean basins. In Basra, Iraq—not far from the Garden of Eden—the temperature hit 129 Fahrenheit last summer, the highest reliably recorded temperature ever and right at the limit of human tolerance. July and August 2016 were not just the hottest months ever recorded, they were, according to most climatologists, the hottest months in the entire history of human civilization. The most common phrase I hear from scientists is “faster than anticipated.” Sometime in the last few years we left behind the Holocene, the 10,000 year period of benign climatic stability that marked the rise of human civilization. We're in something new now—something new and frightening.

Against all that, one's Prius is a gesture. A lovely gesture and one that everyone should emulate, but a gesture. Ditto riding the bike or eating vegan or whatever one's particular point of pride. North Americans are very used to thinking of themselves as individuals, but as individuals we are powerless to alter the trajectory of climate change in a meaningful manner. The five or 10 percent of us who will be moved to really act (and that's all who ever act on any subject) can't cut the carbon in the atmosphere by more than five or 10 percent by those actions.

No, the right question is “What can we do to make a difference?”

Because if individual action can't alter the momentum of global warming, movements may still do the trick. Movements are how people organize themselves to gain power—enough power, in this case, to perhaps overcome the financial might of the fossil fuel industry. Movements are what can put a price on carbon, force politicians to keep fossil fuel in the ground, demand subsidies so that solar panels go up on almost every roof, not just yours. Movements are what take five or 10 percent of people and make them decisive—because in a world where apathy rules, five or 10 percent is an enormous number. Ask the Tea Party. Ask the civil rights movement.

The other side knows this, which is why it ridicules our movements at all times. When, for instance, 400,000 people march on New York City, I know that I will get a stream of ugly tweets and emails about how—saints preserve us—it takes gasoline to get to New York City. Indeed it does. If you live in a society that has dismantled its train system, then lots of people will need to drive and take the bus, and it will be the most useful gallons they burn in the course of the year. Because that's what pushes systems to change.

When brave people go to jail, cynics email me to ask how much gas the paddywagon requires. When brave people head out in kayaks to block the biggest drilling rigs on earth, I always know I'll be reading dozens of tweets from clever and deadened souls asking “don't you know the plastic for those kayaks re-

quires oil?” Yes, we know—and we’ve decided it’s well worth it. We’re not trying to be saints; we’re trying to be effective.

We’re not going to be forced into a monkish retreat from society—we need to engage this fight with all the tools of the moment. We’re trying to change the world we live in and if we succeed then those who come after will have plenty of time to figure out other ways to inhabit it. Along the way those who have shifted their lives can provide inspiration, which is crucial. But they don’t by themselves provide a solution. Naomi Klein once described visiting an “amazing” community farm in Brooklyn’s Red Hook that had been flooded by Hurricane Sandy. “They were doing everything right, when it comes to climate,” she said. “Growing organic, localizing their food system, sequestering carbon, not using fossil fuel inputs—all the good stuff.” Then came the storm. “They lost their entire fall harvest and they’re pretty sure their soil is now contaminated, because the water that flooded them was so polluted. It’s important to build local alternatives, we have to do it, but unless we are really going after the source of the problem”—namely, the fossil fuel industry and its lock on Washington—“we are going to get inundated.”

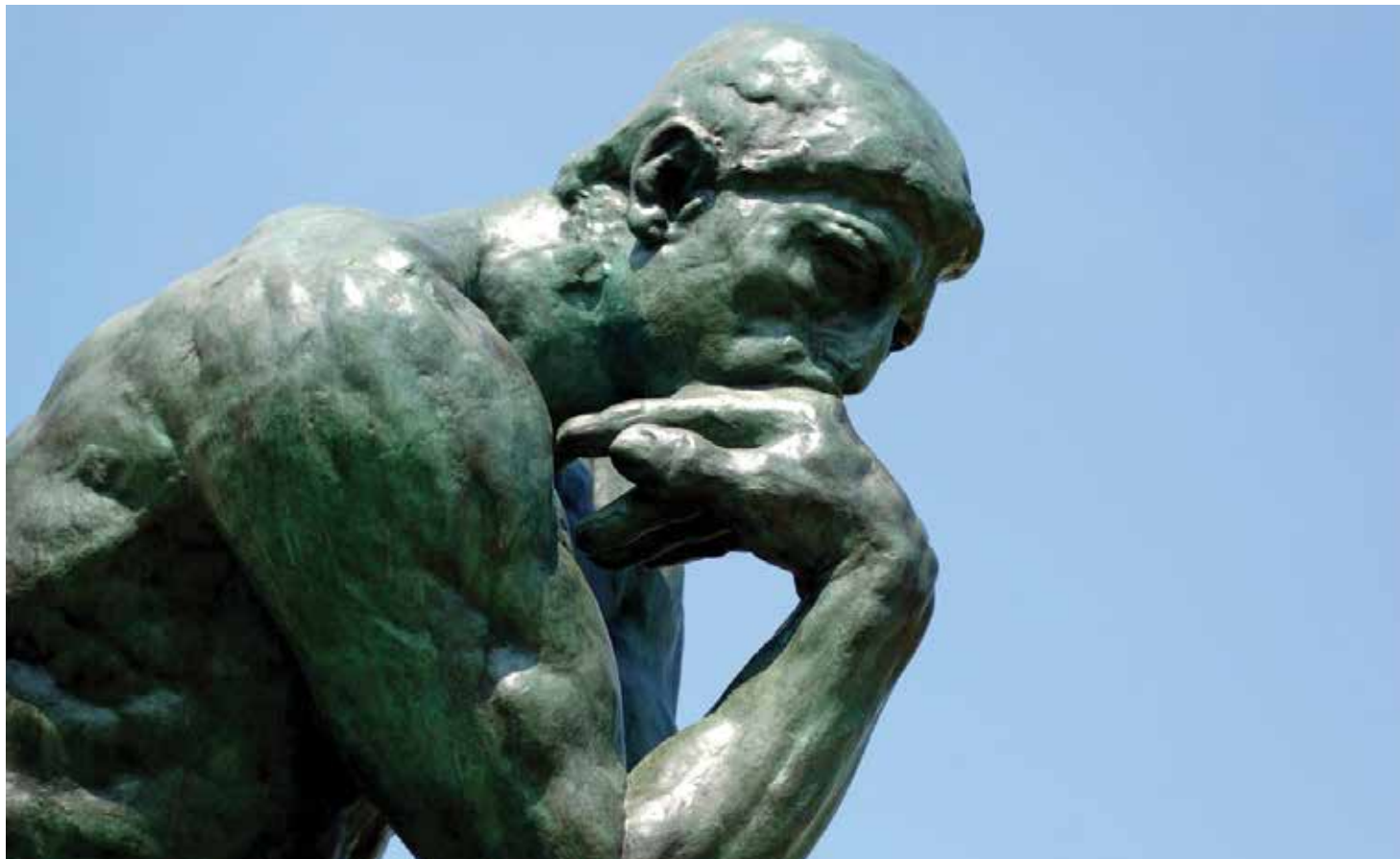
Like Klein, I find that the people who have made some of those personal changes are usually also deeply involved in movement-building. Local farmers, even after a long day pulling weeds, find the energy to make it to the demonstration, often because they know their efforts out in the field aren’t enough, even to guarantee a climate that will allow them to continue their efforts. No, the people calling environmentalists hypocrites for living in the real world are people who want no change at all. Their goal is simply to shame us and hence to quiet us. So we won’t make them feel bad or disrupt the powers that be.

It won’t work, unless we let it. Movements take care of their own: They provide bail money and they push each other’s ideas around the web. They join forces across issues: BlackLivesMatter endorsing fossil fuel divestment, climate justice activists fighting deportations. They recognize that together we might just have enough strength to get it done. So when people ask me what can I do, I know say the same thing every time: “The most important thing an individual can do is not be an individual. Join together—that’s why we have movements like 350.org or Green for All, like BlackLivesMatter or Occupy. If there’s not a fight where you live, find people to support, from Standing Rock to the Pacific islands. Job one is to organize and jobs two and three.”

And if you have some time left over after that, then by all means make sure your lightbulbs are all LEDs and your kale comes from close to home. 🐦

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*Environmental author and activist Bill McKibben is the founder of 350.org, an international climate change campaign. A version of this article appeared at [www.ecowatch.com/bill-mckibben-climate-change-2041759425.html](http://www.ecowatch.com/bill-mckibben-climate-change-2041759425.html).*



# Living Energy Farm: An Answer for Climate Change

By Alexis Zeigler

**L**iving Energy Farm (Louisa, Virginia) is a community of people who support themselves without the use of fossil fuel. Our project has been built at modest cost so it can be replicated around the world. Living Energy Farm is a fully operational farm and community, not just an idea. LEF empowers us to dramatically reduce our dependence on the corporate economy, and it represents a viable solution to climate change.

There is a great departure between the physics of renewable energy and the politics of renewable energy. For the most part, renewable energy does not work on the individual level, nor does it work on the industrial level. Village-level use of renewable energy allows for a level of centralization and integration that makes renewable energy work fantastically well.

We have cooperative housing at LEF, not free-standing, single family houses, not “tiny houses.” Cooperative use of resources is by far our most important “technology.” Shared use allows us to acquire and build and integrate much, much better housing, water, and agricultural systems, and the various tools we need to support ourselves.

We build with straw bales by simply stacking them inside of a stud-frame wall. This is a fast and cheap way to build super-insulated buildings. This style of building is also well suited to large crews of unskilled workers who show up at community building parties. We can afford good insulation because we have pooled the labor and money of the people who share the use of the house. Our solar heating and cooling systems are both highly effective for us, and impractical for small houses.

At LEF, our main solar rack is six 30 volt photovoltaic solar electric (PV) panels. They are stacked in series. When you stack PV panels in series, just as when you stack batteries in a flashlight, the voltage adds up. So  $6 \times 30 \text{ V} = 180 \text{ volts}$ . Industrial motors are easily found for 90 V and 180 V DC. High voltage allows us to use small wires, and high voltage motors are cheaper and more durable than low voltage.

Storing electricity is expensive. The national electrical grid is powered mostly by massive

coal plants that run all day and night. Constantly generating electrical power means they don't have to store it. But that comes at enormous environmental costs. Off-grid houses, on the other hand, usually rely on PV and use large sets of lead-acid batteries which are toxic, explosive, and short-lived. That is a poor solution.

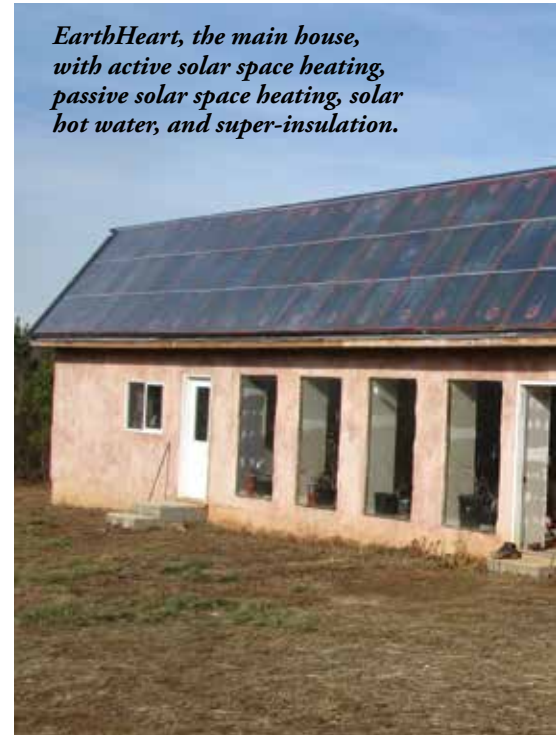
At LEF, we do not have lead-acid batteries to support our houses or agricultural buildings. At LEF, we do not have any AC outlets or inverters because we don't need them and because such outlets are too easily treated as free energy, and thus encourage excessive use of electronic gadgetry. A lot of off-grid designs fail when the users plug in too many gadgets.

At LEF, we use electricity in two ways. The 180 volt PV rack supports “direct drive” equipment. That means a wire runs from the PV panels to the motors directly. That means no batteries necessary, no fancy electronics, no computerized controllers or thermostats, nothing but DC motors tied directly to the PV panel. The design of the DC motors has not changed since the 1800s. With direct

*Solar cookers at LEF.*



*EarthHeart, the main house, with active solar space heating, passive solar space heating, solar hot water, and super-insulation.*



drive, sun comes up, motors run. Sun goes down, motors stop. It's that simple. (We also use some smaller, modern DC "brushless" motors. Brushless motors are durable, but they are not available in larger sizes. They are also black boxes. If they stop working, there is nothing you can do about it. Brush motors are a simpler technology, though they do require some maintenance.)

An interesting difference between AC and DC equipment is that DC equipment tolerates overloading while AC does not. Imagine you wanted to accomplish a particular task, say grinding grain for instance. If you use an AC motor, then the instant there is any weakness—if the batteries fade or the inverter gets overloaded—the system shuts down. At LEF, our main 180 volt PV rack has a nominal output of about 1.5 horsepower. But with DC motors, they tolerate a huge range of power and voltage input. We can run motors when the sky is cloudy. The motors slow down, but they keep working. We can severely overload the system, turning on numerous motors adding up to two or three horsepower. Each motor slows a bit, but they still keep doing their job. Nothing shuts down until the sun goes down.

Our goal with our direct drive economy is to build machines that are cheap and effective, and to store energy in forms other than electricity. At LEF, we have slightly larger than normal water storage tanks. We have a DC well pump, not an AC pump, wired to our 180 volt PV rack. (Sun Pumps, Robison, and Grundfos are the companies with high-quality DC pumps.) Once or twice a day, we turn a small timer and charge the storage tanks. The



*Food dried in the solar drier, a staple at LEF.*



*Lighting in the living room: 24 watts lights up a large space.*



*Woodgas-powered tractor.*

pressure does fluctuate, and we have pay attention to what we are doing relative to the weather. That being said, we have all the water we need for domestic use and agricultural irrigation needs. There is certainly some embedded energy cost in making the equipment we use, but once installed we can use that equipment as much as we want without creating any pollution whatsoever. We have a high-output, reliable water system at about 10 percent of the cost of the “normal” off-grid model. The “integration” part comes in with all the other uses we get out of that 180 volt rack.

We have homemade, cheap, solar hot air collectors on the roofs of our kitchen and the main house. (The kitchen is separate from the main house in southern dog-trot tradition, thus keeping the heat out of the house when we are cooking and canning in summer). We have 180 volt direct-drive blowers that pull heat off of these hot air collectors and pass through coarse rock under the house and the kitchen. Again, the blowers simply come on and go off

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**We have been led to believe that living sustainably is difficult, expensive, reliant on new technologies, and involves personal discomfort. None of that is true.**

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with the sun. “Normal” solar heat storage has historically involved bizarrely complex systems using storage tanks, rock beds, and all manner of computerized controllers and pumps. We skip all that. The high-tech storage medium under the floor at LEF is dirt.

In the summer, the irrigation water headed to the fields passes through the house first, sucking the heat out of the house on its way. Presto: free air conditioning. This, again, is something that only works on a village level.

Our 180 volt solar rack also powers any mechanical devices we need. These include a grinder that grinds our grains into flour, as well as all manner of woodworking and metalworking machines. We can run any of the woodworking or metalworking equipment you would find in a woodshop or machine shop with our 180 volt DC motors.

Our bottom-line fuel is firewood. We use very little firewood compared to other “homesteaders,” but we do use some. We collect dead wood, and cut it with manual cross-cut saws in the forest to get it small enough to haul home. (That’s quick and easy.) Then we have a 180 volt DC buzz saw (buck saw) that efficiently cuts the wood into stove lengths. The saw is faster, and less dangerous, than a chainsaw. And it runs on sunshine, direct-drive, no bat-

teries, no fancy electronics.

At LEF, we use 12 V DC LEDs for lighting at night. Candles and lanterns would in theory be another option, but for daily use they are neither cheap nor effective. Also, burning your house down is not particularly sustainable. DC LEDs are tremendously efficient. It takes two three-watt bulbs (six watts!) to light a room well enough to read the fine print in a book in the evening. The DC LEDs we use are, like the DC motors, tolerant of voltage variation. The LEDs we have are mostly rated for nine to 30 volts. A larger community would benefit from a 24 volt system for lighting.

To power our LEDs, we use nickel-iron (NiFe) batteries. NiFes have an interesting history. We have a battery from an old miner’s lamp that is decades old. It was made by Thomas Edison’s company and has his signature right on the side of it. The amazing thing about this ancient relic is that it still works! NiFe batteries last a long, long time. To our knowledge, they are the only battery technology ever developed that does not degrade with each charge cycle. That, in theory, gives them an infinite lifespan, but in practice that’s not quite true. Lead-acid batteries are delicate compared to NiFes. Lead-acid batteries are damaged by too much discharge of current. With NiFes, you can discharge them all you want and not hurt them.

NiFes were in heavy use in industry 50 years ago. If they are so good, why are they not used more? There are a couple of answers to that question. NiFes are large, heavy, and expensive relative to their power output. They are the opposite of a cell phone battery in every way. The modern power-hungry world has opted for short-lived, high-output, compact batteries instead.

In moving toward taking the LEF model to villages around the world, we realized that people living in non-industrial societies are often reliant on cell phones. If we in Virginia separate ourselves from commercial media, it is no big deal as we have numerous other means of access to information and resources. We cannot demand the same of villagers around the world. To test our low-voltage NiFe system, we have tied an automotive cell phone charger (as would plug into a cigarette lighter in a car) into our 12 V NiFe lighting system. We have found that we can charge as many cell phones and personal devices as we want, for ourselves, interns, and visitors, and the system has held up well. Charging directly from DC to DC (without going through an inverter) is much more efficient.

We earn our living growing open-pollinated seeds that we sell in bulk to seed companies. To plow our fields, we use a woodgas tractor. Woodgas was the technology that kept Europe from starving during World War II. When Europe was cut off from fossil fuel in the war, much of the agricultural equipment was switched to woodgas. It is a complex and fussy process compared to other biofuels, but the feedstock (woodchips) does not compete with poor people’s food as is the case of biodiesel and ethanol. Woodgas is made easier by the fact that thousands of people are using it, there are email lists for information, and several companies are making equipment. Our bylaws say that we use woodgas on the farm only. There is no biofuel that can power the American fleet of cars sustainably, and anyone who tells you otherwise is lying.

We have had draft animals on the property, and may again in order to assess their sustainability. Draft animals are much better from a self-sufficiency standpoint, as they can eat grass and regenerate themselves. But from a global sustainability standpoint, small tractors (in addition to hand work) are probably more sustainable than draft animals. Humans and our domestic animals now comprise a stunning 96 percent of the terrestrial zoomass (total weight of animals) on the planet Earth. Of everything we do, keeping so many ruminants makes them the largest single contributor to both species extinction and greenhouse gases. Draft animals are often integrated into the food production system of traditional farms. We favor a diet that contains as much home-grown food as possible. Given the financial and environmental costs of animal-based foods, both on our farm and the world at large, our diet is primarily focused around plant foods. Even though draft animals are clearly much less industrial than a small tractor, the tractor is probably more sustainable in a world of 7.5 billion people.

Finding sustainable and pleasant ways to cook food has been our biggest challenge. Currently we use both solar ovens and solar parabolic cookers. The parabolic cookers are less well-known, but more effective. They cook better in sub-optimal conditions. Numerous companies make models for sale, and they are not hard to build. Solar ovens can be purchased or homemade, but they need to be well designed to work well.

When there is not enough sunshine, we use a number of different wood cookers. Rocket stoves are the most efficient, though as with solar ovens, good design matters. (Stovetecs are great.) We have a little oven called a Butterfly that sits on top of any woodstove. It works okay. We have



an Amish-made wood-fired canner that works great. It allows us to can a lot of food very quickly and efficiently in late summer. (Made by D.S. Machine in Pennsylvania; no website.)

We grow a lot of our own food. Some of our seed crops (like peppers) supply both food and seeds at the same time. We grow a lot of vegetables, and we are expanding our production of staple foods. We also grow naturally disease-resistant fruit and nut trees. Trees are one of the most resilient forms of agriculture because they have such enormous root systems. Tree foods also represent a zero soil erosion form of agriculture. We have done a lot of work to figure out which tree foods work well.

Growing all that food means we need to preserve some of it. The solar heating system for the kitchen doubles as industrial-scale food dryer (more systems integration that is only possible in a village). We simply divert the air that would normally be forced under the floor through a closet around the blower. The air is heated with sunshine and blown about with 180 V DC power. We can stack many layers of food-drying screens in the closet around the blower. We can dry large volumes of food quickly and efficiently, and with zero emissions.

We have been led to believe that living sustainably or reducing our “carbon footprint” is difficult, expensive, reliant on new technologies, and involves personal discomfort. None of that is true. Living a comfortable and happy life supported by renewable energy is easy if we are willing to adjust our lifestyles to the rhythms of nature. That’s not what we are doing currently. The reality is that most of the people in the world today live a low-impact lifestyle because they cannot afford otherwise. Poorer people all over the world share resources and support each other. But consumption is power, and in order to hold onto that power, we hide behind grid-tied solar electricity, windmills, grass-fed beef, and a host of other layers of pale green paint slathered over consumer society. Real sustainability means that we have to share resources and live with some degree of modesty. And we have to call the Earth sacred. It is clear that mountains of facts will not convince us to change. We are destroying the sacred living Earth even as we sit and jabber about the ecological holocaust. The answers are not difficult. It is time we embrace them. 🌱

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*Born on a largely self-sufficient farm in rural Georgia, Alexis Zeigler is a self-taught activist, builder, mechanic, writer, and orchardist. He has organized numerous successful campaigns focusing on political, environmental, and economic localization issues. He is currently helping to build Living Energy Farm ([livingenergyfarm.org](http://livingenergyfarm.org)), a zero-fossil-fuel farm aiming to be economically self-sufficient. He released the book *Integrated Activism* (North Atlantic Books) in 2013.*



*Direct-drive solar tools, grain grinder (in use), compressor, and bench grinder.*



*NiFe batteries: robust, nontoxic, and long-lasting, they power LED lighting at LEF.*



*Cutting firewood with direct-drive solar power.*

# Limiting the Damage of Climate Change: LESSONS FROM DANCING RABBIT

By Maïkwe Ludwig

*Note: this article is adapted from the forthcoming book, Together Resilient: Building Community in the Age of Climate Disruption, available from the ic.org website, May 2017.*

Communities—whether intentional, traditional, or formed in response to crisis—have a major advantage over individual efforts to address climate change: the ability to leverage sharing and cooperation as main tools for becoming more ecological. In my 2013 TEDx talk ([www.youtube.com/watch?v=BS8YeDKKBcU](http://www.youtube.com/watch?v=BS8YeDKKBcU)), I dubbed cooperation the “Mother of All Sustainability Skills.” Note that I frame it as a skill. Skills are learnable, and require regular practice to get (and stay) good at them. While cooperation is not a skill we are taught very much in our American education system, community living provides an immersive course in it. The members of almost any intentional community endeavor are going to have a lower ecological and carbon footprint than most of their go-it-alone neighbors are, because all communities share and cooperate to some extent.

## Dancing Rabbit Ecovillage: A Case Study

The community that I know the best is Dancing Rabbit Ecovillage. I first visited DR in the spring of 1998 (the spring after the founders bought a piece of rough land in rural Missouri that had most recently been an abandoned pig farm). Thus commenced a very slow-motion courting process with the community: visiting, living there for short stints, going away again to try to form community somewhere else, visiting again, and then finally in 2008 moving back and staying for over eight years. I got to see a community go from the visionary stage, with Tony Sirna and Cecil Scheib saying to a group of us the first time I toured the community, “Someday a whole village will be here!” to being myself a central community member of that village and its nonprofit, living and breathing the reality of sustainability.

The founders did a lot of things right. Bucking conventional wisdom (or perhaps more fairly, stereotypes) these just-graduated-from-college smart young folks started from a place of relative humility and sought out a pre-existing community to be a mentor for them. That community, Sandhill Farm, had been started in 1974 by a group that included the Fellowship for Intentional Community’s primary staffer for several decades, Laird Schaub. Laird is an expert in social dynamics, and

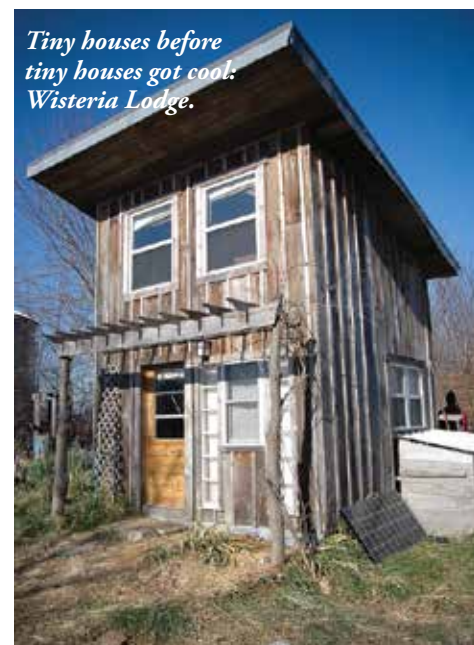
between the basic sensibility of our founders, Laird’s wise counsel, and the lived experience of all the Sandhill members, Dancing Rabbit understood early on that the social dimension was incredibly important. (In fact, it is the most common place of failure in trying to have viable community. Most groups that fail do so because of a breakdown in conflict resolution skills, lack of facilitation skills to keep decision-making moving along in a solid way, or a general lack of understanding of the immense cultural shift they are taking on in moving from a competitive to a cooperative framework.)

The founders also set some very high bars on the ecological front for people joining. Six ecological covenants form the central agreements people make with each other and the community when they join. Here’s the current iteration of those:

1. Dancing Rabbit members will not use personal motorized vehicles, or store them on Dancing Rabbit property.
2. At Dancing Rabbit, fossil fuels will not be applied to the following uses: powering vehicles, space-heating and -cooling, refrigeration, and heating domestic water.



*Rae and Illy building their strawbale home.*



*Tiny houses before tiny houses got cool: Wisteria Lodge.*

3. All gardening, landscaping, horticulture, silviculture, and agriculture conducted on Dancing Rabbit property must conform to the standards as set by OCIA for organic procedures and processing. In addition, no petrochemical biocides may be used or stored on DR property for household or other purposes.

4. All electricity produced at Dancing Rabbit shall be from sustainable sources. Any electricity imported from off-site shall be balanced by Dancing Rabbit exporting enough on-site, sustainably generated electricity, to offset the imported electricity.

5. Lumber used for construction at Dancing Rabbit shall be either reused/reclaimed, locally harvested, or certified as sustainably harvested.

6. Waste disposal systems at Dancing Rabbit shall reclaim organic and recyclable materials.

That's a lot of things that the community regulates, but note as well how much they don't regulate. They say nothing about dietary choices, the square footage of homes, use of plastic or electronics...all of which are certainly ecologically impactful. The DR founders made a deliberate choice to regulate a handful of things that they believed were both very impactful on a person's (and therefore a community's) ecological footprint, and relatively easy to track, but that were less likely to lead to neighbors policing each other's behavior in an invasive way.

A policing environment is a common downfall of many well-intentioned sustainability projects: the holier-than-thou are, frankly, notoriously hard to be around for any length of time, let alone live with every day.

The founders had good discernment about what to regulate and not. For example, hiding the existence of a personal car on the property is hard enough that people don't try. Thus, from a "let's avoid policing" standpoint, banning personal car usage is relatively safe. On the other hand, smuggling a bag of Cheetos and a burger into the community would be sorely tempting (and a heck of a lot easier to get away with) if there were rules to be broken about meat or junk food consumption, and suspicions that someone is violating a rule can lead to all kinds of bad feelings.

I believe this particular filter of the DR founders has served the community well over the years. The danger is that people will conform with just this relatively limited list of restrictions and then have otherwise horrible practices, leading to very spotty gains in ecological progress. However, it turns out that happens only up to a point, and no further, because of the nature of consciousness.

DR members rely on people's ability to self-sort. They trust that people will apply to live in a place like DR only if they have a generally high level of consciousness around ecological practices. The high standards of the covenants help create a kind of litmus test for that. Frankly, if an American is willing to pry their hands off their personal car keys (one of the most amazing processes of consciousness shift you'll ever see) they are probably willing to do a lot of things, whether someone is standing over them demanding it or not. And to a large extent, that works at Dancing Rabbit.

So what has the impact been of Dancing Rabbit's set-up? Anthropologist Brooke Jones did her

Master's Thesis work on Dancing Rabbit's ecological practices, and later returned to continue collecting data. Here are the 2015 statistics she identified, expressed as the percent of average American consumption:

- 19 percent of water, over half from rainwater catchment (8.5 percent of municipal-source water)
- 13 percent of landfill waste, while doing higher than average recycling
- 14 percent of the US average of electricity used, including most of their business activities, and a net exporter of solar power onto the grid
- 5 percent propane/natural gas
- 6 percent of fuel for vehicles, owning 7 percent of the cars

Based on climate-related data I've studied and conversations with others even more up to

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**If an American is willing to pry their hands off their personal car keys, they are probably willing to do a lot of things.**

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their eyeballs in data than I am, a 90 percent per capita reduction from current average American carbon emissions is the level I believe we need to achieve to live sustainably in the modern world. The numbers above put Dancing Rabbit right in the ballpark of that magic 10 percent mark in the areas measured. This very concrete example shows that sustainable is possible in these areas, and that community is a viable pathway to a low consumption future.

Two sets of data not included above are food and buildings. Jones learned in her early days of data collection that both of these categories are



*Car sharing at Dancing Rabbit.*



*Nathan chopping firewood.*

complicated to measure. Where the community car-sharing program makes it relatively easy to track miles driven in a year, the many sources of food community members rely on makes food footprints very hard to accurately measure. Same goes with buildings: a lot of factors go into determining the ecological and/or carbon footprint of a building (including the materials used, the distance they were shipped, the size of

the square footage is considered to be the best predictor of carbon footprint of a building (see [www.opb.org/news/blog/ecotrope/graphics-reducing-energy-emissions-with-smaller-homes](http://www.opb.org/news/blog/ecotrope/graphics-reducing-energy-emissions-with-smaller-homes)). Dancing Rabbit has one of the highest concentrations of natural buildings in the Midwest, including a number of strawbale and cob buildings, which are built using clay from their own property, straw from about 20 miles away, and sand from a local quarry. The ecological covenants also limit what wood can be used in construction to reclaimed lumber, locally sustainably harvested, and certified sustainable lumber. Most buildings also make use of passive solar and other green design techniques. Finally, none of them are heated with fossil fuels. (Technically, when someone is running an electric heater at night they may be pulling some coal-produced electricity from the grid, but it is more-than-replaced during the day by exported clean solar power).

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## When we think about solutions to climate change, we need to look not only at reducing negative impacts, but also at increasing our positive ones.

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the building, and use of things like passive solar techniques...and then there is variation in how different renters or owners might occupy that building). It is hard to get really good numbers, especially on a low research budget.

Here's what we do know about Rabbit building and food practices, all of which bode pretty well for their having a noticeably lower than average footprint in both areas. Rabbits have, on average, about 30 percent of the personal space of most Americans, and, since 80 percent of the carbon emissions in the life of a building come from occupying it (largely heating and cooling),

other nearby intentional communities (one less than a mile away and the other three miles away).

So we know Dancing Rabbit's food and housing practices differ from standard American practices, and are likely to produce lower carbon emissions, but we don't know the exact percentages the way we do from Jones' work in those other areas.

As the statistics above show, in terms of water usage, while the community does not choose to regulate it, it is still using a fraction of an average American's water per capita. Same with the number of miles driven—no rule prohibits being a gas hog, but the combination of community systems discouraging commuter lifestyles and casual car usage and the high degree of consciousness among people who join the community adds up to a very strong showing in the fuel conservation category. Witness also that the farmers growing organic food on the property have a lot of local buyers for their products, even though the community doesn't say you have to eat locally and organically. Thus, the idea that people who are willing to live with a strong batch of regulations are also likely to have consciousness beyond those particular regulated areas seems to be true at Dancing Rabbit.

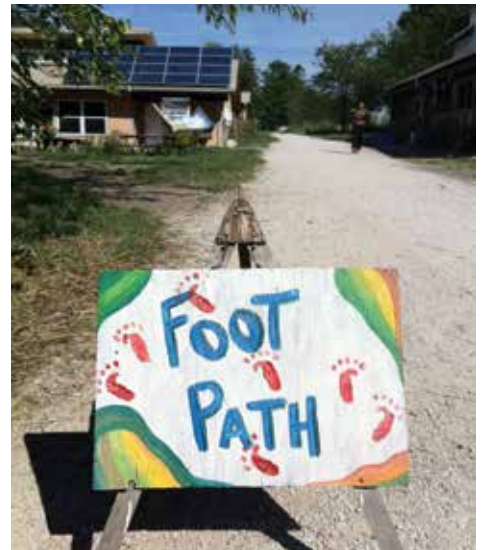


*Khaki Campbell ducks romping through the yards.*

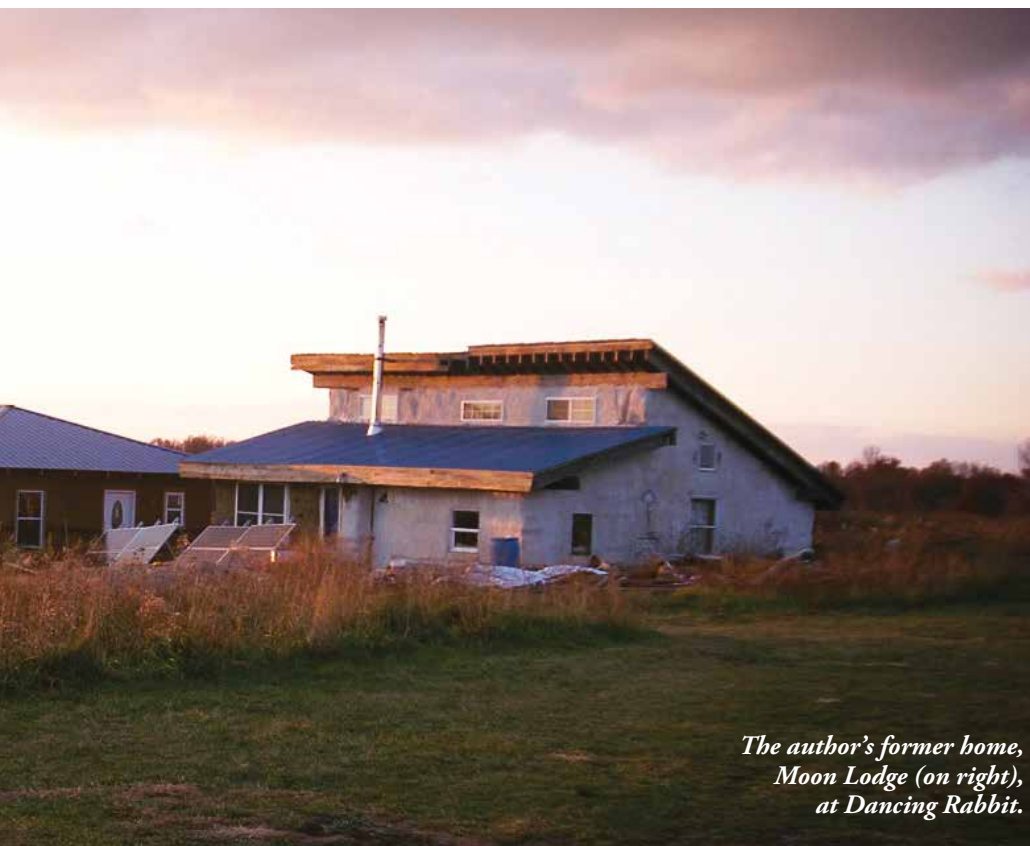




*Many hands make light work.*



*Canning.*



*The author's former home, Moon Lodge (on right), at Dancing Rabbit.*

Obviously resource use reduction and carbon footprint reduction are not identical, but they are very closely related. Dancing Rabbit also engages in a number of activities that positively impact their carbon footprint (such as having planted about 15,000 trees over the years). Thus, when we think about solutions to climate change, we need to look not only at reducing negative impacts, but also at increasing our positive ones, and DR deserves credit for working both ends of that equation.

Dancing Rabbit is an excellent example of what a group can do with a very strong focus on the social and ecological dimensions, and with strong enough worldview articulation early on. (In addition to the ecological covenants, Dancing Rabbit has sustainability guidelines that are more philosophical in nature and provide significant food for thought for members: [www.dancingrabbit.org/about-dancing-rabbit-ecovillage/vision/sustainability-guidelines](http://www.dancingrabbit.org/about-dancing-rabbit-ecovillage/vision/sustainability-guidelines).) They also made some very good decisions that set up their members to be able to operate with only one foot in the wider, unsustainable economy (though my sense is that the economic-dimension strengths of DR have evolved over time, not as carefully crafted by the founders as the social and ecological dimensions were). The choices to locate in a place with a low cost of living, to de-emphasize car culture and materialism, and to strongly emphasize resource sharing and casual labor swaps have led to the community being relatively economically accessible (especially for people who are either able-bodied or have strong skills that can be sold on the internet).

Another economic feature of Dancing Rabbit took longer to catch on but now colors the life of the community very strongly: the ELM system. ELM stands for "exchange local money" and is one of the most used local (or complementary or alternative, depending on what language you prefer) currency systems in the world. As far as we know, DR is the only place in the world where someone can pay for their food, housing, trans-

portation, and utilities using entirely a local currency. Most local currency programs have found that the biggest barrier to being viable is people not being able to pay for some basic service with it. At DR, you can pay for nearly all of your basics with it. Thus, the ELM system has a very high annual per capita use rate: 10,840 ELMs are exchanged per year per person on average.

A couple other important features of Dancing Rabbit relate both to its carbon footprint and to its viability as a community socially: the option of subgroups (or subcommunities) forming for various purposes, and a particular form of subgroups, the eating co-ops. So far, the longest running of the subcommunities was Skyhouse, an income-sharing group within Dancing Rabbit that lasted for 16 years, and that also spawned Sky Kitchen, one of DR's numerous eating co-ops. These options are important because they give people in the village different economic, spiritual, and social options without the whole community having to get on board with deeper values alignment.

I characterize Dancing Rabbit as a village whose main structure is a series of overlapping cooperatives. These cooperatives give people the option of being part of deeper resource, income, and labor sharing, or choosing to be more independent. So you can be part, for instance, of the shower co-op at the Common House, or you can construct your own shower facilities elsewhere. Same with landline phone service, internet access, grid-tied electrical service, and the humanure system, all of which are formal co-ops anyone in the community can join or pass on. Co-ops have also formed around agriculture (e.g., the goat and chicken co-op) as well as any number of eating scenes, hosted in structures (including both standard-looking kitchens and seasonal outdoor kitchens) that are large enough to accommodate daily cooking for eight to 30 people.

This makes Dancing Rabbit pretty unique: you can live in this community and live your life as communally as you want, or you can live there and share only a few resources with others (the Common House and land are required to share, and if you are going to drive a car, you need to be in the Dancing Rabbit Vehicle Co-op). One of the best things about that is that as your needs change, as they tend to do when people are in different life phases, you can stay within your same community and just change the amount of communal versus independent aspects of your life.

Most intentional communities are designed with more of a one-size-fits-all model—you either income share, or you don't; you cook and eat all your meals together, or you don't; you have a shared electrical grid, or you don't. At Dancing Rabbit, all of those are options, and you can try out different things over time...without losing your social support network by having to leave the community to do it.

Finally, Dancing Rabbit is a fascinating mix of how to relate to technology use. While the

community relies heavily on email communication and other electronic systems (the car-sharing system, bulk food ordering, local currency, and aspects of decision-making all require people to get on a computer with some regularity to be able to fully participate) there is a wide range of other relationships to technology.

Some people's homes look very similar to a standard middle-class American existence: running water, kitchen gadgets galore, electricity backed up by grid power so you have just a few days without power as anyone else in the wider neighborhood. And these homes were often built using power tools, sometimes even with heavy equipment to dig foundations and place beams.

Other homes are basically a glorified bedroom, with no electricity or running water—these residents rely on the Common House or other cooperative infrastructure to get those needs met. Some were built with hand tools only (or very rare use of limited power tools) and lots of work-party muscle to get things done.

Most houses fall between these two extremes. And that's OK. One of the cool things about Dancing Rabbit is that those variations are all OK. While occasional tensions arise around these issues, for the most part I experience Dancing Rabbit as being both a relatively judgment-free zone about those choices, and a place that deliberately celebrates the diversity of choices as legitimate expressions of sustainability.

Among other things, this can make it easier for people of various levels of financial means to make it work. It also helps with more diversity in able-bodiedness: if you need your water to come out of the tap (as opposed to hauling it), have some gadget for medical reasons, drive places instead of biking, or have a brick walkway leading up to your door, that's all fine. On the other hand, if you want to get by on \$3,000 a year of income and do a lot of stuff yourself without investing in modern conveniences, that works, too.

When I think of what the future might look like for all of us, living more sustainably, Dancing Rabbit features very large in my vision. This community has pulled off some remarkable achievements, without governmental approval or support (aside from a Department of Natural Resources grant to build a pond for erosion control, and some Conservation Reserve Program funding); without the use of any fancy technology (beyond what is widely available, currently on the market); and with using learnable social skills such as deliberation, compassion, and cooperation as their main go-to's to figure things out. While this took strong intentionality, and this group was fortunate to be able to put together initial funding from members, friends, and families, there is nothing magical or non-replicable about what this community has done. In many ways, this was regular people with clear vision banding together for the benefit of us all. 🐦

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*Ma'ikwe Ludwig has lived in community for two decades and is now part of a forming income-sharing ecovillage in Laramie, Wyoming. She serves on the FIC's Board of Directors, and is currently the Executive Director of Commonomics USA, an organization that works to bring together economic and ecological justice in the form of tangible legal, economic, and community systems. She is the author of one previous book, *Passion as Big as a Planet*. Ma'ikwe does regular training and consulting with communities and nonprofits on group dynamics, functional consensus, and integrated sustainability models, with cooperative culture development being a main theme of all of her work.*



**Hassan teaching Permaculture Design Certificate course students proper cob consistency.**

## A Four-Dimension Analysis of Dancing Rabbit

Dancing Rabbit is a prime example of a “Four-Dimension Community,” one whose strengths derive in part from having engagement in all four areas the Global Ecovillage Network’s curriculum says are necessary for deep sustainability. Here’s a quick glance at ways I see the community doing well in these areas.

### Worldview

- The community started with a clear vision, and took the time to articulate not only the covenants but also the more philosophical and challenging questions of how to re-think our relationship to the planet, each other, and global ethics.
- The recognition of the need for personal growth work has grown steadily over the years at Dancing Rabbit, and the visitor program (designed to introduce people to what they would need to know and work with if they joined the community) has a workshop on inner sustainability.
- The community has rituals that help reinforce the culture change that is happening, corresponding to both the annual calendar and the weekly rhythm of the community. And while these rituals are not religious, the community derives a sense of bonding, stability, and connection from these that is absolutely worldview-changing.
- The community has used consensus all along, which directly undermines the “in it for myself” worldview of wider American culture.
- Similarly, having a strong commitment to not being a commuter culture is a big worldview shift for Americans. Cars represent so much of Americanism: independence and freedom, casual consumerism—and even have become a symbol of adulthood. To let go of our primary relationship with the car is a big deal.
- Direct contact with nature is a large feature of most people’s lives. Much of the community’s food is grown right on the land; no roads are paved within the community and most people get around on foot through woody walking paths; and people frequently take longer walks on the 280 acres of land (most of which is designated as nature preserve). The natural world is a significant player in the community.
- DR practiced humility and a willingness to learn from other communities who had gone before them, a key element in their success. This humility continues in having an EcoProgress Committee, and regularly bringing in new trainers of new techniques.

### Social

- Nonviolent conflict resolution is important at DR, and the community has put in place expectations, processes, support structures, and regular trainings to reinforce this.
- As noted above, consensus brings people into relationship with each other in a way that voting systems don’t. The community also does regular training to build their skills in decision-making.
- There’s a lot of collective fun created in the community—parties, float trips on nearby rivers, movie nights, telling of life stories, regular meal sharing, both planned and chance encounters at the swimming pond, and daily happy hour at the cooperatively run restaurant and B&B.
- Work parties get things done. Work is also a shared sphere, rather than an isolating one for many Rabbits.
- Systems support sharing: for instance, the online car sign-up is paired with time at the community’s weekly coordination meeting to make for smooth sharing. Systems are also in place for the cleaning and maintenance of community assets (cars, the Common House, and the land) which helps with responsible management of the Commons.
- Dancing Rabbit’s commitment to be a model and teach others means that thousands of people each year benefit from learning new skills and techniques, and being inspired to see that sustainability is indeed possible.

### Economic

- The ELM system has a large impact—the money created in the community is used to provide interest-free financing for community entities, helping members put some distance between themselves and the predatory banking system. It also encourages people to think in terms of spending locally and keeping their money circulating within the local economy.
- Extensive barter and casual labor-sharing mean reduced expenses and a more human-engaged way of getting needs met.
- The choice to locate in an inexpensive part of the country, while challenging in terms of lack of job opportunities, served to both reinforce the “not a commuter culture” ethic of the community and make it more financially accessible for many people to join.
- No join fee means there is not an economic barrier to getting into the community.
- Collective buying power is put to work in many ways, including paying for the land, having access to equipment such as a big truck and a tractor, and even starting their own electric company to invest in a much bigger solar array than anyone could have done individually.
- The community has a very tight wage ratio (2:1), meaning that no one working for an official community entity can be making more than twice what the lowest paid person makes. This embodies economic justice and equity values.
- One of the best known businesses at Dancing Rabbit, the Milkweed Mercantile, recently went from being privately owned to being a cooperative.

### Ecological

- Talking ecological issues is normalized in the community, allowing the problems in our world to be on the table, and therefore solvable with collective creativity.
- Meeting the ballpark 10 percent mark in resource consumption is a remarkable achievement; stay tuned for data on more categories.
- The most radical aspect of DR’s ecological practices is the car co-op: four cars are shared by the full community, which has been as large as 65 adults in the last decade.
- Land stewardship is a big deal: the community has planted about 15,000 trees during its tenure, and there are several committees that work on the community’s relationship with the property (from long-term planning, to insuring buildings are placed and constructed in as nurturing a way as possible, to planting those trees and other land management tasks).
- The net export commitment with green electricity insures that the benefits of DR’s cooperative lifestyle extend beyond the borders of the property.
- Not resting on its past achievements, many people at DR embody a lifelong learning ethic. One of the current manifestations of this is a partnership with Midwest Permaculture, where many DR residents are able to get holistic design training in permaculture to help improve the overall community practices as well as design better individual projects.

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# Soil, Communities, and Climate Change: AN INTERVIEW WITH NIKKI SILVESTRI

By Chris Roth

**N**ikki Silvestri is an advocate for climate solutions, healthy food systems, and social change. She is cofounder and CEO of Silvestri Strategies, a project design and management firm working to support thriving communities, economies, and natural environments. In early adulthood she was a member of Los Angeles Eco-Village—an experience she describes as transformative. After she spoke at “After Fossil Fuels: The Next Economy,” a climate change conference held at Oberlin College October 6-8, 2016, COMMUNITIES editor Chris Roth requested an interview, which happened on December 5, 2016. Here’s an edited transcript of that conversation.

**Nikki:** We can start with me telling you a little bit about my climate change and communities journey.

I have been working in the climate and food systems field for about a decade now, I started in green jobs with Green for All, working on infrastructure projects. We focused on how you can lift people out of poverty while building a green economy, through water projects and through rebuilding our energy infrastructure. How do we make that a wealth-building opportunity for those who have been most disadvantaged by climate change?

While doing that work I was really interested in food systems. And so I went on to become the Executive Director of People’s Grocery [in Oakland, California], which is a food, economic development, and public health organization which is local and is also really trying to build wealth. I then returned to Green for All as Executive Director. So I bounced back and forth between food systems and climate change because they are both my loves. I really wanted to figure out how to merge the two. And Soil came up as the place to do that.

So much of the climate work that is happening right now focuses on reducing carbon emissions—which is good and necessary. At the same time, carbon is not a bad thing, it is just in the wrong places right now. Not enough of it is in the soil, and too much of it is in the atmosphere. Carbon drawdown efforts are not as sexy or as publicly acknowledged as efforts to reduce carbon emissions. So that’s what I work on: bringing carbon into the soil so that it can improve everything about the soil. Soil is one of the cornerstones of life.

**Chris:** Big agriculture seems to be enormously powerful, and able to push the focus of environmental or climate change efforts toward certain areas and away from others—as illustrated in the movie *Cowspiracy*, which reveals the huge amount that cows and animal agriculture in general contribute to climate change. How can grassroots soil- and food-system-related climate-change work be effective in the face of larger-scale economic forces that try to keep agriculture’s role in climate change quiet?

**Nikki:** A few things come up for me. One thing is that *Cowspiracy* is a perfect example of very well-intentioned people who lack a frame through which to think about agroecology and ecosystems management. Their good intentions get directed in the wrong way. But they are one step away from the truth. It is true that cows are horrible to the environment, absolutely horrible. It is also true that done right (with rotational grazing in the right environment), using cows is one of the quickest ways to rebuild soil. There is just no neutral ground.

It is not possible to manage an ecosystem well without looking at the full cycle of life. Which means that things die, including animals. And humans are a part of the ecosystem, so us not killing anything that lives doesn’t make sense. But that is from an agroecology standpoint. And...that bigger picture message is a systems-thinking kind of message, which can have a hard time getting through when we are an outcomes-based, linear system.

My projects aim to connect those at the top who have the ability to change the larger story with the practitioners on the ground who are doing the work. One example is a concept paper that I worked on with the Carbon Cycle Institute, linking the social justice story with the social health story, specifically in the state of California. Because, big picture, the state of California understands this. They have several funds at the state level that use infrastructure and natural resource management money to build healthy soil to meet the state’s climate goals. This was a long time in the making, and it’s a beautiful thing.

At the state level, the Governor’s office understands that climate change plus building healthy soil equals “we’re gonna be ok.” At the practitioner level, how to disperse state-level funds to those who have been most impacted by climate change so that they can build healthy soil is a very complex task. Part of my work is to lay out what those steps can look like, different options for them, to make it easier for the decision-makers to understand how to deploy resources so that we have examples of the good stories working on the ground.

Another project I’m working on that changes the bigger story is the No Regrets Initiative, started by a philanthropist investor who has an investment firm, a foundation, and a 7700-acre ranch. She is deploying all of her resources to having what she calls a Regenerative Asset Management strategy—building healthy soil for climate purposes, because it is the work of our time. She is hoping that other investors and philanthropists will sign on to have no regrets and to have a strategy for climate solutions that not only doesn’t produce any regrets or unintended consequences but that has co-benefits for everybody—both for the land and for communities. That is a massive capital-shifting effort, which will hopefully mean that people who are practitioners get investment. Some of my work is dealing with the money side and shifting private capital, and some of my work is on the government side and shifting public funds. In the big picture, we need capital to deploy the practitioners on the ground. That is a big focal point of my work.

**Chris:** Land ownership and control seem like major issues related to this. If people don’t have access to the land to do this on, they can’t do it. And in agriculture, the scale has gotten larger and larger. I’m not sure how much these practices can be done on a huge scale—whether they can be inserted into a large agricultural model or whether they require a more human-scale operation.

**Nikki:** The beautiful thing is that it is not either/or—which is why I tend to take an ecosystems management frame, versus an agriculture frame. Because agriculture is supposed to be ecosystems management. And from that frame you can look at thousands of acres of forest as a whole system and figure out how to manage



it well, if you're a government. And that is the kind of scale we need to look at our Midwest region with, and California and the Central Valley too. Is this all one region and if we were managing the ecosystem well, how would we do it? If we wanted to grow food and at the same time do animal husbandry, how would we design all of that? It is just a design question. We definitely have the knowledge to do all the design work. The issue is the political will.

**Chris:** How do you muster the political will?

**Nikki:** By telling a story that everyone sees themselves a part of. Another project I'm working on is a paper that is going to lay out natural resource management, regional economic development, and bridging cultural divides. A big part of that paper is looking at the urban-rural split—and how we don't do regional planning right now. We focus most of our resources in the urban communities, and we leave rural communities to fend for themselves—we leave big corporate interests to manage rural communities. That does not bode well for rural communities. What it's felt like is complete disinvestment.

So if we have a vision for climate that is re-

gional and looks at how we manage our natural resources so that we all thrive—the planet, the people, the soil—there's a way to do that. It creates economic wealth for the communities that haven't had access to it. There are examples of that happening right now. An organization called Fiber Shed works with ranchers who raise sheep and do it in such a way that it sequesters carbon. That wool is sheared and that wool is then made into clothing that sequesters carbon. That is carbon negative and they are looking at Fiber Sheds because they want to see how every step in the supply chain of making clothing can be handled in a particular region.

That is the kind of stuff we're going to have to start looking at—regional investment strategies that create supply chains that actually invest in communities and infrastructure that haven't been invested in before. There are markets for it because millennials and those who are slightly older than millennials are more and more interested in knowing where their assets come from. They are not interested in just disposable fashion or just disposable consumerism anymore. A story that inspires around investing in your region is something that is going to rebuild the fabric that we have lost in the last six weeks [since the election]—or perhaps we've just recognized the loss in the last six weeks, but it was lost a long time ago.

**Chris:** I'm less optimistic than I've been in a while because of the election and because I can't help but think that anything that sounds this sensible will strike some people as a bunch of elitist stuff that's being imposed on them. And the people who stand to lose from this—the corporations, and people who make money out of not doing it this way—will also foment opposition to this sort of thing. When presented with these ideas, people in rural areas may find it easy to say, "Here are these outsiders telling us what's the best way to do things," not realizing, of course, that's what's already happened to them since corporations have dominated the discourse up until now.

**Nikki:** Indeed—and we do need to have humility. For the paper about bridging cultural divides, natural resource management, and regional economic development, I interviewed about 35 people across the country. It's going to be their words—people from rural communities who are all about



Photo courtesy of Nikki Silvestri

this, talking about it. The messenger is actually important, and that's part of the point in my mind. The media and our mainstream story right now are really focused on the extremes that aren't talking to each other and that have no reconciliation, instead of focusing on the folks who have always been at the intersections, who don't get any love because our society is oriented toward conflict and oversimplified stories rather than dealing with the complexity of how to make a good idea better.

**Chris:** It seems as if there needs to be a way for people to have ownership of this, to feel they are part of it and contributing to it rather than it being imposed from above.

**Nikki:** Totally! And you know, the point being, in terms of having humility, they already

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## There is always a handful, no matter how homogeneous a community looks, who think differently and are working toward a regional, just, ecologically sound economy.

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do own it. I'm lifting up the neighbors in those communities—there is always a handful, no matter how homogeneous a community looks, who think differently and are working toward a regional, just, ecologically sound economy, but feel isolated. Their stories are everywhere. We just don't have a collective sense of them. And the messengers who can get to everyone who needs to be gotten to are there. They just need to be lifted up.

**Chris:** How important do you think it is that this is framed or thought of in terms of dealing with climate change? I'm thinking about what Arnold Schwarzenegger said, on his panel at the After Fossil Fuels conference: that in California, they had success when they put the focus on human health. When they talked about climate change, people didn't really want to listen but when they focused on human health, that's when their campaign for clean energy had success. What do you think about that?

**Nikki:** I actually don't know that climate and human health are different. There is a way that climate has been used as an obstructive force, because one can argue on whether they believe that humans have an impact on the climate. But if we just looked how human beings thrive in our habitat and whether or not we are thriving, we can't not look at the environment in that question. And if we create the environment in a way that human health thrives, we will solve

climate change—because we will look at all the interconnected systems. So for me, because I'm a systems theorist, as long as the entire system is being attended to, I don't care what the entrance is. I do care, however, that the whole system is being attended to. And there is a way to be sectorial and siloed no matter how you enter—hence doing climate change work that just focuses on reducing carbon emissions and not sequestering carbon; or just focusing on human health work, in a way that leaves out other parts of the story.

**Chris:** So you don't have any thoughts necessarily about it being good or bad to use the term “climate change” when you are doing this? Or would you use it strategically, sometimes and not others?

**Nikki:** Exactly; you figure out what messages work for what communities and use whatever works to accomplish the same goals.

**Chris:** Where can people find out more about carbon sequestration and the soil? How can they start implementing some of these strategies? How can they join a broader project that they can do in their local community?

**Nikki:** First place to start would be to look at the Carbon Cycle Institute website ([www.carboncycle.org](http://www.carboncycle.org)), and then Fiber Shed ([www.fibershed.com](http://www.fibershed.com)) as well. In terms of getting involved in

their local community, there are usually agriculture organizations that build soil. Look at who in the community is building soil, and see if those soil efforts are directly connected to climate—because this is starting to happen all over the place. The USDA recently released several strategies on building agricultural capacity for climate purposes and the President's office, today I think, just released something on that as well. It is starting to get more into public consciousness and people should be able to find it.

From the very small picture to the big picture, it's all important. Small picture, understand soil. That can be having a garden, which can help people in urban communities get connected to natural resource management. A handful of people make decisions on natural resource management in every state. And we all need to be involved in determining the future of our resources, collectively. But if we don't have contact with them because we don't touch them, we don't interact with them, we don't have a visceral understanding of how everything fits together, then we're not going to be able to make good decisions. So, we all have our job to do when it comes to reigniting the democratic infrastructure around how we manage our resources. That's what feels most important to me in terms of what everybody can do.

**Chris:** Do you see intentional communities as having any potential to influence this discussion more than others can?

**Nikki:** Absolutely! Intentional communities that have land are invaluable. When it comes to managing natural resources well, the values are already there. So I want every intentional community that has access to land, right now, to start measuring the amount of carbon they are sequestering through their regenerative management practices. It would be amazing to have collective data on that for the intentional community population. And then intentional and urban communities can do that democratic infrastructure piece and link urban and rural. Urban and rural communities, by and large, are disconnected. The intentional community population has this incredible opportunity to link urban and rural, because the values are collective and shared.

**Chris:** Do you have anything you want to say about your own experiences in intentional community and how that informed what you've done?

**Nikki:** What I'll quickly say is that my time as a member of the Los Angeles Eco-Village deeply influenced the rest of my career. That was where I got into food, that is where I got my first CSA box and had to figure out what kale was. It was profoundly transformative and I feel like I wouldn't be here without learning what I learned in that community. So I am profoundly grateful to the intentional community population. 🌱

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*Nikki Silvestri is cofounder and CEO of Silvestri Strategies, a project design and management firm working to support thriving communities, economies, and natural environments. Find out more at [www.nikkisilvestri.com](http://www.nikkisilvestri.com). Chris Roth is editor of COMMUNITIES.*

# ADDRESSING CLIMATE CHANGE: Two Generations at Heart-Culture Farm Community

By Kara Huntermoon

“I want to *do* something about climate change,” my 12-year-old daughter insisted. The immediacy of her feelings, and her earnest belief that she, personally, could do something momentous left me momentarily speechless. I remember that same urgency in myself as a teenager, before I realized the complexity of the problems facing us. Nevertheless, I have not stopped doing my part to solve those problems.

“We are doing something,” I responded. “We’re planting trees, growing food, and living in community.”

My daughter shrugged me off. This is just her life, nothing unusual. She wants to do something *more* to address climate change.

But for many people, our life *is* unusual. Here’s how those three actions specifically help mitigate climate change.

## Planting Trees

Many people realize that planting trees sequesters atmospheric carbon. Trees inhale carbon dioxide, break it apart, use the carbon to build their body tissues, and exhale the oxygen (dioxide means two oxygen atoms). Besides reducing atmospheric carbon dioxide, trees and forests have several other beneficial effects on local climate, including the water cycle. Trees can prevent and mitigate drought, improve water quality, provide habitat for wildlife, and increase soil health. These are all important factors in mitigating catastrophic global climate trends. Here are some ways Heart-Culture (my community outside Eugene, Oregon) manages trees in response to climate change.

1. Plant more trees. At Heart-Culture, we are planting hundreds of trees as hedgerows and in food forests.

2. Heat with wood. This might seem counterintuitive, but wood can be a carbon-neutral way to heat a home, because the amount of carbon released into the atmosphere is equal to the amount the tree removed from the atmosphere during its lifetime. Fossil fuels (the source of electrical heating in most areas) can never be carbon-neutral. To make wood heat sustainable, use coppice systems, plant trees at the same rate that you are harvesting them, and/or don’t harvest more than the annual growth increment from your woods. Use the most fuel-efficient stove you can afford in order to burn less wood.

3. Manage trees with coppice systems. Coppicing is a traditional form of silviculture in temperate regions with adequate rainfall. Basically it involves cutting a tree down, with the intention that it will grow back from the stump (called a stool). Coppiced trees grow much faster than a new tree seedling, because the mature root system remains underground. Coppiced trees can be used to produce firewood, fencing, tool handles, trellises, construction poles, and pretty much anything else you want to make out of wood. Several oak and ash trees volunteered on the edge of my garden, where they would eventually shade out my vegetable patch. Instead of removing them, I started an annual coppice rotation. Now I have a source for garden stakes and kindling that sequesters carbon and will never grow more than eight feet tall.

4. Brush Piles: Like most of our rural neighbors, we gather brush from landscape maintenance into a pile which we periodically burned. As our thinking about climate change evolved, it dawned on us that we were adding carbon to the atmosphere unnecessarily. Not only that, but we always saw insects, snakes, and birds fleeing for their lives when we burned the pile. Countless beneficial creatures must have died in those flames. We no longer burn the pile; we maintain it as beneficial insect and snake habitat. This means we have a large pile of brush and blackberry canes slowly rotting down near the garden. We keep adding to it, and it keeps rotting down. Instead of escaping into the atmosphere, the carbon is incorporated into the bodies of life forms and into the soil itself.

## Growing Food

Growing food in your own yard means that no fossil fuels are used to transport it to you. This is especially true if you save seed, grow



*Heart-Culture  
Farm garden sign.*

fertility on-site with animals and fertility crops, and preserve the harvest for year-'round use. My daughter sees me in the garden every day, feeding livestock, planting and harvesting, and preserving the harvest.

Hundreds of pounds of apples and squash arrived in our kitchen in a wheelbarrow this week. There are no stickers or rubber bands on this food. No plastic bags. No waxed cardboard boxes. The only gasoline required was to transport the trees to the farm 20 years ago, and the seed packet arrived in the mail. Next year my squash seed will be saved

that support several hundred species of butterfly and moth larvae. Songbirds build nests in the hedges, and feed those caterpillars to their babies.

When we grow gardens that provide yields for other species, not just ourselves, we increase the value of our gardens' ecological services. As environmentalist author Gene Logsdon pointed out, saving an endangered species like the blue whale requires international cooperation; saving an endangered insect species can be accomplished in a single backyard by the attentions of a single gardener. This is even more important in the face of climate-change related ecological collapse. Our gardens could reasonably become islands of safety for wildlife as well as essential food-production areas for ourselves.

### Living in Community: Infrastructure

At Heart-Culture, we have old appliances. My cookstove is an ancient 1950s electric Frigidaire. Two burners no longer work, but we will keep using it for as long as possible, at which point we will replace it with the most efficient stove we can find. Since half of any appliance's fossil fuel use is embodied in its creation, any time a group of people share an appliance, they effectively avoid the large fossil fuel use of creating more. This is especially true when appliances are maintained and repaired for use beyond their expected lifespans.

Two other families at Heart-Culture use my stove for large baking projects, because they have only kitchenettes in their tiny homes. We have four stoves, three clothes washers, and three showers on the land; these are currently shared among six families and five single adults. In a culture that expects

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## In a culture that expects each family to have their own, we are forgoing the use of seven stoves, nine washers, and nine showers.

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from this year's harvest, so I can honestly claim a 100 percent fossil-fuel-free squash harvest.

Permaculture gardening methods have a special place in carbon sequestration, not only because perennial plants act as carbon sinks, but also because the gardeners' management activities are less likely to rely on fossil fuel inputs. Permaculture orchards don't need to be tilled, sprayed, or mowed. We use geese and sheep to mow in the orchards. Chickens and ducks eat harmful insect pests. All these animals fertilize the trees with their manure. We attract beneficial insects and pollinators with guild plantings of flowers and herbs, as well as hedgerow trees

each family and each single person to have their own one (or more) of everything, we are forgoing the use of seven stoves, nine washers, and nine showers.

Our infrastructure is set up to support this choice by incorporating the use of tiny homes. Very small houses, these structures are less than 200 square feet each; some are only 80 square feet. A tiny home often acts as a detached bedroom, with one of the larger buildings as a support house for bathroom, kitchen, and living areas. The distance from their support house encourages residents to create outdoor living spaces with gardens, trellises, fire-pits, and solar showers. This increased connection with outdoor spaces definitely leads to greater awareness of the weather, and plants the seed for a different view of our own place in nature.

Embodied energy is a factor in building construction as well as appliances: how much fossil fuel use is needed to create the new structure and its components? Tiny homes use fewer resources during construction, which makes it easier to incorporate used and foraged materials available locally. They require less energy to heat and cool, especially if they are well insulated. It's easier to spend the extra money on better insulation when you need so little of it.



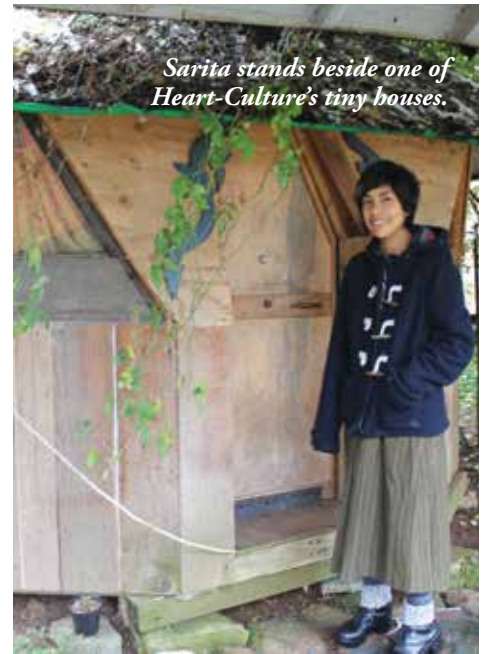
*Edible daylily in Heart-Culture's garden.*



*The author's children care for a newborn lamb.*



*Mackenzie admires the tiny house he is building at Heart-Culture Farm.*



*Sarita stands beside one of Heart-Culture's tiny houses.*

In most cases a tiny home seems too small for a wood stove, but even with electric heat they can be very efficient. I lived with my toddler for nearly two years in an eight-foot dome with six-inch foam insulation. We used a tiny electric heater for 10 minutes on winter evenings, and snuggled under thick blankets to sleep. In the morning the entire home felt warm from our body heat. This was in Eugene, which is USDA Zone 8b, but even for our climate it was a very small amount of heating. Our support house was heated with a wood stove.

### Living in Community: Economics and Social Justice

Climate justice is social justice. People of color, women, children, indigenous communities, and the poor are more severely affected by climate change because of lack of access to resources (including privilege) that would allow them to avoid personally suffering. Impoverished people cannot afford to rebuild lives devastated by drought, severe storms, and other climate disasters. They often live in areas more likely to be adversely affected by climate change, like flood plains. Federal funds intended to help homeowners rebuild after disasters don't help those who are too poor to own homes.

Tiny houses in intentional community can have another impact on climate change: addressing economic injustice by providing stable low-income housing. Many intentional communities are most accessible to educated white middle-class people, who have the knowledge and resources to seek out sustainable lifestyles. Like most other communities, Heart-Culture was founded by college-educated white affluent people. Over time, however, social justice has become a large part of our mission.

We set up our social and economic structures to reflect the goal of ending all forms of oppression. As a result, 90 percent of our current residents have incomes under the poverty line (compared to 16 percent of Oregon's population); 70 percent of our current residents are families with children (compared to 30 percent of Oregon's population); and 27 percent of our current residents are people of color (compared to 12 percent of Oregon's population). Half of our current owners group lives under the poverty line. Our buy-in system for new owners is designed to be accessible to even our most impoverished residents.

All our residents have access to 33 acres of community land, with barns, pasture, garden space, and woodworking shop. We live in a social environment which supports and encourages projects like sustainable gardening and resource cycling. For some residents, this is their first experience with interpersonal skills like mediation, consensus, and radical parenting. Others are well-versed in the "liberal" arts, but are learning for the first time about social justice, food-quality inequity, and white privilege.

### Reaching Further

In terms of being a climate revolutionary, my child is right that we have far to go. We drive cars, depend on the nearby city of Eugene for our residents' incomes, and draw from the grid to power lights and appliances. However, we continually seek ways to bring our lifestyle into alignment

with our values and with the survival needs of all life on this planet. My next project is to transition our entire community away from its aging septic systems and into constructed wetlands greywater treatment. I'm sure my daughter will help dig the ponds, and maybe I can articulate for her some of the reasons our new greywater system addresses climate change.

I'm actually glad my daughter shrugs off our revolutionary lifestyle as "just normal." It means

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**It may turn out that raising children in community is my most effective form of climate justice activism.**

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she has a more empowered base to work from, and can reach further towards the goal of truly sustainable human settlements. It may turn out that raising children in community is my most effective form of climate justice activism. These kids will be able to see horizons that I cannot even imagine. I'm looking forward to following their lead. 🌸

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*All statistics for Oregon come from the US Census Bureau.*

*Kara Huntermoon is an owner-member at Heart-Culture Farm Community in Eugene, Oregon, where she raises kids and grows food. Her family of four earns \$20,000 per year and eats half their diet year-round from their own garden. She can be contacted through the Intentional Communities website, ic.org.*

# Permaculture, Community, and Climate Change

By Tom Henfrey

When writing a book on permaculture-based responses to climate change, I was not at all surprised to find community emerging as a key theme. Community-led action, with permaculture as a key tool, is the basis for many of the most innovative and effective responses to climate change around the world.

Long-established intentional communities are restoring and even enriching ecosystems in their resident bioregions. Tamera Ecovillage is creating a network of lakes to restore water and life to the increasingly arid landscape of southern Portugal. Auroville in India is undertaking large-scale revegetation of surrounding lands that were previously richly forested and are now largely barren. Many indigenous communities have adopted permaculture as a tool to adapt to changing social and ecological conditions in ways that allow them to retain their economic autonomy and cultural self-determination. Subsistence farmers involved in the Chikukwa project in Zimbabwe have restored communal woodlands and waterways vital to their livelihoods, and at the same time developed new tools for conflict resolution, female empowerment, and overcoming social divisions. The Himalayan Permaculture Centre in Nepal supports extensive farmer-to-farmer knowledge-sharing about new growing techniques and rice varieties suitable to declining availability of land and irrigation water. In Los Angeles and many other big cities in the industrialised world, new growing and distribution projects are improving access to fresh, healthy food for marginalised and impoverished sectors of society.

These and innumerable other initiatives represent a remarkable mobilisation of creativity and capacity, largely taking place below the radar of dominant responses to climate change led by politicians and big business, and often operating with very little in the way of material resources.

Permaculture is best known as a form of ecologically aware agriculture and settlement design, but is far more than that. As a design system, it seeks to express three overlapping and interdependent ethics—earth care, people care, and fair shares—through careful observation and appropriate emulation of natural systems. Its applications are just as important in social as in material fields, including organisational design, ownership and governance, conflict transformation, business and enterprise, research and learning, personal and community resilience, and shifts in worldviews and mindsets. Ecovillages and other intentional communities have provided safe spaces in which to experiment with all these applications of permaculture and connect it with relevant tools from other fields. This has deepened and refined its applications in all areas, particularly the social and cultural. This innovation has entered the wider world through Transition initiatives, community food projects, community energy, and myriad other ways that people seek to build community wherever they are living and collaborate as communities for the common good. From such place-based initiatives have emerged numerous communities of practice, some localised, some dispersed, that weave community-based social change practitioners into extensive networks for shared learning, cooperation, and mutual support.

This type of community effort was crucial to the completion of our book *Permaculture and Climate Change Adaptation* [see review, page 76]. Initially proposed at workshops at the 12th international permaculture convergence in Cuba in 2013, it was realised through the collective efforts of members of a growing international permaculture research community. The permaculture research group at Lisbon University's Centre for Ecology, Evolution and Environmental Change held and financed the project, bringing me in as lead writer. In this role, I was able to draw on the intellectual resources of our network: for chapters on specific topics from researcher-practitioners with specialised knowledge in those areas, for case studies from permaculture projects around the world, and for photographs to illustrate the book. The overwhelming generosity of these contributors created a sense of shared endeavour and support that sustained me throughout the project. Their input ensured a far better final outcome than we expected or could otherwise have achieved.

What we hope to achieve through this book, above all, is to share this sense of community with like-minded individuals and groups working on development and implementation of climate change policy. I think that intelligent and open-minded people already in the field will be well aware

of the limitations of technology-based solutions and finance-led processes. I have a growing impression that those who are genuinely committed to positive change are increasingly open to, and indeed actively searching for, workable alternatives. Many will be aware, or ready to hear, that community action using permaculture as a tool is important among these. The value of physical methods such as agroecology, improved water management, restoration of natural veg-

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**A remarkable mobilisation of creativity and capacity is taking place below the radar of dominant responses to climate change.**

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etation, and climate-sensitive building is self-evident even within the “green-tech” paradigm. What may be less obvious from that perspective is the need for social and cultural transformation if these methods are to be implemented successfully and in ways consistent with needs for equity and social justice. By making explicit the dependence of material outcomes on radical changes in areas such as ownership and



Community Garden Cologne Foto



*Permaculture course at community farm, Luxembourg City.*



*Repair Cafe Transition Bonn.*



*Eco-Construction strawbale workshop.*



*Community forest Lebensgarten Steierberg.*

decision-making structures, approaches to business, social norms, societal values, and worldviews, we sought to take those who are ready for it on a journey into more holistic viewpoints of a kind familiar to most of us living or working in community: effectively socialising them into our wider community of practice.

This wider sense of community is, I think, vital if the full potential of community-led efforts on climate change is ever to be realised. Intentional communities of various kinds have been, and continue to be, crucial generators and incubators for new perspectives, methods, strategies, and techniques vital to efforts to negotiate climate change. As these tools develop to the point where they can survive beyond these nurturing environments, they become part of the toolkit of urban permaculturists, Transition initiatives and others working in the wider world as maturing further and capturing broader attention. Those thus inspired may seek to extract technical innovations from their accompanying sociocultural context—akin to what the pharmaceutical industry has done with indigenous knowledge of plant-based medicines for centuries—which can result in bizarre anomalies like the developer-led, profit-driven ecovillages increasingly common in mainstream housing markets. They may also embrace the need for accompanying social and cultural change. In this way community life, and community-based action more generally, can act as seeds for genuine transformation in wider systems.

Stepping fully into our role as part of this transformation will itself be a transformative act for community-based movements, and will raise many challenges and further adventures. Facing these will require many qualities: humility to accept that we are one small part in ongoing collective learning processes that may never produce final answers, vigilance against complacency that what we are already doing is by itself sufficient, and flexibility to cooperate and form collaborative partnerships with like-minded and less like-minded people and groups also committed to addressing this common challenge. Documenting and sharing accounts of what communities around the world have achieved as vehicles for expressing the ethics and advancing the practice of permaculture filled me with renewed hope for this endeavor, and confidence that in wider collaboration we will achieve so much more. 🌱

*Since conducting long-term anthropological fieldwork with indigenous Amazonians around the turn of the millennium, Tom Henfrey has worked at the interface of academic research and community-based action for social and environmental change. He serves on the Council for Ecolise, the European network of community-based sustainability initiatives, and currently lives on a narrow-boat at a community-growing project in the South Pennines, England.*

# RIDGEWOOD RANCH: A Mecca For Adaptive Community

*By Steve Hellman and Daniel Spiro*



*The 5,000-acre Ridgewood Ranch includes gardens, pasture land, evergreen forest, and oak woodlands.*

In recent years, Ridgewood Ranch in California's Mendocino County has become a mecca for climate-conscious, adaptive community projects. Situated in a lush valley near the headwaters of the Russian and Eel rivers, the 5,000-acre ranch has been home for nearly six decades to the Christ's Church of the Golden Rule (CCGR), which acquired the property in 1961. Through the leadership of the CCGR, the ranch provides fertile ground today for an increasing collection of cooperative, small-scale farming schools, experimental gardens, therapeutic programs, and land preservation efforts. At the heart of this gathering of energies is a shared vision—to do right by the earth and fellow humankind.

According to church elder Tracy Livingston, 75, the path to this coalescence of projects has had its share of bumps and challenges. The CCGR had 100 core members in 1961; that number today has dwindled to only 15. The challenge for the CCGR has been the inevitable passing of long-time members, along with the departure of children of some remaining families, seeking their fortunes in the wider world. To survive financially, Livingston says, the CCGR has needed to sell off considerable portions of what was initially a 16,000-acre property.

In order to achieve its continued viability, the CCGR began inviting a host of like-minded groups and organizations to operate on its unique and beautiful land. The hosting process began in earnest in 2000, when the famed John Jeavons Ecology Action Bio-Intensive Farming Program (EA) came to establish a satellite garden at the ranch. Since then, the CCGR has also welcomed what is now the Grange School of Adaptive Agriculture in 2012, and in 2016 the Wall-to-Wall natural building workshop series saw the construction of a fully functioning natural elements house on the grounds.

Livingston points to numerous other ranch projects that presently contribute to climate-adaptive

land stewardship. One is a timber management program that resulted in the planting of 10,000 pines in 1965 on ranch acreage that had been clearcut by previous owners. There is a one-million-dollar, 15-year stream restoration project completed with government funding. Livingston has also been personally instrumental in helping realize the creation of a conservation easement on 1,600 acres at the ranch. The ranch is also home to the Seabiscuit Heritage Foundation, established in 2004, to preserve the history and buildings associated with one of its more famous prior residents—the racehorse Seabiscuit.

In addition, the ranch is presently home to Tequo Gardens, an independent small farming operation; the La Vida Charter School; the Seabiscuit Therapeutic Riding Center, which provides horse rides for children and adults with special needs; and a planned Residential Care Facility for the Elderly. In many ways, Ridgewood Ranch has become a mecca for residents, students, and visi-



tors seeking to cultivate care, growth, and responsible stewardship of the land.

Livingston explains, “None of these programs would be here without the vision of the church.” At the same time, he admits, “The Church has been very lucky to survive all these years. Our success has come in part from being here at the right time for certain ideas to take root and come to fruition.”

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According to church member Ellen Bartholomew, 56, adaptive practices began showing up on the ranch when the CCGR first installed a corn-mash still to produce sustainable fuel in the face of the 1979 global oil crisis. Their efforts continued when, in the 1980s, they were facing the impact of a seven-year drought.

Ellen says, “Stewardship of the land was always a big thing with us. Back in the ’80s, we were working cattle, trying to stay ahead of mob grazing, moving the herd every two weeks, and irrigating, while also trying to keep the rangeland alive. Ultimately we found that rangeland management depended more on how many cattle we could run [sustainably].”

In response to the ecological imperative, they adapted by halving their herd and calving at a different time of year. To this day they continue to run their cattle operation on viable rangeland.

In addition, the CCGR has always grown its own organic fruits, nuts, and vegetables. In 2000, Ellen Bartholomew led the effort to invite the famed Jeavons EA program to establish a training mini-farm at the ranch. Through her guidance as the garden manager, the EA program to this day contributes additional food to the CCGR communal dining room. In turn, this effort has brought the EA interns into the broader CCGR community.

Ellen says, “What our community on the ranch has become is a place for students to dedicate themselves to agriculture, and to live in community and grow as individuals before returning home to grow food for their communities in small-scale local operations the world over.”

To that end, the word “adaptive” has taken on a particularly weighted meaning among all the ranch projects.

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For Rachel Britten, being adaptive has meant reconciling her academic background to the real-world situations of training future food-growers through EA. She currently serves as a co-field coordinator for EA and she facilitates the program at the ranch that teaches a dense, closed-loop agriculture system developed by Jeavons over 40 years of design and implementation. Indeed when Rachel, 29, first came upon Jeavons and Ecology Action she was skeptical of his claims.

“I was convinced he was cheating,” she says. “I thought he was using human manure, or bringing in nutrients or compost from other places.” The issue was key, since EA teaches real-world applications for farming under a variety of severe ecological conditions. The majority of EA’s eight-month interns have come from developing countries, including Kenya, Senegal, Cameroon, Ghana, Togo, Sri Lanka, Haiti, Peru, Argentina, Ecuador, and Nicaragua; if the claims of the program were untrue, their teaching would be problematic, to say the least.

Rachel found that the Jeavons system for nutrient recycling and carbon sequestration actually

worked. She could measure the result of using the Jeavons practices: the organic matter in the soil truly was increasing. “I realized that he had compiled historically good agricultural practices into a new creative method, which is so vital when we consider the importance of raising food on our planet without negatively affecting climate.”

Rachel adds, “We’re teaching our students a strategy to reduce inputs and maximize yields, and they’re teaching us what subsistence really means.” As to how she’s adapted to succeed, Rachel describes it as “the cool marriage of academic knowledge and life experience.”

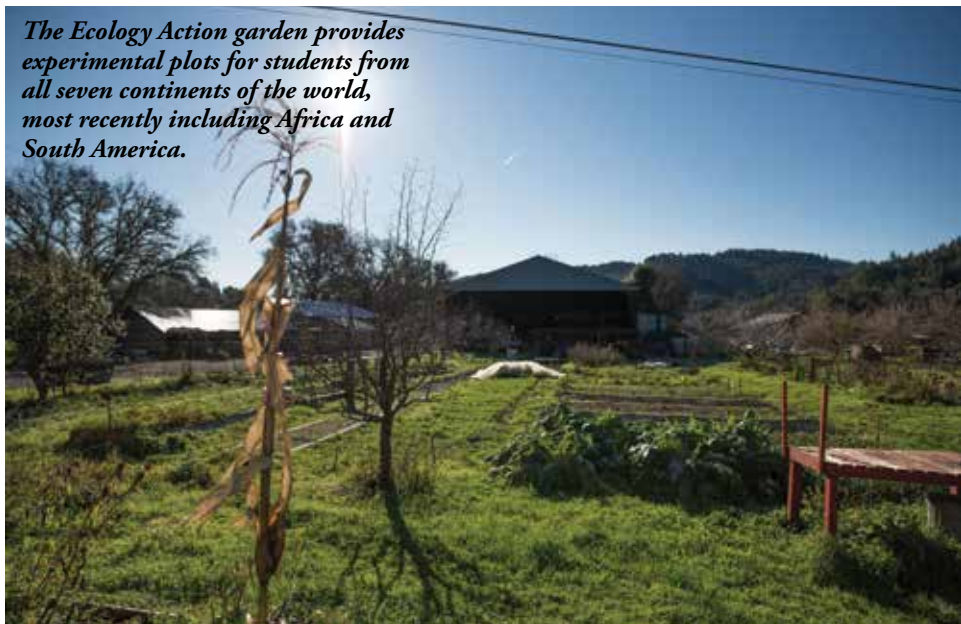
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For Cody Bartholomew, Ellen’s 31-year-old son, the challenge has been to find his own productive role on the ranch. In 2008, he had completed his B.A. in Construction Management at Chico State University and he returned home to Ridgewood Ranch, planning on staying temporarily before he ventured out into the wider world. At the same time, he began to notice all the abandoned infrastructure and equipment on the property and he started getting big ideas.

He also recognized the potential value in staying at the ranch. Cody says, “Historically, we understood that there were all these intentional communities that got fired up in ’60s and ’70s, but there wasn’t any retention. The question became: how do we adapt and change our view of what a community is and create a new coalition to work together and achieve like goals?”

With highest hopes and a rush of expectant energy, Cody decided to restore the moribund 500-gallon corn-mash alcohol still to operation. He figured he could use the corn alcohol as a viable biofuel for the many pieces of ranch machinery. He refurbished the still, teamed with

*The Ecology Action garden provides experimental plots for students from all seven continents of the world, most recently including Africa and South America.*



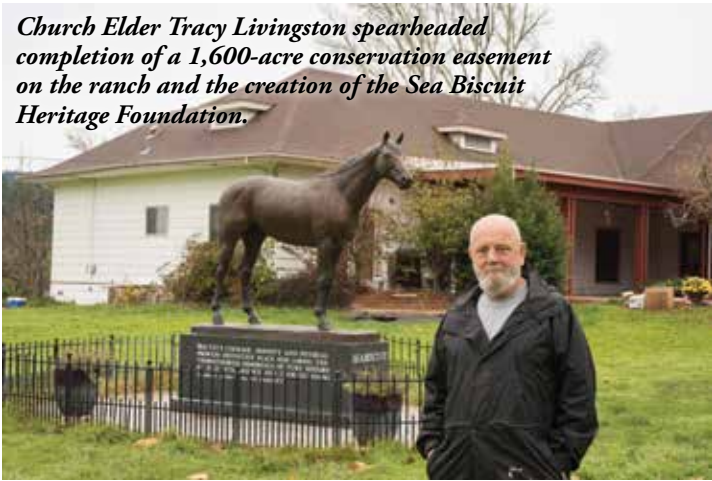
*A sheep at the Grange School of Adaptive Agriculture.*



Matt Holzhauser



*Ruthie King operates the 12-acre Grange School of Adaptive Agriculture that trains students in financially sustainable farming, ecologically conscious food production, animal husbandry, and group conflict resolution.*



*Church Elder Tracy Livingston spearheaded completion of a 1,600-acre conservation easement on the ranch and the creation of the Sea Biscuit Heritage Foundation.*



*The straw bale house was built by Matt Anderson and Renata Abade with assistance from a crew of professional volunteers and students.*



*Ridgewood Ranch is located on 5,000 acres along Highway 101 between Ukiah and Willits, California.*

the Grange School manager Ruthie King to grow the corn, and organized a symposium for 100 people in 2014 to learn about the fuel program. He also converted one of the ranch tractors to biofuel function.

Unfortunately, when it came to developing sustainable projects within an intentional community, Cody came face to face with two serious obstacles: the corn-alcohol project itself proved financially unfeasible, and despite his hopes to establish a role for himself on the ranch, he found it increasingly hard to work with other members in the community; he was soon arriving at his wit's end. Would he even think to stay on the ranch, given the challenges?

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When Ruthie King took over operations at the Grange School of Adaptive Agriculture in 2012, her goal was to train farmers in ecologically conscious food production. She was going to see, as well, the challenge of sustaining relationships.

"Our current mission is to train new farmers in ecologically responsible and financially viable methods for producing food," says King, 27. "The ranch and its community has provided us with the inspirational and fertile ground."

The Grange School of Adaptive Agriculture, now in its fourth year, operates on 12 acres. The space provides for student housing, a market-vegetable field, an orchard, and a livestock operation that includes sheep and chickens. Its students are immersed in 14-week intensive residential programs, held twice a year. This past summer the school graduated its third class, and nearly all of its graduates have gone on to work in small-scale, climate-conscious agricultural operations.

"Our goal is to teach all the various methods of sustainable food production," says Ruthie. "With the word 'adaptive' we feel like we're shifting the focus from what we want from the land, which is sustainability, to the kind of attitude we want to instill in those stewarding the land in this climate-changing world, which is adaptability."

Along the way, Ruthie says she came to understand, "People are the hardest part of the equation, and it made us realize that communication and community building were actually vital aspects of making our food operations sustainable." In response, Ruthie adapted her curriculum to include lessons in cultivating open, honest, respectful communication and conflict resolution, which in turn encourages students to be adaptive rather than being purely reactive.

Ruthie says, "In all ways, we're in a constant process of adapting."

• • •

Not long ago Matt Anderson and his wife Renata Abbade were by personal choice "nomadic." The couple in their mid-to-late 30s had been traveling the West Coast, visiting intentional communities and observing the work of projects like the Cob Cottage Company in Coquille, Oregon. They began to imagine someday building their own home from naturally sourced materials. The only problem was that neither of them had one ounce of building experience, nor did they have any land to build on.

An opportunity eventually presented itself at Ridgewood Ranch. The couple had learned of EA through the making of their 2013 film, *Fall and Winter: A Survival Guide for the 21st Century*. Their work looked at the current global climate crisis through interviews with a host of experts. After a screening in Bend, Oregon, Matt recalls an audience member confessing to being completely freaked out about climate change, unable to imagine any realistic solutions.

Matt says that one of the panelists calmly explained, "If you have water, food, shelter, and tribe, and figure it out in that order, you will be okay." Renata adds, "We had to become nomadic to find out for ourselves: how do we find our water, our food, our shelter, and our tribe?"

In 2015, the couple arrived at the central EA location on Pine Mountain in Mendocino County. They were excited by the notion of putting up a natural building nearby. They approached CCGR and received approval to build a structure.

With support for construction from key ranch residents like Cody Bartholomew and professional Grange School instructor Takashi Yogi, Matt and Renata witnessed their dream come true in the Wall-to-Wall building project. They used clay and straw harvested from the ranch property; wood recycled from abandoned buildings on-site, as well as wood milled from local timber after a recent fire; and stone they acquired from a local quarry. They hired two experts in natural building practices and invited students to join in the construction and learn the techniques for putting in the foundation, raising the earthen walls, and hammering together the roof trusses. At the center of that project in many ways was Cody Bartholomew, who put his considerable management skills and construction strengths to good use, while he continued to develop his collaborative savvy.

The result is a house made largely from local, natural materials, with a footprint of 288 square feet, plumbing and electricity, a second-story loft, and a covered outdoor kitchen.

Matt says the next step is to help others replicate the process. "It was amazing how it all came together, how we lifted each other up. We realize now, if we can do it here, we can help others do it elsewhere."

Renata adds, "We've learned that it's about adapting to all kinds of people, within the idea of intentional community."

• • •

The adaptive approach at Ridgewood Ranch will likely endure; residents are intent on continuing the ecological work and education while cultivating sustainable relationships. The awareness of climate-conscious adaptation, along with maintaining positive relationships, is at the core of each program.

Rachel Britten has no plans to move on anytime soon. "Staying true to the value of the community means a lot to me," she says.

Ruthie King envisions continued and greater collaboration between the Grange School and the Golden Rule Community. Regarding her own inspirations, she says, "We have a big family here, and we know that being of service to the world is the golden rule that we can all follow and practice."

Matt Anderson swears his vision for the future boils down to one simple lesson: "The adaptability of Ridgewood Ranch, of letting people into the community with a shared value set, is why these projects are here."

Renata Abbade agrees. "Before we arrive at the future, there is always stewardship of the land and the people, which translates into relationships."

Ellen Bartholomew agrees that the challenges will always be to preserve the land, and simultaneously, for people to get along in working toward their common goals, "On the issue of climate, we've adapted here. But the rub is in the relationships with the people."

For the moment, Cody Bartholomew continues working on his people skills and pursuing his myriad projects. He has widened his climate-conscious vision by contacting local wineries in an effort to convince them to use their considerable quantities of "botched wine" to produce fuel in a way that could be financially feasible. He has also initiated a comprehensive solar array project that already has resulted in one five-kilowatt system that runs irrigation pumps for the ranch, and he has planned an even larger 30-kilowatt installation that will power the CCGR's kitchen and dining hall and chapel, and also provide charging for the church's three electric cars.

While uncertainty may loom about the world and a future in flux, at Ridgewood Ranch climate-adaptive projects and intentional community will have a reliable home for the foreseeable future. 🍀

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*Steve Hellman is a Professor of English at Mendocino College. He has published his writing for more than 40 years. He considers community and climate change among the paramount issues of the day, including how to make a good lentil koshary.*

*Daniel Spiro is a freelance writer known to wander the country from his base in New Orleans. He's driven to contribute to the movement of ecologically conscientious and sustainable farming practices. He can be reached at [www.spiritualfringe.com](http://www.spiritualfringe.com).*



*Cody Bartholomew with the solar array he installed to provide power to irrigation pumps for ranch pasture land.*



*(From L. to R.) Garden Manager Ellen Bartholomew is joined by Isabel Quiroz, co-owner of Tequio Gardens, and Juan Manuel Martinez Valdez, Ecology Action Director for all of Latin America.*



*Matt Anderson and Renata Abbade enjoy the completion of their two-story strawbale house.*

# VARIATIONS ON A THEME: Low-Carbon Communities of All Sorts

By Ma'ikwe Ludwig

*Note: this article is adapted from the forthcoming book, Together Resilient: Building Community in the Age of Climate Disruption, available from the ic.org website, May 2017.*

The word *community* means a number of different things. In addition to residential intentional communities (characterized by shared values and shared living space), community can also mean, for example: sharing an identity (as in the queer community), living in the same town (geographical community), sharing a basic orientation in life (the conservative community), sharing an interest (the homeschooling community), sharing an experience (the Burning Man or “Burner” community), or sharing a religion (the Catholic community). All of these are legitimate expressions of community, which really implies getting your social needs met and often includes being economically connected and falling within a certain range of worldview commonality as well.

Many communities are not embracing a full-on residential intentional community form, but are nonetheless using community as an interesting tool for carbon reduction. Here are three projects that use community to address climate change:

## 1. The Hoop

The Hoop is a grassroots network of nomadic rewilders who live and travel with the seasons, living mostly on National Forest land throughout the Columbia Plateau and Great Basin bioregions in the northwestern US. Bruno Seraphin at the University of Oregon has spent a couple summers and a few other shorter stints studying, living with, and sometimes traveling with the Hoopsters, and my information comes from him.

Their central focus is to replant and tend wild food gardens and bring them back into abundance. This has dual purposes. First, like any other gardeners, they are cultivating food for themselves, and the idea (and reality) is that when they come back around the next year to that place, there will be more abundance. Second, and more interesting for my purposes, they are working on recreating a more ecologically balanced and regenerative relationship with the natural world, and many are motivated by climate change.

The Hoopsters don't really have leaders as we would normally think of them, but the primary teacher who has helped create a movement of sorts is Finisia Medrano. Medrano in turn learned much of what she shares from the local indigenous people and their botanical traditions. The Planting Back website has this short bio of her: “Our community owes much to ‘Tranny Granny’ Finisia Medrano, infamous rewilders and author of ‘Growing Up in Occupied America.’ Finisia has spent years ‘on the hoop’ with her horses, gathering the traditional foods of the Great Basin. She has devoted her life to sharing hoop wisdom with others, and she has spent time in jail for acting on her beliefs.” Medrano’s nickname comes from another alternative culture life achievement: she is believed to have been the recipient of the first legal sex change surgery in California.

Hoopster worldview has some very relevant pieces for all of us. “Theirs is a philosophy of working with regenerative forces—not leave no trace, leave a beautiful trace,” Bruno told me. At the same time, the Hoopsters are both emulating the indigenous people from the region they occupy, with a close relationship to the land and deep respect for natural cycles, and at the same time professing a kind of attitude that is too single-minded to make for good coalition-building—bordering on holier-than-thou, in my reading of it—that Seraphin and I both find problematic. “Overall, they are taking bold steps to re-imagine some of our most deep-seated assumptions about the way the world works, what a human being is, and what our relationships to the non-human should be. At same time, they are struggling to overcome assumptions and ways of being that serve to perpetuate colonialism, genocide, and environmental destruction. The Hoop, like any social movement, is shot through with contradictions.”

## 2. Ashton Hayes, UK

Community-led solutions that do not require governmental buy-in are a terrific way to proceed when attempting to address climate change. In 2006, the small English town of Ashton Hayes set their sights on becoming the first carbon neutral town in the UK, and in the first year, reduced their collective carbon footprint by 20 percent. They’ve continued to make progress every year since then.

One of the interesting things is seeing how that decision affected their relationships with each other, reinforcing the idea that the social is not easily separable from the ecological. “Community cohesion has increased significantly since the carbon neutrality mission was adopted. One reason for this, [resi-

dent Garry] Charnock suggests, is that the carbon neutrality mission was created by and for the people in the town, without the influence or direction of politicians (who are only allowed to listen at meetings if they attend). There were never any community-wide mandates to contribute to the cause—just neighbors inspiring each other to make an effort here and there.” (Quoted from Ally Hirschlag, [www.upworthy.com/this-little-town-decided-to-go-green-and-they-did-it-without-the-government](http://www.upworthy.com/this-little-town-decided-to-go-green-and-they-did-it-without-the-government).)

As an intentional communities advocate, I find this model particularly compelling. In some ways, by bonding over this particular shared value, they have transformed themselves from a geographical community into an intentional community (a group that shares both values and place). This is a potent example of what happens when people embrace the concept of a Transition Town. (Originally inspired by Rob Hopkins’ book, *The Transition Handbook: from Oil Dependency to Local Resilience*, this movement has spread throughout Europe and North America.) Sometimes, the unintended consequences turn out to be really positive ones!

The Transition US website ([www.transitionus.org](http://www.transitionus.org)) defines their work in this way: “The Transition Movement is comprised of vibrant, grassroots community initiatives that seek to build community resilience in the face of such challenges as peak oil, climate change and the economic crisis. Transition Initiatives differentiate themselves from other sustainability and ‘environmental’ groups by seeking to mitigate these converging global crises by engaging their communities in home-grown, citizen-led education, action, and multi-stakeholder planning to increase local self reliance and resilience. They succeed by regeneratively using their local assets, innovating, networking, collaborating, replicating proven strategies, and respecting the deep patterns of nature and diverse cultures in their place. Transition Initiatives work with deliberation and good cheer to create a fulfilling and inspiring local way of life that can withstand the shocks of rapidly shifting global systems.”

### 3. New Vistas

Mormonism is fundamentally a millennialist religion. That means that, prior to the Rapture, Mormons anticipate a period (generally thought to be 1,000 years—thus the term millennialist) of heaven being manifest on earth. This has lent a utopian flavor to various periods of Mormon history, though in recent years, it has drifted away from those roots. David Hall is a man who is bringing these roots back, with a distinctly modernistic flavor, in the form of the New Vistas project.

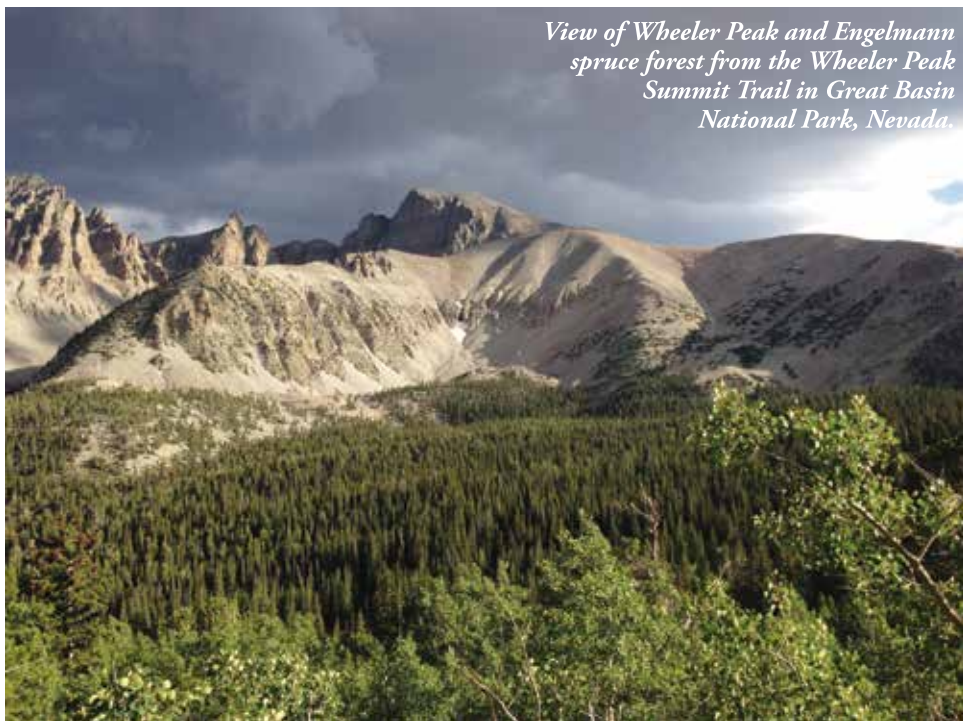
While Hall insists that the New Vistas project is not a “Mormon project” per se, he has also based the fundamentals on a handful of documents recorded by Joseph Smith, the founder of the church, and Smith himself attempted to bring communalism into the early church. Given that Smith bumped into the American hyper-independence tendency and couldn’t get enough folks on board, it is probably wise that Hall has tried to put some distance between the church and his project. And yet, the project shares cultural and textual roots with the church, and there is something potentially powerful and definitely interesting about that.

New Vistas seeks to be a modern eco-utopia, with carefully designed cities of up to one million people living in housing and sharing buildings that would not be out of place in a *Jetsons* episode. Where the Hoopsters are going super low tech in their approach, and the citizens of Ashton Hayes are building a grassroots movement from the ground up, New Vistas is very much about tech and design as tools to create optimal human environments for low-carbon living. And it is also all about scale, as in large-scale.

While this project is still on paper and not yet at the prototype phase it is worth mentioning here as an example of a project with a lot of money behind it, and an attempt to move us out of hyper-independent worldviews through providing a large amount of physical comfort and ease of daily life, without all the carbon. (Hall’s family money comes from the artificial diamond industry, and their main clients have been the mining industry. Hall no longer owns that business, having sold it a few years back to focus all of his attention, and his considerable wealth, on the New Vistas project.)

Hall has a pretty unique vision in that the community businesses (rather than the residents) would income-share, with all profits going into a collective pool that would cover both the shareable business needs (such as marketing and accounting) and the needs of the community. Community members would mostly work in these businesses.

(continued on p. 72)



*View of Wheeler Peak and Engelmann spruce forest from the Wheeler Peak Summit Trail in Great Basin National Park, Nevada.*

# HURRICANE LUNCH:

## Global Warming Affects Island Nations

By Philip Mirkin

**D**ecember 2009

Only three days after I arrived back in the South Pacific, the menacing sky burst open. This looming tropical storm came with little warning, and grew quickly into a category one hurricane that left 11 people dead. It flooded the airport town, Nadi, Fiji's third largest, under eight to 10 feet of water, destroying our bank and nearly all the shops, services, and restaurants downtown.

Here's my story of that time...

Still jet-lagged from the 10-hour flight, I was staying at a two-acre farm named Bila. Bila lies on the outskirts of Nadi Town, near the Nadi River and the airport on the Big Island of Fiji. The Chief's sister, Laisana, and her husband, Tai Solo were hosting me. Dozens of us together practice communal ownership of several farms, as goes traditional Fijian custom. This includes Bila and, four hours away by boat, Fiji Organic Village (FOV), our 68-acre community on the Blue Lagoon, where I have a one-room home. Some other members of FOV were also there: a very funny, 24-year-old boat Captain named Father Dan, plus his cousins, able Abel, and Vena, a shy world-class chef.

On this third morning back in Fiji, I was shopping for basic groceries for Lai and Solo, when I learned a nasty storm was headed our way. People were agitated and hurrying around, frantically buying what they could. I caught a taxi back to Bila, and we harvested chiles, bananas, tomatoes, spinach, and cassava trying to save what we could before the anticipated two to three feet of floodwaters.

Although the wind increased dramatically, we weren't worried: we drank kava, sang, and laughed as we stashed the day's harvest on the upper shelves of the one-room farmhouse we built that year. Then we picked up loose items scattered on the land, and went indoors as the starless night descended. The rain began gently and increased gradually, ping-ponging on the metal roof. No one expected the worst. Lastly, we gathered the puppies and pumpkins and prepared another batch of kava to drink.

At 11 p.m. the water was deep enough that police officers kayaked up to our farmhouse, a very strange sight indeed! We thanked them and let them know we were capable of dealing with the storm, and that they should attend to those who were unprepared. As the floodwaters slowly rose inside the small farmhouse, we stacked things higher, and then climbed up to rest on top of the furniture. In the customary Fijian way, we continued joking to keep our spirits up, despite watching as our entire farm, at the peak of harvest time, was scoured by the floodwaters.

At sunrise, the farmhouse stood eight feet deep in a raging, mile-wide river. We swam down through the doorway, and back up into the river water. Enormous trees rolled down the river through what yesterday had been our farm. We then lashed together a small bamboo raft to ferry the few surviving items of value, including a stove, drinkable water, our machetes, and my laptop. We swam hard, pushing the raft three times to the edge of the river 80 meters away and then came back for another precariously balanced load. On the last trip, I was carried into the current, and only by clinging to a coconut tree, and with help, was I able to swim to shore.

Suddenly we were refugees. In the devastated town, a generous Muslim family took us in, showing us the greatest kindnesses. I had the private accommodations: sleeping on the hard floor inside the pantry of their kitchen. The next day, floodwaters decreased greatly, and we were able to slog through the higher neighborhoods of the flooded town. There we found a couple of Indian-run shops still open. They sold us bread, ice

cream, and a simple lunch, all that was left.

After waiting for the bridge to open, Vena and I hitchhiked to even higher ground in a 4x4, overflowing with kids and melons, to get to Tai Solo's house. We moved all the melons to one side of the car and filled the back with my belongings and Tai Solo's guitar (the *only* valuable thing of his we were able to save in the end). He and Laisana had stayed behind at the farm as the waters receded back down to three feet. We bumped along the muddy, wrecked road to get to the house known as Lauauniko (the Shark's Tail). We carried my luggage inside and when I tried to give the driver 20 Fijian dollars for his trouble, he said "No, it's OK, thank you. You have given me the chance to help you and for that I am grateful." I insisted, but then he said "Today is my Sabbath and I can't accept your money. God bless you!"

Once inside the house I was warmly greeted by the extended family there. They were so glad to see the two of us alive. I found an unoccupied couch and that was to become my bed, logistics center, and home for the next difficult days. I was grateful to have something soft to lie down on. Three of the men slept on the floor in the same room, and the rest slept on the floor of the main room. The young mother and baby had the only bed in the house. That afternoon, the hurricane's intensity roared back fiercely with pounding rain and quickly flooded our neighbors. That evening many began staying with us: we were now 25 hungry people sleeping on the floors. Despite all this, everyone was in an amazing spirit of community, helping each other and sharing what we had. Lovely.

Suddenly there were no more communications from Bila; their cellphones were out of battery and minutes. From my lumpy couch, I began texting friends in North America and New Zealand to ask for emergency help.

Little seven-year-old Naulu cried in my arms as I held her. She wondered if she'd ever see her parents, Laisana and Tai Solo, again. Several times we hired small boats to rescue Lai and Solo, but we were unable to reach them, as the debris in the raging river made it too rough to cross in a small boat. Eventually we were able to rescue them. After spending four nights of the storm on the roof of a church, barely above the floodwaters, they were completely spent: exhausted to the bone, starving, thirsty, bruised, and without sleep.

The food ran out, and the water was compromised, so each day I sent teams of younger men out who searched for food, freshwater, flashlight batteries, and candles to buy. One day they came back with five gallons of water, and a bag of rice, which we mixed with our last coconut, to have our first meal in days: Hurricane Lunch.

A few days later, the seas calmed enough so the regular ferry boat to our small island began operating again. I jumped aboard to get to FOV, four hours away over the treacherous shoals of the Bligh Waters. I had not yet visited my house since my return to Fiji. As we disembarked on our island, we were hugged warmly and given the news that everyone survived with only minor injuries there (sadly, 11 died on the big island of Viti Levu). As I walked our grounds, I saw heartbreaking devastation: old-growth trees had been knocked down, our cassava fields were flooded and destroyed. The roofs had been torn up on many buildings. Notably, the chief's home was heavily damaged and our gorgeous sandy beach had been washed away by the storm surge.

Strangely, I was escorting a guest for our simple lodge, the Flying Fish, a grumpy gent from Marin, California who had booked months ago. I apologized for the storm's wrath, and that there would be no immediate

shower and no electricity; meals would be simple as we were forced to do all the cooking over an open fire. We had been blown back to the Stone Age.

Our beautiful grounds were now covered in broken limbs and downed trees. Then the hurricane circled back again, releasing more heavy rain that began flooding our buildings. Using only shovels, the Chief's brother and I dug a 50-meter-long ditch to drain our farm into the sea. These five hours of backbreaking work left me unable to stand at the end of the day. As our farm drained, an eight-foot-deep canyon was left in the middle.

Our stored food was nearly gone, and almost all of our harvest destroyed, so I took Ulli, a German member of our community, foraging. To our dismay, the oranges we brought back belonged to a neighbor's tree, and he would be upset if we stole his food source. We had to return them. Things were becoming desperate.

Several days later, out of food, we undertook a treacherous trip back to Lautoka, on the Big Island, an awful seven-hour ride in our 24-foot boat in choppy seas. Then we immediately sent relief supplies (food, fuel, batteries, building materials) back to our island on a village boat we hired for a resupply trip. I stayed behind the next days recovering from seasickness and exhaustion. During the next week, we ran around collecting huge quantities of supplies with my remaining money and the money now coming in from family and friends. I spent the evenings at the internet shop writing to people I knew all over North America and Australasia, asking for financial support for emergency food relief and funds to rebuild. Those emails and Skype phone calls resulted in several thousand dollars, funding our relief efforts.

I went back to Bila, saddened to see our previously lush farm now a barren desert. Even the massively powerful, tattooed, tough man, Tai Solo, broke down in streaming tears in front of me. He explained that they were financially ruined, and had no clothes left or food.

In a simple ceremony, I then set down 700 dollars on the woven mat that I had just taken from the bank; now they could start over. Tai Solo cried harder and thanked the Lord. With that money they would be able to rent a tractor to turn over their entire farm, and buy seed. In grueling hot, 12-hour days, they replanted, right in the midst of the hurricane season. As farmers, their only hope was to get something in the ground to sell at the local market as fast as possible. In the meantime, they lived on the 20-kilo bags of rice and flour, plus fresh vegetables and chickens, I had already delivered to them.

Being able to repair the roofs of our ecovillage and clean up the grounds, in a matter of weeks, was due to total cooperation and hard work. We also helped our neighboring villages with flour, rice, tea, lentils, sugar, roofing materials, plus labor and boat transport. Together we made repairs. For instance, one day our whole ecovillage went to Vuaki village to help there, sharing resources and labor. Three of our members kept returning daily to re-roof and repair houses in Vuaki village.

## The Impacts of Global Warming

We fared better than most, as our community efforts were coordinated, and our village was built behind a ridge for protection. We prioritized what was best for all, neglecting our own personal needs temporarily. Many coastal dwellers weren't able to recover. The local government was unable to help everyone, so it was up to us to look after each other, which is the power of community.

As a result, our community policies changed; we would now plant more sweet potatoes and yams (instead of cassava, our staple, that does not survive flooding). Buildings would be built 10 meters (33 feet) above sea level, and only in the most sheltered locations. The wind had damaged our community: we lost some of our food forest of old-growth breadfruit

trees. The storm destroyed most of our banana and papaya groves.

Destructive storms have been increasing recently, and even this relatively mild cyclone still caused extensive flooding, disruption, and death. For at least six months afterward, it also produced an economic malaise as the tourism economy collapsed. News reports of the storm were worse than reality, so tourists canceled their holidays; many locals lost their jobs as a result.

Rising sea temperatures from global warming lead to increased cyclone development as warmer sea temperatures fuel hurricane speed and intensity. Most of Fiji's islands are high volcanic islands, but most people still live at or near sea level. In storms, they can retreat to higher ground, but not so with island countries like Kiribati, which are rarely more than coral atolls just a few meters above high tide. By current projections, many island nations might become submerged or completely uninhabitable (with sea water intrusion, etc.) by the end of the century. Fiji has welcomed neighboring countries' refugees.

## February 2016

Fiji took a direct hit from the worst hurricane in the recorded history of the Southern Hemisphere: Super Cyclone Winston, a category five hurricane, completely flattened many villages, especially in the North and East. FOV survived again, with greater damage, but 41 died in Fiji and thousands were made homeless. Storms are increasing in intensity.

Our village, like many throughout the world, is basically at sea level. This increased devastation from ever larger storms impacts not only island communities, but major cities around the world, including New York, Seattle, Hong Kong, Shanghai, etc. Yet it's coastal villagers who will struggle the most to rebuild, as building materials are scarce, and cost much more than islanders in Fiji and most Pacific island nations can afford, especially

after economic devastation.

## November 2016

Many Fijians are still residing in tents, nine months after Super Cyclone Winston. As hurricane season begins again in the South Pacific, individuals and communities remain unprepared. To respond to this situation, I've been training Holistic Veterans and others to be sustainable building teachers, in Hybrid Adobe. This natural building style has proved easy for Fijians to build with, using natural materials already on the islands. Rounded, strong, natural buildings have withstood the test of time. The buildings we built in 2008 at FOV survived these hurricanes.

Trainers will soon go to island nations and coastal villages around the world that are experiencing the immediate effects of global warming. Our team will train local people to teach other villagers how to build hurricane-resistant structures while starting the first one locally. Buildings will be similar to the ones we built in Fiji that survived all three hurricanes. We call it the "Adopt-a-Village" rebuilding program.

The future threat to our coastal communities remains severe. With community action and a concerted effort we can readjust human civilization patterns. We can adapt to the destruction of our coastlines worldwide by moving further inland to higher, sheltered locations while building stronger, simpler, natural buildings. 🐦

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*Author of The Hybrid Adobe Handbook (Soaring Hill Press, 2003), Philip Mirkin cofounded Fiji Organic Village and has designed ecovillages and buildings in New Zealand, Puerto Rico, California, Colorado, Native Reservations, and Fiji. Philip consults on new ecovillages and sustainable buildings, in the US and overseas. Contact him at [philipmirkin@hotmail.com](mailto:philipmirkin@hotmail.com) or visit [www.EasyAdobe.org](http://www.EasyAdobe.org), [www.HybridAdobe.com](http://www.HybridAdobe.com), and [www.ic.org/directory/flying-fish-organic-village](http://www.ic.org/directory/flying-fish-organic-village).*

# Local Solutions to Global Warming: PAYING FOR OUR CARBON MEAL

By Daniel Greenberg

A few years ago, a friend was planning to give a public talk about her experiences at the UN Conference of Parties on Climate Change in Copenhagen. I really wanted to go, but logistics were such that I needed to take my then nine-year-old daughter, Simone, who did *not* want to sit through another boring lecture. I bribed her by saying she could play games on my iPod.

Simone played Angry Birds while I listened to the latest dire predictions of sea level rise, extreme weather events, mass extinctions, widespread droughts, and how some scientists were starting to say it is “game over” for the climate.

On our way home, riding a motorbike to where we were living in India at the time, Simone was hugging me from behind and said into my ear, “Daddy...was all that true? What that lady said about floods and disease and storms... is all that really going to happen?” It suddenly hit me that not only had she listened to the talk, but it had sunk in and she was scared.

I immediately got a lump in my throat and I thought, “What do I tell her? I don’t want to lie, but I also don’t want to scare her more!” So I took a deep breath and said, “It’s true that because of how humans have treated each other and the planet, the coming decades may be chal-

lenging and uncomfortable. But how we respond to these challenges is completely up to us. If we keep being mean and greedy, things will only get worse. But if we learn how to treat each other and our planet with kindness and respect then this could be a turning point and the beginning of a miraculous time in human history. So, while the coming crises may be difficult, they are also opportunities for us humans to finally grow up.” This belief has been the inspiration behind everything I’ve done in my adult life.

It was also the reason my family was in India as my wife and I were directing a study abroad program in Auroville, a large international ecovillage in south India. It was a real privilege to introduce young adults to this incredible community and witness them wake up to new possibilities for themselves and the planet.

The semester program was part of a nonprofit called Living Routes, which I started in 1999. Living Routes partnered with UMass Amherst to take college students to ecovillages around the world. In the end, over 1,500 students went on these programs and most came away inspired to live in greater harmony with each other and the planet. It was wonderful, life-changing work.

And there was a problem...

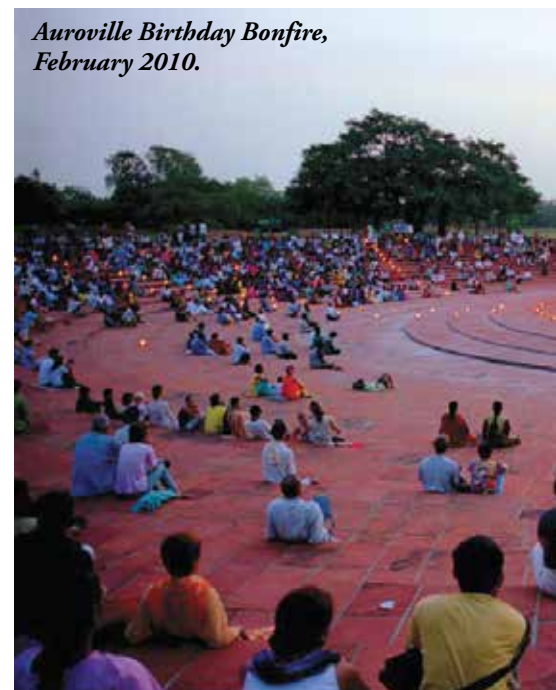
Here was an organization *all about* sustainability, but we were also flying students around the world, which was emitting megatons of carbon pollution and contributing to global warming. I felt strongly that we needed to account for these impacts because, fundamentally, we’re facing climate change and other environmental crises precisely because we, as a species, have taken nature for granted and not accounted for our impacts—from depleting our forests and other natural resources to polluting our air and water, etc.

Think of it this way. Imagine you are a contestant on *The Price Is Right*. If Bob Barker asked you the price of a particular car or big screen TV or a transatlantic flight, I bet you could offer a reasonable estimate—and perhaps even win fabulous prizes! But if he asked you how much carbon pollution is emitted by driving that car or watching that TV or flying across the ocean, most of us don’t have a clue. This is because we grew up in cultures that value economics over ecology.

So to help our students get a clue and build an awareness and a vocabulary around their environmental impacts, I set up a system where we measured, reduced, and priced the carbon footprints



*Living Routes students and faculty in Auroville, Spring 2010.*



*Auroville Birthday Bonfire, February 2010.*



of our travel and created a fund to acknowledge and account for the emissions of each program.

The question then became, “What do we do with this money?” It would have been quick and easy to give it to any one of a hundred carbon offsetters such as TerraPass or Native Energy. We could pay a certain amount that they would reinvest into a renewable energy project that would then reduce a certain amount of carbon emissions from entering the atmosphere. They would even give us a nice certificate to say we became Carbon Neutral—and successfully mitigated or neutralized our emissions.

To their credit, carbon offsetters have helped a lot of people better understand their emissions and over \$3 billion has been transacted to support a lot of good projects around the world. And, so far, offsetting has really been the only game in town for doing something about our unavoidable emissions after we’ve reduced all we can.

But there are also a slew of challenges with offsetting. A big one is that because of all the middlemen involved, some estimate as little as 30 cents on a dollar actually makes it to the projects. They’ve also been compared to 16th century indulgences where parishioners could pay the church to absolve them of their sins. Some say offsetting similarly allows people to buy a clean conscience while delaying meaningful action.

Another big issue with offsetting is the concept of “additionality.” Imagine you pay me some money to plant some trees and I go ahead and do just that. But then you find out I was going to plant those trees anyway. You might be a little upset because you assumed it was because of your money that the trees were planted. In a similar way, it is very difficult to know when an offsetting project is in fact “additional” and some estimate that as many as 70 percent of projects would have happened anyway, even without offset funding, in which case they’re not really offsetting anything.

For these and other reasons I didn’t want to offset to acknowledge the emissions from our flights. But what’s the alternative? After struggling with this question for a number of years, it finally dawned on me. Let’s still measure, reduce, and account for our unavoidable emissions. But rather than try to be carbon neutral, let’s direct funds (and/or our physical labor!) to projects we trust are building sustainability in communities that matter to us.

By dropping the controversial and confusing concept of carbon neutrality, we gain a lot of advantages and broaden how we think about and respond to climate change. For example, without having to pay middlemen, we can get a lot more money to the projects themselves. And rather than guilty indulgences, we can be grateful for fossil fuels while also internalizing their costs. And rather than worrying if our money is actually getting to projects, we can support projects we already know and trust are doing good work in the world—small projects, local projects, even non-mitigating projects that could not receive support through offsetting.

And it was really this last idea that catalyzed my thinking with regards to Living Routes. Why would we give money to some anonymous project when there were all these great projects right in front of us and aligned with our organizational mission? So this is what Living Routes did in ecovillages around the world: We supported solar cookers in Senegal, electric rickshaws in India, a recycling center in Mexico, a “dome-atory” in Israel, and tree planting wherever we went. The students loved the opportunity to give back to their host communities and the communities appreciated the support.

It worked so well that in 2012 I left Living Routes to start Earth Deeds and focus on de-

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## Because of all the middlemen involved in carbon offsetting, as little as 30 cents on the dollar may reach sponsored projects.

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veloping online tools to make the process easy for other organizations. So far, we have helped study abroad organizations, conferences, weddings, and other teams to better understand and manage their carbon emissions and support sustainability projects that have meaning to them. As opposed to offsetting, we call this system “onsetting,” and rather than “carbon neutrality” we promote “carbon consciousness.”

And just to be clear, I absolutely believe we need to reduce our carbon emissions as quickly and as fully as possible. What I’m saying is we need to do that...and...we need to do so much more. We need



*Daniel with daughters Simone and Pema.*

Photos courtesy of Daniel Greenberg

to create community-based food systems. We need to preserve biodiversity and “wildness.” We need to fight for climate justice and for those unfairly burdened by the consequences of global warming. And we need to deconstruct and replace the economic and political systems, and even the mindsets and worldviews that got us into this situation in the first place. We can’t do any of that through offsetting, but we can through onsetting.

In 2016, I worked to onset two FIC and GEN North America (GENNA) meetings. In the spring, we accounted for FIC and GENNA board members’ unavoidable travel to Lost Valley Education and Event Center in Oregon and contributed \$600 towards their “Solar Roller,” a mobile, hands-on station that is educating youth across Oregon about renewable energy options.

In the fall, we onset meetings at La Cité Ecologique and supported their photovoltaic initiatives, but I also ran into two concerns from Board Members around whether this was “carbon reductionism” and how to account for our positive work in the world. I am hoping this article might catalyze a broader dialogue on how communities might best respond to their unavoidable CO<sub>2</sub> emissions.

Expanding on the first concern, Charles Eisenstein describes “carbon reductionism” as “an intellectual and quantitative understanding of climate change that lends itself to over-simplified solutions, in perpetuation of the same ideological force that generated this crisis to begin with.” Instead, he argues we need to focus on a qualitative valuing of our world and understanding the parts through the whole.

I agree our dominant culture favors the quantitative over the qualitative, but rather than swinging to the opposite pole, let’s embrace both! Yes, pricing carbon leaves out a lot of important stuff. I mean, how can we even begin to think about the true cost of a species going extinct? But does this mean we shouldn’t even try to understand how our actions will have very real consequences for the lives of our children and all life on the planet? How will we survive as a species if we don’t create economic systems that account for the full cost of goods and services? Let’s start where we can!

The second concern is that the FIC, GENNA, and most communitarians are inherently part of the *solution* and that because of all our good works in the world, one could argue we are already carbon negative. Instead, the thinking goes, let’s focus on getting corporations to account for their emissions and to support community-based projects and organiza-

tions that are trying to heal the world.

Here is an analogy in response to this concern. Imagine we’re a group of communitarians that decided to eat at one of the pay-what-you-want restaurants that are popping up all over the world. (See [www.theguardian.com/travel/2014/jan/28/pay-what-you-want-restaurants-around-world](http://www.theguardian.com/travel/2014/jan/28/pay-what-you-want-restaurants-around-world).) At the end of the meal, would we say, “I don’t think we should pay because we grow more food than we can eat in our backyard permaculture gardens”? Yes, it’s great that we’re growing food. *And...*there is an actual cost to the meal we chose to eat, which we should also acknowledge and account for.

We might also say, “Wealthy folks who don’t care about good food should eat here and pay for our meals as well.” The problem is, those folks probably aren’t going to eat at these restaurants in the first place and, even if they do, they might also come up with similar rationales like, “I don’t think I should pay because I already donate thousands of dollars to good causes.” My point is that there are actual costs to our travel emissions that I believe we should account for despite our other good deeds and, also, that it is a slippery slope to rationalize our way out of these costs since everyone can come up with good reasons why they shouldn’t have to pay.

*What do you think?* Does it make sense for visitors to ecovillages and other communities to voluntarily onset their unavoidable emissions and support community-based sustainability projects or is this a reductionist and “old paradigm” endeavor that is at best confusing and at worst hindering our Great Turning towards an ecological age? To join the conversation, go to the comments section following this article’s online version at [www.ic.org/local-solutions-to-global-warming-paying-for-our-carbon-meal](http://www.ic.org/local-solutions-to-global-warming-paying-for-our-carbon-meal). 🍷

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*In 1999, Daniel founded the nonprofit Living Routes, which partnered with UMass-Amherst to run study abroad programs based in ecovillages around the world. Over 1,500 students were transformed by these immersive experiences. Daniel left Living Routes in 2012 to start a new social venture called Earth Deeds ([earthdeeds.org](http://earthdeeds.org)), which offers online tools for individuals and groups to “onset” their unavoidable CO<sub>2</sub> emissions and support meaningful sustainability projects. Daniel has been a leading advocate for sustainability within international education and the ecovillage movement. He is cofounder and past Board Member of Gaia Education ([gaiaeducation.org](http://gaiaeducation.org)), and currently serves as President of the Global Ecovillage Network ([gen.ecovillage.org](http://gen.ecovillage.org)).*



*Faculty and staff on Living Routes Semester in India Spring 2010.*

# INTENTIONAL ELECTRICITY: The Challenges and Rewards of Community Power

*By Woody Hastings*

Communities around the world—from small villages in Africa, to towns in Denmark, to communities all over the US—are beginning to take control of their energy systems. New technologies like solar photovoltaics and wind power have combined with the powerful motivating factor of the global climate crisis to bring this movement to the fore. This is the story of my own regional community, Sonoma County in northern California, and how we overcame significant obstacles and launched a community-scale energy program in 2014.

Energy, and how communities relate to it, is coming full circle. From primordial tribal times all the way to the centuries preceding the industrial revolution, communities of people relied on the renewable energy sources that were available locally: sunlight, wind, water, and fire. We took a 100-plus year detour with centralized fossil and nuclear power and long transmission lines delivering remote power, in a system that also delivered billions of dollars into the hands of very few individuals and demanded that communities and individuals just pay the utility bills and not ask too many questions.

All of that is now undergoing a fundamental transformation—an energy revolution—where clean, renewable, localized energy is being developed and where community stakeholders have far more say in decision making and stand to reap far more benefits. In short, we are witnessing the rise of community power and the emergence of Energy Democracy.

I've been an advocate for community-based control of energy decision making for a long time, starting out as an environmental activist in the early 1980s. In 2010 I was hired by the nonprofit Center for Climate Protection in Santa Rosa, California to help establish what ended up being the second local, not-for-profit Community Choice Energy program in the state, Sonoma Clean Power (SCP). SCP is successfully serving most of Sonoma County with electricity that is 48 percent lower in greenhouse gases than the big for-profit utility, and doing it at lower rates. Much of the work I do now revolves around sharing the model with other communities around the state, in part with a dedicated website, the Clean Power Exchange.

Community Choice Energy agencies are essentially community-driven energy co-ops, and they are really taking off in California and other states. Community Choice is a vehicle that allows communities to take control of decision making about a very important part of the energy equation: sources of energy for electricity. This makes it possible for communities that care to rapidly increase renewable energy in their power mix and commensurately reduce greenhouse gases.

Community Choice is a public program designed to operate in the interest of its customers—the people—with no shareholders to satisfy and no multi-million-dollar salaries to pay. Customers are entitled by law to participate in decision-making meetings. In short, it is electricity for the 99 percent. Six states currently have Community Choice law: Massachusetts, Rhode Island, New Jersey, New York, Illinois, and California. If your state does not have it, get in touch with the folks at LEAN Energy US, the organization working to establish this excellent public policy in more states.

It is also important to know that taking control of energy systems does not necessarily depend on having Community Choice law. About 30 percent of the US is served by publicly owned utilities, rural cooperatives, and other unconventional arrangements that are far more accessible to the public than the large corporate monopoly utilities. Opportunities also exist within the corporate utility framework for establishing community solar systems and other community-level energy projects and programs. The key is to get educated about the possibilities in your neck of the woods, organize, and take action.

The story of Sonoma Clean Power could be stretched all the way back to Ben Franklin flying a kite, but let's choose a more recent beginning. How about the electricity crisis of 2000/2001? It was out of this turmoil that the origins of Sonoma Clean Power truly took shape. In this same time period the Center for Climate Protection was founded. Between 2001 and 2005, the Center for Climate Protection spearheaded a process of taking inventory of the greenhouse gas emissions in Sonoma County and setting targets for reducing those emissions. All nine cities in the county and the county itself participated and signed on to the reduction targets.

In that same year, 2005, the Center for Climate Protection published a White Paper entitled “Local Actions to Address Climate Change,” pointing to the potential of Community Choice as an effective means of reducing greenhouse gases.

Between 2005 and 2008, the Center for Climate Protection again led Sonoma County, this time in developing a Climate Action Plan. The Climate Action Plan included an Energy Solutions document that showcased Community Choice as the number one means of rapidly reducing greenhouse gases.

After the publication of the Climate Action Plan, the Center for Climate Protection embarked on the mission of implementing the Plan. Part of that implementation included educating the community about Community Choice Energy and developing a strategy to bring a Community Choice

program to reality in Sonoma County. A “Friends of Sonoma Clean Power” sign-on list was created and community leaders were invited to add their names, businesses, and organizations to a growing list of supporters of “evaluating the challenges and benefits of implementing community power in Sonoma County.”

In May 2010 Marin County, just to our south, launched the first operational Community Choice program in California. Shortly afterward, the Community Choice advocacy community celebrated the defeat of Proposition 16, a measure

that would have crushed the prospects of further Community Choice development in California by enshrining anti-competitive language in the California constitution to the benefit of the large utilities.

Later in 2010 the Center for Climate Protection invested in full-time staff dedicated to the formation of a Sonoma County Community Choice program. Not long after that, in March of 2011, the Sonoma County Water Agency stepped up to the plate and allocated the funds needed to produce a Feasibility Study to “evaluate the viability of implementing a Community Choice Aggregation program” in Sonoma County.

In April of 2011, the Water Agency convened the first meeting of the Community Choice Steering Committee. Representatives from all eligible local governments in the county were invited, along with other community stakeholders including business, labor, environmental organizations, and others. The Steering Committee held meetings monthly from April 2011 to July 2013, six months after the formal Sonoma Clean Power Joint Powers Authority came into existence in December 2012.

Also during 2011 the Center for Climate protection formed a high-level strategic advisory group made up of active and retired political consultants from the entire political spectrum, former elected officials, labor representatives, and others, to help guide the political process and to build support for Sonoma Clean Power. I referred to it in passing at one point as the “high altitude committee.” The name stuck and we had a group of HACs to help guide us! Also during this time the Friends of Sonoma Clean Power list continued to grow with a particular emphasis on growing support from the business community.

In October of 2011, the Feasibility Study was published. It gave a green light to Community Choice and projected three possible scenarios with increasing degrees of greenhouse gas reduction as compared to the incumbent utility.

During 2012 and 2013 the Center for Climate Protection and the Water Agency made many presentations to city councils, civic organizations, business groups, and others, to explain what the Feasibility Study had shown and to garner support. In December 2012, Sonoma Clean Power was founded between Sonoma County and the Sonoma County Water Agency and the process of inviting cities to join commenced. Every good story has a good cast of characters and we had no shortage. Naysayers, obstructionists, gadflies, confused people, endlessly-questioning elected officials, people who make their public statements in rhyme, and even some who brought a guitar and sang a song for clean power. But in the end, an overwhelming feeling of pride emerged as the majority in the community stepped up to support the idea. I felt so proud of my community every time when at the end of a long, uncertain debate, the vote came, and it was a yes!

By the end of 2013 the cities of Windsor, Cotati, Sebastopol, Cloverdale, and the City of Sonoma had voted to participate in Sonoma Clean Power. In May 2014 Sonoma Clean Power launched service to its first group of customers to become the second operational Community Choice program in the state of California. In the latter half of 2014 the final three eligible cities in the county eventually joined.

Results? In its first year and a half of operation it saved ratepayers \$50 million in direct savings, increased in-county spending of electricity revenue dollars from three percent under PG&E to about 25 percent with Sonoma Clean Power. And the greenhouse gas content of Sonoma Clean Power’s power mix came in at a whopping *48 percent below* PG&E’s power mix.

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## The greenhouse gas content of Sonoma Clean Power’s power mix came in at a whopping *48 percent below* PG&E’s power mix.

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Now in 2016 Sonoma Clean Power features a variety of products, programs, projects, and services. From continuing to offer cleaner power at lower rates, to developing floating solar power on irrigation and wastewater treatment ponds, to promoting the adoption of electric vehicles, Sonoma Clean Power is playing a dynamic role in advancing Sonoma County and fellow communities into the clean energy economy of the future.

The magic of Community Choice is not to be found in the “snapshot” of what it looks like at launch with a higher percentage of renewable energy than the big utility. Rather, the magic is in the “movie” about what happens over time through public participation in a local not-for-profit agency serving its community’s needs, enhancing energy democracy, and creating economic benefits that can develop local energy resources. Find out more at [cleanpowerexchange.org](http://cleanpowerexchange.org).

Community Choice Energy, at the time of this writing in late 2016, is on a roll in the State of California: 26 out of the 58 counties and over 300 cities in the state are either operational or at some stage of evaluation. Five Community Choice agencies are serving customers; three more are on track to launch service within a year. Whether you have Community Choice law or not in your state, what are the prospects for your community to wrest control of energy decision making, for your own sake and the sake of the planet?

To learn more about the Sonoma Clean Power story and the work of the Center for Climate Protection, visit:

- Center for Climate Protection: [www.climateprotection.org](http://www.climateprotection.org)
- Clean Power Exchange: [www.cleanpowerexchange.org](http://www.cleanpowerexchange.org)
- Sonoma Clean Power: [www.sonomacleanpower.org](http://www.sonomacleanpower.org) ☺

*Woody Hastings is the Renewable Energy Manager at the Center for Climate Protection. He is an energy and environmental policy analyst, strategic planner, and community organizer with over 29 years of experience in the nonprofit, governmental, and private sectors. Woody specializes in Community Choice Energy, a state policy that fosters energy democracy by empowering communities to establish their own not-for-profit electricity service, thereby taking control over decision making about energy sources for electricity generation. Woody lives with his wife in the Sonoma County, California community of Sebastopol.*



Photos courtesy of Woody Hastings

*Members of the Sonoma County community, including clean energy advocates, elected leaders, and other supporters, celebrate the launch of Sonoma Clean Power on May 1st, 2014. The author is in the back with upstretched arms.*

# The Carrot in Front of Our Nose: LESSONS FROM ZEGG

By Tobias Bayr

In September 2016 I was in Potsdam at a summer school about climate change. I heard in a talk that at the moment we humans use resources at a rate that would take one-and-a-half earths to supply in an ongoing way—with our western society lifestyle requiring four or five earths if it were adopted worldwide. In 2016 the earth overshoot day, the theoretical day by which we had used all our resources for the year, was August 8, so after that we were living over our budget. This has shifted a lot in recent years; in the year 2000 this date arrived at the beginning of October.

But we have only one earth, so we are miles away from a sustainable way of living. We are not talking about only a few percentage points that we have to reduce our footprints to get sustainable. It is not enough just to take the bike instead of the car to get to work or to use renewable energy sources, even though these are important steps in the right direction. In our western culture the main strategy to become more sustainable seems to be the adoption of new and more efficient technologies; this is part of a general trend to more technology. To be honest, I am very doubtful that we can get sustainable this way.

After hearing a lot of theoretical stuff at the summer school, I was looking forward to the excursion to the ZEGG ecovillage, to see an example of what living in a more sustainable way could look like. Achim from the ecovillage showed us the constructed wetland, the wood chip heating system, the edible landscape, and how they make Terra Preta, a very nutrient-rich soil made out of charcoal and compost, which takes CO<sub>2</sub> out of the atmosphere and stores it in the soil. Cherries, peaches, apples, kiwis, wine grapes, and all different kinds of berries grow everywhere in the ecovillage. Many things done there are low tech—everyone could do the same in his/her own house or garden.

And then Achim said something which was etched in my mind: The gardens of kings and nobility grew only plants that one could not eat, to show that they were so rich and did not need to have edible plants to survive. Suddenly the scales fell from my eyes! We as western society have been trying to mimic the lifestyles of kings and queens in so many ways to show our wealth: We want to live in our own flat/house (my home is my castle), where I am king/queen, but loneliness is a widespread disease in our society. We build houses in which everything is done automatically by fancy technology that you can control from everywhere in the world with your smart phone.

Why? Just to be served like kings and queens? We use perfume as kings and queens did. Why is it bad to smell like a human? I like the smell of my body! We apply make-up to our faces. Why? I like the natural beauty of humans. We need to wear clean clothes without any holes or tears. If we are in business we need to wear fancy, expensive-looking suits. Why? Just to look like kings or nobles? Our cars become bigger and heavier and need the same amount or even more fuel than they used 10 or 20 years ago, even though engine technology has made lots of progress. Why? Just to have the biggest coach and to show your wealth?

I could continue with this for a while, but I hope the point is clear. Just because the kings and queens showed us what luxurious lifestyles are possible, we are running after the carrot dangling in front of our nose and hope to become happy when we have the beautiful villa, the fancy car, the stylish clothes. We don't notice that we do not get happy, as there is someone who has a more beautiful villa, a more luxurious car, and more stylish clothes! And on top of that, nature and the rest of the world have to pay for that, as serfs did in former times. So we



*Terra Preta  
vegetable garden.*



*Terra Preta,  
a very nutrient-rich soil.*



*ZEGG garden.*



*ZEGG from a bird's perspective.*

are running blind with the focus on the carrot, not noticing that we are running straightaway into an abyss.

The time in the ZEGG ecovillage opened my eyes. I saw that less can be more, that it is possible to live more sustainably without affecting life quality. I have a desire to lead a more simple lifestyle, to reconnect with nature again, to live closer to nature, to live closer with other people and not isolated in my own flat, not knowing my neighbors. And therefore I do not need high tech. I think it would be good to reconsider our lifestyle. In my eyes the most important things in life are the ones that we cannot buy. So I stopped running after the carrot and now go my own way. And I am happy to notice that I am not the only one who stepped out of the hamster wheel, that there are more and more people who go a different way, live a different lifestyle, do not care so much about money, and avoid consumption, or live together in ecovillages, cohousing projects, and other communities. Places like ZEGG inspire me a lot and grow my hope that we can make the great turning and mitigate climate change to a level so that we pass on a livable earth to our children and grandchildren. 🌱

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*Tobias Bayr is a climate researcher at GEOMAR in Kiel, Germany.*

# COMMUNITIES and Zero Population Growth

*By Arty Kopecky*

**T**o my mind, dear friends, Intentional Communities (ICs) may play a critical role in the advance of our civilization—while helping us alleviate our most pressing problems.

We are all familiar with the myriad challenges facing humanity. To rescue ourselves, the most important prerequisite is to achieve zero population growth. (And then, even, to gradually reduce our human numbers.) All other advances are negated if we can't achieve this.

ICs play a vital role by being an evolution beyond the nuclear family. The desire and need for family is very basic to humanity. ICs provide a family without each having to create a new family. In this political season, we hear a lot of talk of revolution. Well, here is a revolution: band together with some like-minded people and create a family of unrelated people. At Green Valley Village my friend Kai introduced me to the phrase, “conscious kinship.” This concept is central to the communities movement.

I was touched witnessing at one northern California community how Jennifer, a mature teenager, helped Alia with her children, exhibiting such warmth, you could just see the strength of her maternal instinct; but she was able to express it without having to get pregnant. Virtually every issue of COMMUNITIES pictures circles of friends who are creating families whose members help each other in every aspect.

The Morningstar family was dispersed by the Sonoma County, California authorities back in 1970 but remarkably they still stay connected in a virtual community through a Yahoo group. They discuss births and “reassignments,” pets and poems and children. One member recently wrote about Patty, “She was the earth mother goddess and oh how I loved her and that baby Eden so very much. Whenever I think of Eden as a baby, I still get that pang in my heart. I truly loved that baby.” The ties of these families can be as tight as the conventional. Morningstar has endured for 45 years with the help of cyberspace, and recently, in Sebastopol, they had a live reunion.

If we could achieve zero population growth, we could stop building cities. When I travel now I am horrified to see the vast traffic jams, the immense parking lots, and the hundreds of fast food joints in their tastelessly designed boxes. There is such a desperate need to create jobs, an almost hysterical fear of slowdown. Indeed, from what I read, the leading cause of the rise of Donald Trump is the fear of unemployment. But if our history is to go on for hundreds of years we will have to slow development down.

The only relief I see is the promise of the IC movement. It is a seed now, an example, a model being developed by those creating a new culture. At the communities I participated with, New Buffalo and Green Valley Village, people made a life in place, for the most part. They got up in the morning and stayed right there. Some went to work outside and this is actually important to maintain a balance with society. But most worked the land, preserved food, milked and processed the milk, maintained machinery, and worked on the buildings: a family farm, in the modern version of people who have found each other. Together they are creating an ark for survival, an ark that can be shared. Rather than fine cars, they have fine friendships. Rather than demanding a job, they are creating a job, at home.

And why is this so ecologically important? It's important because these pioneers are not desperately demanding more “development,” but show a way to share and slow down.

In addition they help with the “debt crisis.” In the long run both the government and the medical bureaucracies have to shed jobs. The cost is just too high. This cannot be imagined unless some pioneers offer a way for some millions of unemployed to survive without these jobs.

For most of history, most people lived “on the land,” then humanity had a phase of building cities, but that phase must end—the sooner the better, for the environment's sake. Only with a return of people to the land, this time in unrelated families, can some millions find a way to survive.

On the land, there is always a great deal to do. It doesn't pay hundreds of thousands of dollars. But it can give a perfectly wonderful life; a place with food, shelter, and companionship. And you don't have to get stuck in a traffic jam to get there.

Each locale has its different chores. For us, in New Mexico, one of the biggest chores was flood irrigation. We would open a wooden gate at the main ditch and let a cascade of water run along the convoluted ditch system which led down to the fields. I would repair the ditch sides and weed as water found its way to the fields. There the water must be spread and spread some more. The soil erodes easily because there are only the tiny sprouts of the new crop to hold the soil. I go to the left, then to the right using the tip of the shovel to make numerous pathways, always trying to stay on the dry ground as the water advances.



Kim stepped in an area where the water had been for a while and he sank. He could not pull his feet up so had to abandon the boots in the soil and step out barefoot. In my mind's eye I can still see those boots standing up in the middle of the field. In a few weeks there would be a bright green carpet of the new crop to admire. Kim eventually retrieved the boots.

In our culture we have the terms “transformation” and “new paradigm” floating around. The IC's certainly offer an alternative. This is not a matter of either/or; ICs add an element, create a relief valve for our society. Like irrigation channels, they take off from the mainstream and lead in some new directions. Be it followers of Trump or Bernie Sanders, these people say they want change. The only way they're going to get it is if they create the better world themselves. Yelling and blaming is hardly the creativity we need.

While we are speculating on ICs' contributions to righting the ship, there is a third, equally important contribution: instilling, promoting, nourishing, a cultural change from greed to sharing. The chasm between the one percent and the 99 percent is vast. The best way to bridge this gulf is through sharing. Other equally titanic cultural shifts have occurred in human history. Once slavery was the norm; now that is a bygone era. Once women had few rights and were a subjugated class; now that is mostly changed. Once the aristocracy ruled absolutely; now the era of democracy and universal education is dominant. Once the Soviet Union was deemed a menace; then the people of Russia, miraculously, changed the system without a war.

And if the human race is to have a long future, I think, the current extreme uneven distribution of wealth will have to end, so prosperity can be more universal. The greatest wealth—land—is a great vehicle for sharing.

The land for New Buffalo in New Mexico was a gift, as was Morningstar in California. At New Buffalo, without a master plan, we farmed together and shared the chores; the same with the cooking. Amazing as it sounds, for over 14 years, the community served anybody who came up the road. I loved that spirit which, somehow, was in the people. I hope it comes back. There was no master text or guru. The idea was “in the air,” in the people, a reverberation of some cosmic enlightenment. And these people understood and participated in an extreme non-greed mindset, one very involved with sharing. We weren't charging, and no one was getting paid.

A changing group of people kept things going and some tried to make progress. In the popular movie *Easy Rider*, Dennis Hopper, who was an occasional visitor, portrayed New Buffalo. The scene at the “commune” was very true to life: before the evening meal we circled, held hands, and some might be moved to say a blessing. The first time I saw the movie, the camera panning across the faces shocked me with its realism. Then seeing us spread seeds by hand as we planted a field also brought me right back to a pioneering moment. We shared the harvest. We grew wheat, harvested it as a group, found a way to thresh it, and stored it in our milk room in a big wooden bin where we could check on the dryness. In the kitchen we had an electric grinder which Larry would repair occasionally. More people, grind more flour, make more tortillas. That seems to me a far better ethic than the constant complaining we hear about employment and everything else. And it's well within reach if enough people will make common cause.

“Back to the Land in Cooperative Culture” is the slogan. Saving the environment and the people is the cause. This movement takes a positive, optimistic, thankful attitude; it spreads generosity, a love of nature, and friendship. In a nutshell it is just what America, what the world, needs. Getting along is not easy. It's the greatest challenge. All kinds of people want to go to Mars. Here's a challenge right here on earth and it would do humanity far more good. It is appropriate to close with John Lennon's words of wisdom: “You may say that I'm the dreamer, but I'm not the only one.” 🐦

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*Arty AnSwei Kopecky lives in Sebastopol, California and works as a finish carpenter. He also has a small bonsai nursery and, with his ex-wife Sandy, maintains a beautiful property. Art has written two books, New Buffalo: Journals from a Taos Commune and Leaving New Buffalo Commune, both published by the University of New Mexico Press. Art is hoping yet to find further ways to contribute to the IC movement.*



# Preparing for the Human Challenges OF CLIMATE CHANGE

By Sara Donna

Impressed by deteriorating social and environmental conditions on our planet, we've spent the last eight years shifting our lifestyle at Lampa Mountain Community (on the southern Oregon coast) to more sustainable living practices. We want to do our share of being part of the solution—and be prepared in case the trend lines continue and conditions become even worse.

We've found a great wealth of experience and knowledge in our local area and learned a lot while becoming friends with nearby experts. Recently we asked our neighbor and dear friend Mark Sturges for advice on improving our garden fertility, and he enthusiastically recommended adding biochar<sup>1</sup>. After talking up the idea with Mark and some other friends, we decided to collaborate on building a kiln to make the stuff.

In order to learn more about biochar, community members Dyana and Dirk went to an international biochar conference in Corvallis in August and, while there, got updated on the lat-

est troubling statistics on climate change. On their return, their sober reports brought the issue to the front of our minds. Several of us met as a committee to consider how to approach the subject, and then all of us gathered the following week to discuss what we as a community should do to address climate change.

Because of our ongoing interest in facing and solving the human challenges of living together, a lot of our conversation in both meetings focused on the daunting human challenges of climate change and other global problems. Unlike regional famines and droughts, local disease outbreaks, and civil wars, these far-reaching problems are afflictions we *all* share. They will inevitably affect everyone, no matter where we live. Also, no matter what we do to prepare our little community oasis for self-sufficiency and sustainability, we will be surrounded by people who will not be as well-prepared, and who may suffer greatly as a result.

The signs are discouraging. Lots of really bad things may happen, probably *will* happen, in our lifetime: Epidemic disease. Droughts, crop failures, and famines. Economic collapses. Wars and revolutions. These are all possibilities that could be increased by climate change. So we are not only interested in how we will continue to physically survive and thrive as world conditions change, possibly dramatically. We are also very interested in how we will face and respond to potentially widespread suffering, despair, and desperation around us. How will we resist and counteract the natural tendencies toward fear, distrust, and self-protectiveness, within and outside of the community? How will we stay constructive, and help others do the same, even against odds?

## Spiritual Preparation for Climate Change

In our committee meeting we talked a little bit about the practical ramifications of climate change. But most of what we talked about was spiritual preparation, so that we can be a positive



*Dirk and Wilson dumping buckets of crushed homemade biochar onto a garden bed.*

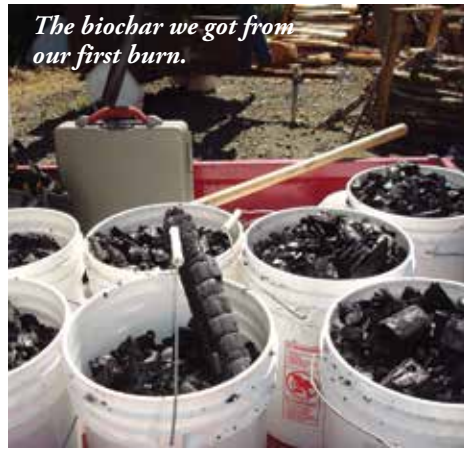


*Group scene from our biocharbecue event.*

Photos courtesy of Sara Donna



Jay and Sara bolting the upper doors of the retort shut before the burn.



The biochar we got from our first burn.



Scene from a recent community meeting (Jay, Alex, Eva, Mati).



influence for those who are open to it, and who need it. For that, community cofounder Francine James reminded us, “We have to be strong. We have to be clear, so that we can help and not just fall apart when things get bad. And we have to really be solid in it, ourselves.” Otherwise, we realized, we could easily get into a very negative, self-protective, survival-oriented mindset and a big fear of what could happen, and that won’t help us realize our higher purposes. And it won’t contribute anything to solving the world’s problems.

In our community meeting a few days later, we reviewed our progress toward long-term sustainability, and agreed we’re doing fairly well on the practical level. We’re figuring out what we need to do to make our soil better. We’re researching and planning alternative energy installations. We’re keeping our relationships with our neighbors good and supportive. All these things are very important.

Then we turned our attention to our *spiritual* preparation for hard times ahead. We started out looking at our priorities and motivations. Even in the middle of thinking ahead and making lifestyle changes, where are we coming from? Is our basic orientation positive and life-affirming, or pessimistic and fearful? We can’t create positive change coming from a negative place.

Here are excerpts from our discussion about that:

**Mati:** I think about how some people focus on stockpiling a lot of supplies, but there is nothing about that that uplifts or unites people. Whereas there are a lot of things we could do that actually are very inspiring and life-affirming. Like living really beautifully for the sake of other people. Being harmonious and able to cooperate. And living intelligently, and learning about how to support the land so it can feed you. I much prefer for us to be throwing our energy into those things, rather than being motivated by survival fears and negative consciousness about what could happen.

**Jay:** I agree. Entrenching ourselves on our property and peeking out through the window to make sure there are no invaders coming would not heal any of the problems of this world. Feeling paranoid doesn’t lead anywhere good. Instead, I really like the idea of creating systems and looking into things that are healing—like compost, and biochar. It may just be a drop in the bucket, but it’s a vote for a right relationship to life.

**Dirk:** There are all these beautiful systems in nature, and human beings have gotten so out of step with it. But if we start working together with it, we’re cooperating with the way things work. This is a loving way to live in this world.

**Eva:** To invest our energy and resources into these solutions is to affirm the planet’s beautiful abilities and beautiful spirit, and the

*Scene from a recent community meeting (Dyana, Dirk, and Dinari).*



*Dyana and a friend putting biochar wood into the retort before the burn.*



*Wilson spraying water on the still-hot biochar right after opening the retort the next day.*



*Beauty shot of our homemade, original-design retort.*



*Charging the char with nutrients by adding rock dust and compost tea to the biochar.*

healing intention of the life force itself that's around us.

**Mati:** The way we're investing in our environment and land here is similar to what we're doing with each other. We are trying to live in a way that supports each other, and creates a context that is supportive of life and love and the feeling that you can be yourself. Just as human beings respond well to being taken care of, so does nature, and so does the planet.

### Addressing the Deeper Cause of the World's Problems

As our discussion continued, we ventured deeper. It's one thing to respond to the symptoms of a problem; it's quite another thing to look for and solve the cause of the problem. To truly correct the problem, both must be done.

There's been a lot of debate about what's causing climate change, and the other major problems on our planet today. Why are so many species going extinct? Why is the disparity between the "haves" and "have-nots" continuing to widen? Why doesn't the global community *freely cooperate* to completely answer these questions, and eliminate the problems?

We recognize that there's an even bigger problem underneath these major crises, and that problem is ego<sup>2</sup>. But unlike climate change, which is being measured by instruments all over the world, there are no devices to detect ego, so the problem is relatively unknown. And even when we complain about it, we tend to point the finger at someone else.

**Sara:** Many people realize how certain obvious forms of ego—like corporate greed, corrupt government, etc.—contribute to the world's environmental and social problems. But the fact of the matter is, the separative thinking we see at the corporate or government level is also found in individuals. It starts at the individual level. We are all part of the problem of ego, and most people don't realize it. But each of us is responsible to solve the problem of ego in ourselves. That's the only place it can be solved.

**Francine:** That's right. To the extent each of us still acts in separative and self-centered ways, each of us has a contribution to make toward reducing the problem—by seeing and releasing our own ego. So whatever energy and attention we put into our preparations for the future must not take away from our energy and attention for this very important goal of understanding and overcoming ego in ourselves, because that's addressing the actual cause of the world's problems.

### Practical Steps after Our Discussion

It's easy to talk philosophically about the problems of the world. And it's easy to say, or to feel, "I love this planet." But change happens only when we put our ideals into action. Loving the planet is a lot like loving a human being. What risks or sacrifices are we willing to make to show our love? Obviously, humanity hasn't been doing anywhere near enough to manifest our love for this planet we share, even though we all will say and feel that we love it. If we feel it, it's up to us to prove it!

Since our meetings we've increased our efforts to manifest the inspirations we discussed. We're especially excited to report that we built and tested our retort (kiln designed to make biochar). The first time we fired it up we invited a number of interested friends over for a "biocharbecue" (see photos). Our design and fabrication methods proved successful! We are looking forward to making lots of biochar and sharing it with our neighbors, as well as spreading the word about biochar. Dirk and Dyana recently gave a presentation about our biochar experiences to our local seed-savers' organization.

And, we'll continue to consider the world's problems as deeply as we can, and to experiment, study, and share what we learn with our many friends. 🍷

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*Sara Donna is one of the founders of the Lampa Mountain Community, located south of Coos Bay, Oregon. You can connect with the community by email ([lampamountaincommunity@gmail.com](mailto:lampamountaincommunity@gmail.com)) or through the Lampa Mountain Community page on Facebook.*

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### Notes

1. Biochar is a type of charcoal produced by burning wood and other plant materials in the absence of oxygen. When properly inoculated with fungi and microorganisms and mixed into the ground, it creates long-term improvements in garden, field, and forest soils. Not only does biochar enhance the fertility of the soil, but it also helps remove CO<sub>2</sub> from the atmosphere. Biochar prevents the carbon absorbed during plant growth from re-entering the atmosphere, as it normally does when plant material rots or burns in the open air. This makes the use of biochar a promising tool for mitigating climate change.

2. In this context, "ego" is a way of thinking epitomized by the belief, "Look out for yourself, because no one else will." Ego-oriented thinking is a "negative conclusion factory," because it promotes a sense of difference, division, and conflict, and encourages separative, self-protective decisions and actions.

# TWENTY PRINCIPLES OF ECORESILIENCE: Personal and Cultural Adaptation to a Changed Planet

By Linda Buzzell and Craig Chalquist

**W**e would like to offer a blueprint for how to strengthen communities as climate change intensifies.

A dictionary definition of resilience refers to the capacity of individuals, communities, and ecosystems to respond and adapt to disturbance. Building on this, ecoresilience includes creative adaptation and response to environmental disturbance and trauma, with global warming a pre-eminent and growing example.

The ongoing unraveling of every sector of our society and each ecosystem on the planet can feel overwhelming. With so many of our life support systems and those of countless other species coming apart, how can we go about healing the mess we've created? And how much can any one person or small group do in the face of a Perfect Storm of crises?

This huge project that theologian Thomas Berry called the "Great Work" of our time can sometimes feel too big, too overwhelming. So in order to take on our personal role in the shift towards a life-sustaining society, we also need to do the inner work of finding our own personal and local calling within this larger global project. No one person or group can successfully manage trying to fix it all.

And we must also discover the joy, excitement, and peace of mind that come from doing our part in this great adventure, surrounded by friends who share our passion and commitment to the restoration of life and health on our home planet.

## TWENTY PRINCIPLES FOR CULTURAL ECORESILIENCE

### 1. Recognize Nature as Our Guide—Know and align with the movements and patterns of the natural world.

Contrary to our delusions of grandeur, in the long run humans are not actually in charge of this planet, nor can we indefinitely force it to fit our own selfish, short-sighted goals. To continue to survive as a species, we need to be in harmony with the rest of nature instead of fighting against it. Simply asking "What Would Nature Do?" or "How Would Nature Do This?" before taking any actions can help us begin to move in the right direction.

### 2. Respect the Wild Around and Within Us—Preserve greenspace and wild places—including in our hearts.

This basic principle seems obvious to most environmentalists, and it's critically important for true resilience that urban populations fully understand that nearby and distant less-human-controlled places—land and water—determine our fate. However, these places don't need to exclude humans. In fact places that we see as "wilderness" often diminish in the absence of the indigenous human caregivers integral to their ecosystem. We also need to understand that wild places and their inhabitants aren't here just to serve humans and that the rest of nature has intrinsic rights we ignore at our peril.

### 3. Come Home to Where You Live—Return to earthly reality in acts of deep homecoming.

To be truly resilient we need to leave behind the modern "nowhere and everywhere" fantasy



*Fungus, food, drink.*

PIXABAY

bubble fostered by the media, cyber-communications, and cheap, fossil-fueled travel. We can then relocalize and re-empower our lives, reorienting to actual earth time and space. The disconnection from our own local, bioregional life-support systems (and the habitats of our local animal and plant siblings) allows us to thoughtlessly damage specific earthplaces. We can rediscover the deep pleasure of emplacement as we relearn the historical, geographical, biological, and even geological context of where we live and share it with our children and grandchildren. Finding or rediscovering a beloved place and truly committing ourselves to the welfare of its watersheds, land, air, animals, plants, and people is one of the most exciting life paths we can undertake.

#### 4. Build Heartsteads—Create wisdom circles and gather around a common purpose.

We can organize local change efforts with people who resonate with a shared vision, goal, task, or dream of community that gives its members a sense of meaning, purpose, and agency. For example, a Voluntary Simplicity Circle that met every two weeks in Santa Barbara, California for 10 years forged deep bonds between participants and created support for making the kinds of changes each member wanted in their personal and activist lives.

#### 5. Replace Monoculture with Polyculture—Welcome in who and what has been silenced or excluded.

Nature abhors a monoculture! We need merely observe a cleared piece of open ground to see how nature deals with a vacuum: it is soon full of a wide variety of plants and animals. And to limit a field to one species of plant involves constant “weeding” as we vainly try to remove the polyculture that wants to move in. We can learn from this rule of nature as we create our heartsteads, circles, and other human groups, opening our arms to all, even those our society might consider “weeds” or marginal. There can be no communal, political, or environmental revitalization without a renewal of truly inclusive community and social/environmental justice. This is no easy matter, of course, and we need a deep exploration of our various intersectionalities to understand where change needs to happen in our lives. It is especially important for those with “privilege” of any kind—European-origin, wealth, gender, sexual orientation, good health, etc.—to humbly undertake the hard work of facing how these advantages may blind us to the suffering of others—human or otherwise. Decolonization is a lifelong process.

#### 6. Start Small and Learn as We Go—Make small initial interventions coupled with constant assessment.

This principle, articulated by permaculturist

David Holmgren as “Use Small and Slow Solutions,” guides us to start with least-harmful, low-tech, simpler, and time-proven solutions and reserve extreme measures for truly desperate situations. This approach is counterintuitive for many in modern industrial cultures as we are brought up to admire Big Everything. Forgetting that we live on a relatively small planet with limited resources in a backwater of a huge universe, we don’t realize that being a giant makes us ever more vulnerable. Resilience demands that we begin to think small and make nimble, strategic changes.

#### 7. Broaden Your Focus from Linear to Systemic—Shift your attention from simple causes to complex interactions.

Systems and Complexity Theory teach us that life is much more complicated than simple pushes and pulls, causes and effects. Living systems are characterized not only by their elements but by the interactions between elements. It is necessary to think the way nature does: in the round, focusing more on process and interaction than on content and element.

#### 8. Simplify, Decentralize, Interlink—Keep an appropriate scale.

Starting small (Principle #6) reminds us of the importance of not growing beyond nature’s limits. Poorly designed overcomplexity governed by giant centralized monocultures is the bane of modern industrial society and leaves us vulnerable to collapse. Think of the Titanic, the giant ship “too big to fail” that ended up on the bottom of the ocean. Simpler systems are often more robust—and can be interlinked into a highly resilient, interconnected web of new, earth-based cultures.

#### 9. Act Local, Share Global—Be helpful well beyond your community.

Rebuilding local community and relocalizing the basics of life—food, companionship, building materials, medicine, entertainment, work, our support systems, the economy, and more—is a basic principle of sustainability. But no community can be fully self-sufficient, especially in a world in which humanity has long been a planetary species. Centuries before modern globalization taught us its cruel lessons of displacement and irresponsibility, pockets and cultures of humanity spread information and trade networks wherever we lived, in conditions pleasant or inhospitable. The counter to a *Road Warrior* post-collapse chaos of “all against all,” as Hobbes put it long ago, is for groups and communities to pool resources, share knowledge, build kinship webs, and form strong alliances based on common needs.

#### 10. Rely on Intelligent Redundancy—Set up backup plans and alternative resources.

Or as they say in the computer world: back up, back up, back up! The secret of ecoresilience, whether physical or cultural, is having multiple backups, fallbacks, and interconnections.



*South Beach  
Community Garden.*

Wikimedia Commons

### 11. Create Wise Governance—Reimagine community leadership developmentally.

This is probably the most difficult cultural ecoresilience principle of all, perhaps because women and men have been pondering “right governance” for millennia without taking developmental maturity into account. For our era and critical situation, we need to rely on the inclusive practices of council, restorative justice, egalitarian power-sharing, and peaceful conflict resolution to resolve inevitable differences—while also encouraging natural leadership. Inspired by indigenous wisdom, we need to create initiatory procedures through which leaders must be tested to guarantee their responsibility, self-reflexivity, wisdom, courage, and emotional maturity.

### 12. Decommodify Life—Redesign the economy.

To create wise and equitable governance, we must take back control of community leadership from those who benefit most from today’s corrupt global economy. The word economy comes from the Greek “oikos” (home) and means management of the household. But as Senator Gaylord Nelson famously remarked, “The economy is a wholly-owned subsidiary of the environment.” Our society’s privileging of the money economy over everything else has gotten us into the mess we’re in: we have turned almost everything, including human beings and the rest of nature, into a commodity to be bought and sold in the marketplace for profit, with disastrous results.

### 13. Adopt an Ethos of Care—Make sure everyone is embraced.

Another part of reinventing community governance involves revisioning local and global care systems. We need to take a deep look at our crumbling family and community support networks to see how they can be creatively redesigned for maximum physical and mental well-being for all—including “all our relations.”

### 14. Prepare Crisis and Trauma Teams—Develop emergency readiness and train first responders.

Rapidly degenerating global conditions demand robust and resilient crisis preparation and backup plans. We need the redundancy mentioned above: multiple ways to perform each function. And as part of our redesign of community governance, we need to reinvent emergency preparation and community protection practices, rethinking the deep meaning of true “security” philosophically and realistically, while not ignoring potential threats from flood, drought, fire, toxins, pandemics, criminal behavior—or even military attacks. We need to train psychologically-savvy, flexible, resilient, and redundant first responder trauma and ecoresilience teams to help the community survive proliferating

extreme weather and economic disruption events as well as traumatic social events resulting from the unraveling or collapse of our culture.

### 15. Design for Replenishment—Build nothing that does not enrich the natural world and support future generations.

As William McDonough and Michael Braungart observe in their excellent book *Cradle to Cradle*, we have long been entranced by industries and products that ravage and pollute. Merely making them less destructive, while use-

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**For true ecoresilience in the 21st Century  
we need to combine traditional and  
contemporary knowledge and practice.**

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ful in the short run, remains within the alienating worldview that gave rise to them. The same might be said for cultural structures like over-large cities, megacorporations, and even nations. Instead, we can design for right-sized personal and ecological health, productivity, and abundance. What we make can be good for the natural world of which we are a living expression.

### 16. Combine Old Knowledge with New—Integrate the deep wisdom of the past with the smartest and most nature-friendly knowledge and practices of our era.

For true ecoresilience in the 21st Century we need to combine traditional and contemporary knowledge and practice. This includes educating our next generations with the understanding and practical/cultural skills needed to survive and thrive in very different conditions from the ones we now live in—instead of preparing them for a world that is rapidly passing away. Keepers of knowledge, tradition, and resources can help multiply, back up, diversify, and safeguard what the community depends on to survive and flourish.

### 17. Develop a Deep Appreciation and Understanding of Human Culture—Preserve, learn from, and expand the humanities.

In addition to practical skills, each person needs access to the stories that provide individual and collective guidance and call most deeply to our hearts, minds, and souls. From humanity’s earliest days, gathering around the fire to hear tales has been basic to our species. This kind of learning finds nourishment in the tales and lore of every human culture, including



Wikimedia Commons

*Rainbow Gathering trading circle.*

*(continued on p. 73)*

# Affordable, Developer-Driven Ecovillages: MEETING AN UNMET NEED

*By Mac Maguire*

Member-driven, bottom-up ecovillages around the world epitomize the “think global, act local” insight that humans can understand and respond to undisciplined human consumption—and do it where we live.

Because our communities were gradually shaped by the dreams, designs, and compromises among a diversity of people, each village has become a unique creation. This is part of our charm and could not be otherwise. Yet having been created along distinctive historical trajectories, the resultant physical configurations of our communities prevent them from being globally replicable—not at scales sufficient to shelter the millions of humans relentlessly moving into already overtaxed urban areas in the teeth of equally relentless climate change.

The deep-rooted knowledge we embody of how generations can thrive together in community harkens back to millennia of human experience. In recent decades much of this experience, withered by a century of heat from the atomizing furnace of industrial demographic concentrations, has been recovered in cohousing cultures like the one I live in. While these evolving patterns of liberating experience cannot be reproduced on a robotized assembly line, the physical components that permit them to thrive sustainably can be. And they must be if we want our culture to radiate globally.

It is by economies of scale that the devices of modernity we often love to hate have “trickled down” through all social levels. Systems far more complex than those that compose a fully outfitted ecovillage have become the ordinary trappings of our daily life. But they have become so only when actually exposed to a market-driven discipline of evolutionary redesign and cost cutting.

Consider the gradual social diffusion of automobiles, piped hot water, flush toilets, gas and electric ovens, refrigerators with freezing compartments, telephones, radios, airlines, air conditioning, televisions, microwave ovens, personal computers and smart phones. These were restricted to the few until increased production numbers and competitive engineering reduced costs so they could be afforded first by a solid middle class and finally by folks of modest and low income.

Now consider a couple of questions. What social-economic level is typically represented in today’s member-created ecovillage—shaped as they have been by current construction and technology costs? On the trajectory of economic accessibility, what social range cannot be served at these costs? My own answer is that at current costs ecovillage projects are almost exclusively the preserve of solidly middle to upper class folks and that others of modest to low income are excluded. And absent the prototyping of a technically integrated and mass-replicable alternative, I think they must remain so.

The relative lack of affordability inherent in member-designed and built communities is a moral dilemma much discussed in my community—EcoVillage at Ithaca. Even when dramatic steps are taken to keep our communities from going the way of exclusionary gentrification, a painfully obvious fact remains. To date there is no way that folks of modest income can plan and build ecovillages. So far there has been a missing link in the evolutionary trajectory of the ecovillage movement. This article will argue that that link is a developer-driven prototype for a technically integrated and maximally autonomous ecovillage and that such a model has recently emerged—RegenVillage.

## What is the RegenVillage model?

It is a developer-driven, replicable, global-scale ecovillage model. The Venice Architecture Biennale in May 2016 generated a flood of interest in the RegenVillage conceived by James Ehrlich and his associates at Stanford and designed by EFFEKT Architects of Copenhagen. A prototype of this model is soon to begin at Almere in the Netherlands. Lund, Sweden and other northern European locations appear ready to follow. I try to see this development in the light of the last century and a half of economic history. As such I regard it as a necessary first step in making the ecovillage culture an affordable, social option for all classes.

The RegenVillage project has self-consciously set for itself the task of designing and prototyping autonomous ecovillages suitable for all the world’s climatic regions. It will initially focus on adapting its design to the rigors of the colder climates of Europe and the more arid climates of the Middle East. It reasons that proof of concept at these extremes would also ensure success in more forgiving regions.

It plans to build “autonomous, regenerative villages powered by renewable energy, and managed by machine learning MEMS (micro-electrical-mechanical-system) inputs. Energy-efficient,



aesthetically pleasing and comfortable homes capable of producing redundant high-yield, organic food and energy sources for self-sustaining communities.” (Stanford RegenVillages Initiative, [www.youtube.com/watch?v=PN67HuUtrSo](http://www.youtube.com/watch?v=PN67HuUtrSo))

## Global challenges and the Regen response: the re-villaging of mankind

The historian Arnold Toynbee argued that societies grow by creatively responding to challenges and then successively transcending any unanticipated consequences that result.

This section looks at some of today’s challenges and the RegenVillage effort to play a serious part in addressing them at a global scale. A self-monitoring component is part of the Regen business model. From the outset, the RegenVillage project intends that each local village should become an open-source, information-sharing venue. These will provide continual input to advance overall curriculum development, research, incubation, and innovation. The goal is to meet the following challenges.

About 40 percent of Earth’s land surface area is now deforested, biodegraded farmland. Every acre devoted to Regen’s integrated system of fish, livestock, and vertical aqua farming could replace 10 of these conventional farmland acres, while producing a biologically diverse yield of food in equivalent amounts. The other nine acres could be regenerated using permaculture techniques that would gradually sequester carbon naturally.

Today 70 percent of global water consumption is used for terrestrial farming, causing rivers and lakes to dry up. Every gallon of rain water harvested and stored or grey water recovered and cycled into a RegenVillage’s integrated system of fish, livestock, vertical aqua-farming, and seasonal terrestrial farming leaves nine gallons in the aquifer to regenerate rivers and lakes.

Globally, the manufacture of fertilizers, along with current farming practices, food transport, and refrigeration accounts for about 30 percent of all greenhouse gas emissions as well as causing nitrogen and phosphorous contamination of groundwater, rivers and lakes. In the RegenVillage model livestock consumption of food scraps and composting displaces those fertilizers. Phosphorous and nitrogen no longer wash into the environment. Black Soldier Fly larvae digest human waste and scraps and become protein-rich fish food whose detritus then enriches the water mediums of aquaponic and aeroponic systems for growing organic food. Farm-to-table, doorstep-accessible food eliminates transportation costs and is the only definitive cure for hunger since it empowers its erstwhile victims to become self-sufficient where they live.

Traditionally, humans work in large part to pay for their shelter. The Regen project aims for the shelter to provide rather than absorb personal income. It would embed human life within a self-reliant community of asset-producing dwellings and infrastructure. This would ultimately reverse the flow of income. Redundant energy, water, and food produced would become mortgage-eating income assets. A smart house that is also embedded in a smart community creates valuable assets. Meanwhile, regenerative residency not only restores its actual footprint but also de-stresses that portion of the world beyond that is no longer required to supply its needs.

Today 842 million people cannot produce the food they need to live active, healthy lives. They are mostly rural farmers in climatically challenged areas. While one in every seven



Images courtesy of [www.efeekt.dk/regenvillages](http://www.efeekt.dk/regenvillages)

people in the world suffers from hunger, one in every three pounds of food is wasted in storage, transport, and undisciplined disposal of scraps. Food transfers from other regions are currently the only backups when transient weather or long-term climate change turn on challenged farmers. Would it not be more helpful to empower them where they are now? A truly unassailable form of food security would require empowerment through local self-sufficiency. It requires that sunlight, water, human waste, food scraps, and technology close a virtuous biological circle with gardening and fish and livestock husbandry.

### Regenerative basal metabolism replacing unprincipled human consumption

It is not any particular level of human consumption of natural and manufactured goods that has compromised our Earth. Rather it is the undisciplined acquisition of their components and the indiscriminate dispersion of their waste that has so compromised our life on Earth. Transforming the outputs of human consumption from being waste into becoming value-added inputs in the natural circle of life is the regenerative circle that autonomy embodies.

The RegenVillage model mixes rainwater and sunbeams with human waste to produce potable water, organic food, and power in a sustainable self-reliant circle. Its community metabolism displays embodied energy constantly shape-shifting through multiple channels. Since a given category of human leavings might economically enter different processing streams at different times, their flows will be monitored with MEMS sensing and triggering devices that will channel them efficiently to meet community needs.

Regenerative flows of waste, food, water, and energy characterize the metabolism of the Regen Village prototype. Except for the critical inputs sun and rain these flows form continuous cycles within the community:

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## We may not have more than a few decades left to re-village an entire planet's worth of urban and rural neighborhoods.

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- Human “waste” starts to become an asset as it is being sorted into compostable and non-compostable leavings.

- Compostable lawn and garden cuttings can stream toward compost bins or biogas digesters.

- Compostable food scraps can stream toward compost bins, to a biogas digester, to livestock as food, or to feed the larvae that emerge from the eggs of black soldier flies.

- These larvae then become a protein-rich food for pigs, fowl, or fish.

- Fish water becomes a nutrient-rich soup channeled into aquaponic tanks or mist in aeroponic vertical farming.

- The fish and the livestock can be harvested as protein-rich human food.

- Non-compostable human fecal matter can stream toward either soldier fly larvae for fish food or a biogas digester for energy and water recovery.

- Urine can stream toward a bio-digester or be diluted for direct use as a terrestrial garden fertilizer.

- Biogas processing recovers water that is channeled to a water storage facility.

- It also produces gas that is fed into a smart grid to be used directly as combustible fuel or indirectly by generating electricity for local use or regional trade.

- Electricity is also harvested from rooftop solar panels for similar dispositions.

- And adjacent to these are solar thermal devices that directly transfer heat energy into maintaining water and room temperatures within homes.

- At the water-storage area, grey water from homes is separated toward a holding tank for irrigation of the seasonal farm whose soil has been enhanced by manure-enriched compost.

- Meanwhile, potable water harvested from rain or separated out from the bio-digester effluent will provide community drinking water and irrigate aquaponic and aeroponic organic produce as needed.

### Summing up: Why the urgency?

My own home of EcoVillage at Ithaca required an entire generation to build a community for 100 families in three neighborhoods. EVI grew within the warp and woof of families knitting their lives and their dreams together. Its particular patterns of dwellings, infrastructure, agriculture, and self-governance and management are deeply sustainable by today's standards. EVI's achievement is an against-the-odds accomplishment that honors the imagination and endurance of the generation who created it.

But we may not have much more than the time of another such generation to re-village an entire planet's worth of urban and rural neighborhoods with a community metabolism based on locally produced food and harvested energy—if we are to slow and stabilize climate change and provide definitive food security for all humans.

Here's how I hope folks in the ecovillage movement see the RegenVillage model. It is a blueprint for a tightly integrated and constantly evolving group of building and farming techniques that can produce a strategically autonomous community about the size of a neighborhood or village. It transforms sunbeams through food into smiles.

Many of us spent years and tears designing and building sustainable communities. We know where bodies are buried. So, here's what I suggest. Draw upon your own heritage and having read through this essay, now go to the EFFEKT RegenVillage website and study their model. Then ask yourself this question: "If this model had been available to me when I joined a group in search of a just and sustainable community, would I have insisted that we design our own model or would I be trying to persuade my partners that we aim from the outset for the autonomous patterns of EFFEKT's RegenVillage model?"

And here's another more critical question. Which model, a member-designed and built village like yours or mine or a RegenVillage model, is most likely to bring meaningful security to those whom an earlier generation often referred to as the "Wretched of the Earth."

In an article by Sheila Shayon, James Ehrlich addresses meeting the needs of marginalized rural populations: "While ReGen chose Almere [in the Netherlands as its first prototype] for its upper-middle class potential, the bigger prize is in developing countries as billions migrate from rural communities in search of better living conditions. Half the world's population lives in cities today and projections are that 2.5 billion people will be moving to cities in the next 50 years...."

"Our intent from the very beginning is global scale, and bringing thriving, regenerative and resilient platform design thinking into peri-urban and rural areas where it's frankly needed the most...."

"With the inclusion of high broadband access into each ReGen Village, along with other managed services at the neighborhood scale, it is our ambition to encourage families to stay in their local villages, and eventually to attract city dwellers back into these areas....for the future of humanity." (www.sustainablebrands.com/news\_and\_views/cleantech/sheila\_shayon/regen\_villages\_behind\_design\_self-sustaining\_eco-communities)

The return to a form of community life locally sufficient in food and energy, but enhanced with modernity's option-expanding innovations, is not a radical idea. It seems radical only from the perspective of our addictive dependence on a globally trafficked web of energy and food that, not unlike those for outlawed drugs, services us by despoiling the natural order of life on Earth. I would add that the above-mentioned "wretched of the earth" also dwell in the hollowed-out cities and in the rural backwaters of America. 🐦

*Mac Maguire lives at EcoVillage at Ithaca; contact him at larremag@gmail.com.*

## Neighborly Questions and Critiques

After reading an earlier version of this article some of my brothers and sisters at EVI were kind enough to reply to my request for their thoughts. Since I take them seriously, the article has morphed a bit where my writing may have misrepresented. Their questions and views can be summed up as follows:

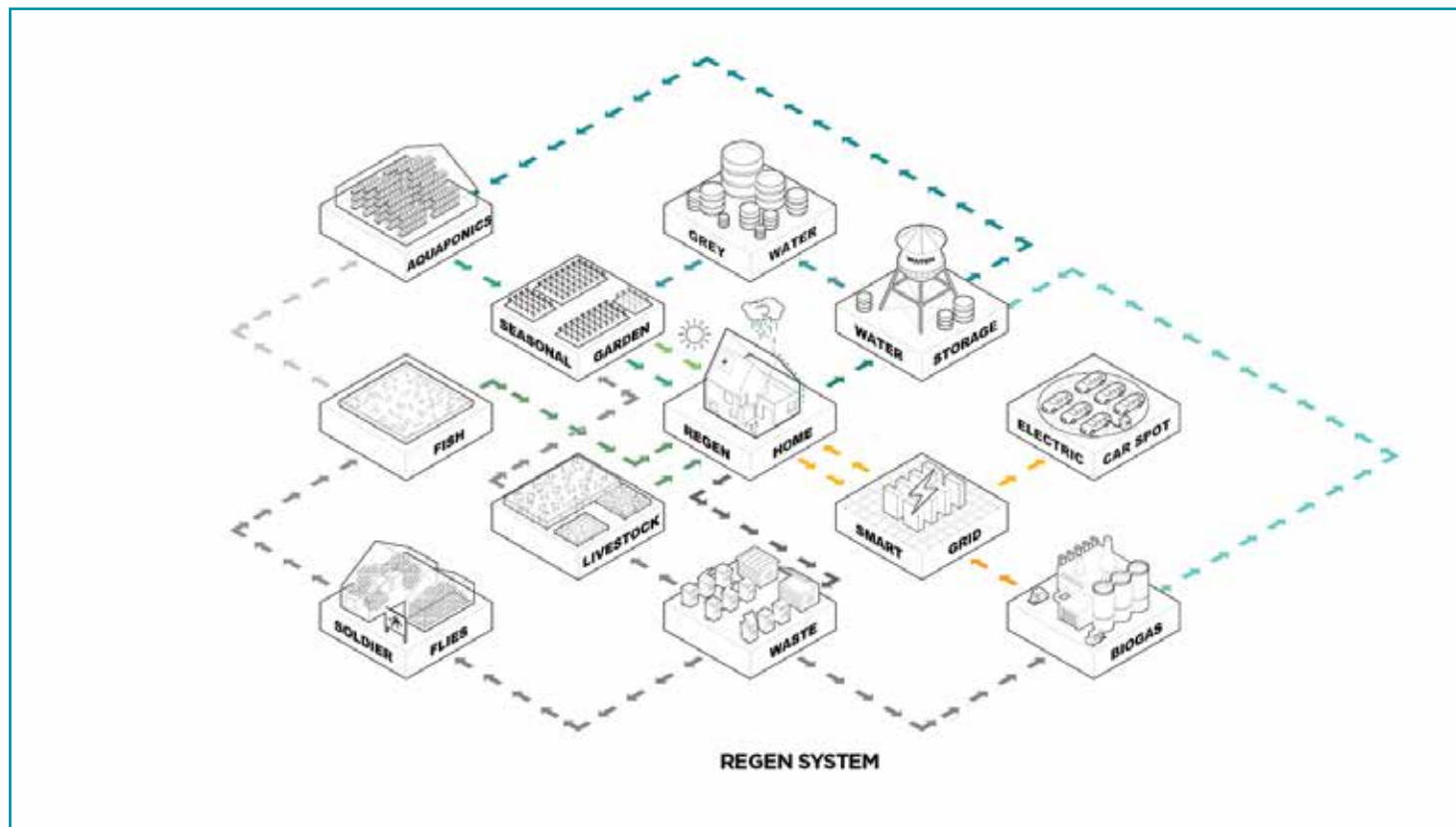
### Questions:

- If this model is prototyped among educationally underserved communities must there not be some instructional component to develop the skills necessary to deal with the technology involved?
- How would this model deal with transportation issues?
- Is there a place for social gatherings and common meals in this model or is it more like a super-green condo franchise?

### Views:

- The Regen Model does not seem to fully appreciate the social muscles and instincts that can only be honed in a community of folks intentionally sharing their lives in meaningful ways. These are critical to the success of any community no matter how technically savvy the physical side may be.
- If the Regen Model as described actually did succeed on the scale described it might have the unintended consequence of undermining local economies and regional solidarity.
- However green and regenerative, some folks would be excluded from what would likely become more gated communities that cut themselves off from the needs of the ambient region.

—MM



# WURRUK'AN: An Experimental Intentional Community

By Bill Metcalf

What is an *experimental* intentional community? Surely every intentional community is an experiment? So why does Wurruk'an merit that adjective?

I'm in beautiful rolling green hills a couple of hours east of Melbourne, Australia, with a group of enthusiastic young, would-be communards. However, it is cold and windy, and I'm hungry and thirsty, helping to lay a timber floor at Wurruk'an. I need to plane the edge of several recycled boards to make them fit, but not one of their three planes works! This epitomises the good and bad of life in this dynamic, new “experimental” intentional community.

In 2013 Dr. Samuel Alexander, from University of Melbourne's Simplicity Institute, wrote a book entitled *Entropia: Life Beyond Industrial Civilisation*. This utopian novel envisioned a radically simple and satisfying life emerging on a South Pacific island after the “Great Disruption” brought on by climate change, i.e. economic and environmental meltdown. In writing this book, he felt driven “to expose and better understand the myths that dominate our destructive and self-transforming present, and to envision what life would be like, or could be like, if we were to liberate ourselves from today's myths and step into new ones. We search for grounded hope between naive optimism and despair. Without vision and defiant positivity, we will perish.”

Much to Dr. Alexander's surprise, soon after publishing *Entropia* he was contacted by a family who offered eight hectares (20 acres) of land on which to develop an experiment to test the utopian communal lifestyle which his book had posited. Being a true scholar, Sam accepted the challenge and set out to create what we now know as Wurruk'an, an experimental intentional community.

We finish working on the floorboards just on dark; a lovely meal of homemade vegetarian lasagne and homegrown salad from their abundant gardens awaits us, along with a glass or three of local red wine. All my aches and pains—and frustrations about planes—slip away and I enjoy the evening with these charming and committed young people.

Members ask about my research with intentional communities around the globe—what works and what doesn't. They fully realise that communal living can be tough, and want to make the best of it.

I mention that in the late 19th century there were several communal groups in this area, such as Aurelia and Moe Village Settlement, and Erica Commune in the mid-20th century—but they had not heard about them and, perhaps correctly, doubt if knowing about their predecessors would help at this time of climate change.

Dr. Alexander sought to create an intentional community that would be “explicitly political, engaged and inclusive” and, because of climate change, have an ecological footprint so low that it would set a benchmark for other ecovillages. Fortunately, he found plenty of people who resonated with this aspiration.

With the project promoted online and through the media, 42 people came in December 2013 for a workshop to build an Earthship, which they dug into a hillside, and made



*Wurruk'an members.*



*Yurt and latest tiny house.*



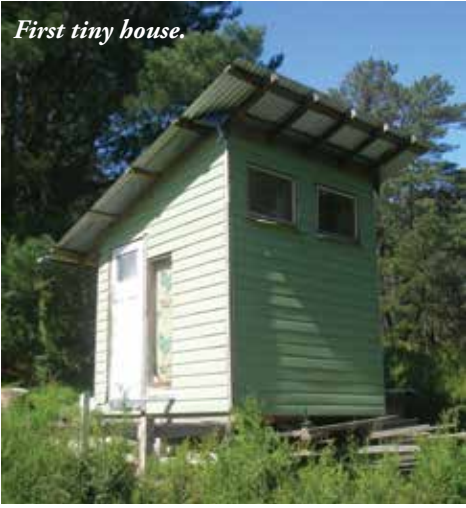
*Members discuss outside yurt.*



*Cob baking oven.*



*Yurt at night.*



*First tiny house.*

from glass bottles and old car tyres filled with clay, with large glass doors facing the sun. Two months later, Sam organised a workshop to build a mud hut, attended by 25 people. Later that year he organized two more workshops, one

opened organic gardens, planted an orchard, and installed water tanks and composting toilets. They built a large enclosure for ducks and chickens, brought in bees, and made a cob pizza/baking oven. Referring to that time, Sam tells me that “something very interesting was happening, even if we weren’t exactly clear what it was.”

“What it was” became the small but thriving intentional community of Wurruk’an, the name deriving from *wurruk*, a local indigenous word meaning both earth and story, and *kan*, a Mayan word meaning seed. They chose the term to signify their “attempt to seed a new Earth story.”

Having created basic infrastructure, Sam advertised for people to live at Wurruk’an during a year-long experiment, with 52 stepping forward. Out of these, a dozen young men and women were selected and moved there, committing to stay during 2015. Most had not met before and were “linked only by the desire to explore a life of radical simplicity and

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## As expected, Wurruk’an’s biggest challenge was not the provision of food or shelter but managing social relations.

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to build an “earthbag” shelter and the other to build a “tiny house” from recycled timber and tin. They also purchased a secondhand yurt—the floor of which I am helping to install today.

As well as these building projects, they devel-

oped organic gardens, planted an orchard, and installed water tanks and composting toilets. They built a large enclosure for ducks and chickens, brought in bees, and made a cob pizza/baking oven. Referring to that time, Sam tells me that “something very interesting was happening, even if we weren’t exactly clear what it was.”

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*Workbreak, common house.*



*Rachel and Liam harvesting*



*Liam scything grass.*

*Common house, breakfast cooking.*





*Common house cooking area.*



*Earthbag house.*



*Common house lounge area.*



until the cold weather drove one couple to build their own tiny house, using recycled timber and tin, for \$420. Everyone ate together and socialized in an old shed. The group grew as much of their food as they could, went dumpster-diving, and thrived on a simple but highly variable diet. They tried several models of balancing work/money contributions to the collective endeavour.

An Australian filmmaker, Jordan Osmond, offered to record this experiment and create a documentary. Jordan became so interested that he moved onsite and, over the year, interviewed members, filmed their work, meetings, problems, and social events, and, with Sam, created a unique chronicle of this experiment: *A Simpler Way: Crisis as Opportunity*, a film well worth watching on YouTube.

The tin shed where they had created a common kitchen and lounge proved unsuitable as winter set in so members insulated it, found cast-off glass doors for the front and, for about a thousand dollars, created a comfortable communal space. Individual spaces are only for sleeping and having time out—the real living takes place in their communal kitchen and lounge. To that extent Wurruk'an is closer to an urban commune, or even cohousing, than to most ecovillages with individual homes and their associated higher costs and ecological footprints because everyone has their own stove, hot water system, washing machine, etc.

As expected, Wurruk'an's biggest challenge was not the provision of food or shelter but managing social relations. Few members had communal experience. I had met with Sam in the planning phase for this experiment and recommended being as selective as possible and accepting that conflict is inevitable and can be either productive or destructive. The drive within any communal group must be to creatively deal with and resolve conflict—it can never be avoided. And this Wurruk'an members have done remarkably well.

Members learned to be realistic, to compromise, to do their best and not stress about the impossible. Sam recently wrote, "Wurruk'an has not been comprised of eco-saints but human beings. Some pushed the boundaries of ecological practice more than others—and they are to be admired...but at various stages, for various reasons, everyone found themselves making certain ethical compromises.... Exploring simplicity in an overly complex society is riddled with contradictions and challenges. So much for voluntary simplicity. Sustainable consumption rather implies involuntary complexity. This is one of the many paradoxes of the simple life."

The year-long experiment ceased, as planned, at the end of 2015 although several "experimenters" remain there. Others have since joined and the membership is increasing, they hope to about 10.

Members are still collecting scrap building supplies and creating new and dramatic small

sleeping and meeting spaces—hence me helping lay a timber floor in their yurt.

Each member contributes a mixture of labour and money, both on a sliding scale and under frequent review. They strive to use consensus, but for deciding on new projects each member has three votes to allocate as she/he wishes. Sam and the owners continue to offer support but, as far as I could see, are not directive; members make their own decisions.

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## I was deeply impressed by members' willingness to work hard and to create a comfortable living without increasing their ecological footprint.

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Ten members is probably too small to be sustainable as a community, although they are perhaps better thought of as a “commune.” To remain at this size they would probably fare better were they to become even more communal, sharing ever more. For example, they now share costs but not income. Greater sharing would probably help in their drive towards greater consensus—or could blow them apart.

Was the experiment a success, however we might define that?

In looking back, Sam admits that one cannot call this a successful intentional community after only one year but, he proudly points out, “I would be surprised if there are many ecovillages on the planet that have a smaller ecological footprint. In the material sense, life was simple but sufficient.” And because they learned to deal creatively with conflict Wurruk'an thrives.

One member, Dan, tells me, “when the community is passionately working together towards a mutual goal, that can be magic,” and he appreciates the empowerment “from learning homesteading skills and living more autonomously”; but, he admits, it “can be demoralising and eats up a lot of my mental space” when members resist working through problems.

Beth, another member, tells me that her biggest challenge is avoiding the “individualistic, self-centered mindset” with which she was raised, instead “having to actively cultivate a more egalitarian and holistic mentality”; but she welcomes those “growing pains” which are what she has “enjoyed the most.”

What is the future for Wurruk'an? Unless something drastic unexpectedly happens I anticipate Wurruk'an will continue to thrive for many years, and grow to an optimum size of 15-20 adults. As long as they can maintain communal eating, and a common budget, they should be fine with that number on that land, and be able to provide most of their own food.

Ownership is an issue, the land being held by the original family, who do not live there and who are happy for the communal group to continue. This has caused no problems so far—but inevitably this will need to be legally clarified someday.

There are no children, yet, so that might be their next big challenge. Childbearing can be very destructive to communal living because parents often opt for more space and their own house, for *private over collective*, and that dramatically increases costs and ecological footprint—and promotes rather than offsets climate change.

Wurruk'an's members are all in their 20s and 30s, and it would help to have several elders. It would also help were they to regularly visit and learn from long-standing intentional communities in their area such as Moora Moora and Commonground.

They have so far avoided admitting any sociopaths—and I hope they will continue to be vigilant.

I was deeply impressed by members' willingness to work hard, to make the best of what is available, to create a comfortable living without increasing their ecological footprint.

It is worth remembering that Twin Oaks, in the US, now in its 50th year, was loosely based on B.F. Skinner's *Walden Two*; so too might Wurruk'an, loosely based on *Entropia*, also be thriving in its 50th year.

The next morning we finish the yurt's timber

floor—my small contribution to the success of this Wurruk'an experiment. 🌱

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*Dr. Bill Metcalf, of Griffith University, Australia, is the author of numerous scholarly and popular articles, plus seven books, about intentional communities, the most recent being The Findhorn Book of Community Living. He is Past President of the International Communal Studies Association and has been COMMUNITIES magazine's International Correspondent for many years.*

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### Resources

*Entropia: Life Beyond Industrial Civilisation*, by Dr. Samuel Alexander, 2013, is available from [www.e-junkie.com/249897](http://www.e-junkie.com/249897) and [www.createspace.com/4294895](http://www.createspace.com/4294895) on a “pay what you wish” basis.

Dr. Samuel Alexander's account of this experiment can be found at *Prosperous Descent: Telling New Stories as the Old Book Closes* as published in *Griffith Review*, 52, 2016 ([griffithreview.com/wp-content/uploads/GR52\\_Alexander\\_Adcock-Ebook.FINAL\\_.pdf](http://griffithreview.com/wp-content/uploads/GR52_Alexander_Adcock-Ebook.FINAL_.pdf)).

To watch Jordan Osmond and Samuel Alexander's film about Wurruk'an, *A Simpler Way: Crisis as Opportunity*, go to [www.youtube.com/watch?v=XUwLAvfBCzw](http://www.youtube.com/watch?v=XUwLAvfBCzw).



*Earthship house.*



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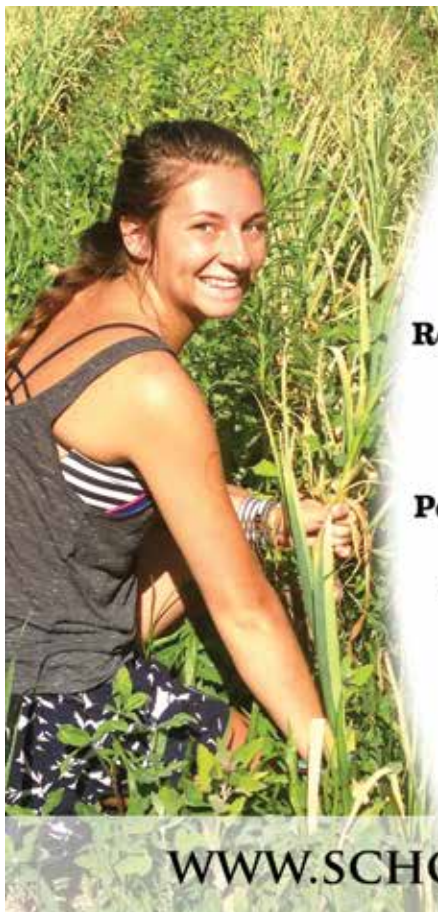


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REACH is our column for all your Classified needs. In addition to ads intended to match people looking for communities with communities looking for people, Reach offers ads for events, goods, services, books, personals, and more to people interested in communities.

You may contact the Advertising Manager Christopher Kindig to place a Reach ad. Email [Ads@ic.org](mailto:Ads@ic.org), call 443-422-3741, or go to [communities.ic.org/ads/](http://communities.ic.org/ads/) for more details or to submit your ad online.

THE REACH DEADLINE FOR ISSUE #175 - Summer 2017 (out in June) is April 24, 2017.

The rate for Reach ads is Up to 50 Words: \$25/issue or \$75/year; Up to 125 Words: \$40/issue or \$125/year; Up to 350 Words: \$60/issue or \$175/year If you are an FIC Member you may take off an additional 10%.

You may pay using a card or PayPal by contacting Christopher online or over the phone using the contact information above, or you may mail a check or money order payable to Communities with your ad text, word count, and duration of the ad, plus your contact information, to: The Fellowship for Intentional Community, 23 Dancing Rabbit Lane, Rutledge, MO 63563.

Intentional communities listing in the Reach section are also invited to create a free listing in the online Communities Directory at [Directory.ic.org](http://Directory.ic.org), and also to try our online classified advertising options. Special prices may be available to those who wish to list both in the magazine and online.

## COMMUNITIES WITH OPENINGS

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**ANOTHER WORLD IS POSSIBLE - AND WE ARE BUILDING IT.** Bread and Roses Collective is looking for new members to join our project of creating sustainable urban living for activists and change-makers. We have two Victorian houses, 10 adults, one toddler, and a half-acre organic permaculture garden in the progressive Westcott Neighborhood of Syracuse, NY. We are within a mile of three universities and a hotbed of local activism. The houses are collectively run as a consensus-based nonprofit. We require a commitment of at least a year, share our vegetarian food, and are committed to affordable housing. [www.BreadAndRosesCollective.org](http://www.BreadAndRosesCollective.org) 315-422-4924 [info@breadandrosescollective.org](mailto:info@breadandrosescollective.org)

**SPIRITSONG COMMUNITY** -- We are a small community of five people wanting to be ten people looking for new members. We are located in Napa county, CA. We live on 37 acres of mainly wooded land 2 miles up a dirt road. We have several structures available for people to live in. We are off the grid of the Internet, we have organic gardens, and a small dairy herd. We have a non-dogmatic interest in Spiritual Awareness. Contact Rory Sukec 707-965-3994 or [middletownmassage@yahoo.com](mailto:middletownmassage@yahoo.com)

**LOOKING FOR CAREGIVERS TO JOIN OUR LIFESHARING COMMUNITY WITH ADULTS WITH INTELLECTUAL DISABILITIES.** Nestled in the foothills of the Blue Ridge Mountains near Charlottesville, Virginia. Volunteers come from around the world to serve in our family-style homes. Together we work on our farm, gardens, kitchen, weavery, bakery and woodshop. [www.innis-freevillage.org](http://www.innis-freevillage.org)

**COWEETA HERITAGE CENTER AND TALKING ROCK FARM** are located in the mountains of Western North Carolina in a beautiful and diverse temperate rainforest. Coweeta is looking for others who would like to join together to form an Intentional Community embracing the principles of Voluntary Simplicity. Simply put, we wish "to live simply so that others may simply live." It is a recognition that nature provides us with valuable services and resources that we can use to enrich our lives. Utilizing local resources, appropriate technology, and working cooperatively, we can discover creative ways to meet our needs as "directly and simply as possible.". Come join Coweeta and learn how to live lightly on the land and enjoy the Earth's bounty! Contact Coweeta for more info or to schedule a visit!! Contact Paul at [coweeta@gmail.com](mailto:coweeta@gmail.com).

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**DANCING RABBIT ECOVILLAGE**, Rutledge, Missouri. Come live lightly with us, and be part of the solution! Dancing Rabbit Ecovillage is an intentional community and educational non-profit focused on living, researching, and demonstrating sustainable living possibilities. We live, work and play on 280 acres of lovely rolling prairie, and welcome new members to join us in creating a vibrant community and cooperative culture! Together we're living abundant and fulfilling low-carbon lives, using about 10% of the resources of the average American in many key areas. Our ecological covenants include using renewable energy, practicing organic agriculture, and no private vehicles. We use natural and green building techniques, share cars and some common infrastructure, and make our own fun. We welcome individuals, families, and sub-communities, and are especially seeking women, as well as people with leadership and communication skills. Join us in living a new reality: sustainable is possible! 660-883-5511; dancingrabbit@ic.org

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**SANTA ROSA CREEK COMMONS**, Santa Rosa, California. We are an intergenerational, limited equity, housing cooperative 60 miles north of San Francisco. Although centrally located near public transportation, we are in a secluded wooded area beside a creek on two acres of land. We share ownership of the entire property and pay monthly charges that cover the usual expenses of home ownership. We have kept our costs reasonable by sharing all of the responsibilities of our cooperative and much of its labor. All members serve on the Board of Directors and two committees oversee the welfare of the community. We enjoy a rich social life and a mutual concern for the natural environment. Contact: Membership 707-595-4399.

**WIND SPIRIT COMMUNITY**, a 20 year-old oasis and community in the Arizona desert, has openings for 2 additional residents. On our 16 acres we have a year-round growing season, thousands of fruit, nut and native trees, six organic gardens, and abundant and high-quality water. Our residents enjoy a simple lifestyle surrounded by nature. We are joined by dozens to hundreds of visitors from around the country and world each year who bring stories, new perspectives, talents, energy and income to the community during their visits. We encourage new potential residents to view our website, arrange with us for a visit, work with the current residents on projects and enjoy the Land here. They are welcome to stay in Wind Spirit accommodations (converted buses and RVs, camping or the occasional available dome) or bring their own. More details can be found on the Wind Spirit visitor page at <http://www.windspiritcommunity.org/Visitors.htm>.

**HEARTWOOD COHOUSING** ~ Durango / Bayfield, Colorado. Where the high red-rock deserts of the Four Corners climb into the stunning San Juan Mountains. 24 homes ~ 350 acres of woodland, pastures, and community gardens. Established in 2000. ~ Happily rolling into our 17th year. [www.heartwoodcohousing.com](http://www.heartwoodcohousing.com) FB/HeartwoodCohousing

**FAIR OAKS ECOHOUSING, EAST OF SACRAMENTO, CA.** A family-friendly green cohousing community - construction starts Spring 2017. Thirty townhomes on 3.7 acres with a large clubhouse, pool, gardens, and orchard. Fair Oaks is 18 miles east of downtown Sacramento, with easy access to the American River Parkway, Fair Oaks Village, shopping, and K-12 schools. Learn more at [www.FairOaksEcoHousing.org](http://www.FairOaksEcoHousing.org).

**ESCAPE THE MONEY CURSE!** For more than 40 years we have refused to work for money. We are dedicated idealists who try to live out the teachings of Jesus within a communal/nomadic lifestyle. We welcome visitors, even if just for a short time. Full-time members share all that we own in common, living simply, and gleaned most of our food and other needs from what society throws out. We try to share these and other Christian principles through words and actions. We distribute self-produced literature and DVD's, while counselling those in need. Most of us live in vehicles and travel constantly. Visitors need not endorse all of our beliefs, but they would be expected to share their own ideals with others as we travel and to share responsibilities. It's a narrow path, but one of adventure, brotherhood and intimacy with God. Will you walk it with us? [www.jesuschristians.com](http://www.jesuschristians.com) email: [fold@idl.net.au](mailto:fold@idl.net.au)



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NewTribe: a non-residential, bonded community of people living in their own homes.



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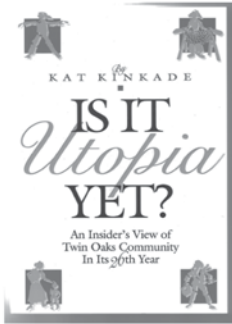
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*Is it Utopia Yet?* is a lively, first-hand account of the unique struggles and triumphs of the first 25 years of Twin Oaks Community, one of America's most

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half of our members require an advanced level of care for their activities of daily living. We offer in-service training. A co-worker's experience at the Fellowship is unique in that it allows for activity in a variety of areas beyond the direct care of the elderly, from the farm to the kitchen and from building maintenance to participation in one of our workshops. We are an intergenerational community whose older members are surrounded by people of all ages, including young families. We are seeking people interested in living on campus, working full-time and taking part in a community building process inspired by anthroposophy. See our website: [fellowshipcommunity.org](http://fellowshipcommunity.org)

## PUBLICATIONS, BOOKS, WEBSITES, WORKSHOPS

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**COHOUSING COACHES / COHOUSING CALIFORNIA / AGING IN COMMUNITY:** Hi, we're Raines Cohen and Betsy Morris, longtime communitarians living at Berkeley (CA) Cohousing. We've both served on the FIC board and have collectively visited over 100 cohousing neighborhoods, lived in two, and helped many. We have participated in the Group Pattern Language Project (co-creating the Group Works Deck) and are on the national cohousing advisory board. Betsy has an urban planning/economic development background; Raines wrote the "Aging in Community" chapter in the book *Audacious Aging*. We're participating with the Global Ecovillage Network and helping communities regionally organize in California. We'd love to help you in your quest for sustainable living. Let's talk about how we can help you make your dream real and understandable to your future neighbors. <http://www.CohousingCoaches.com/> 510-842-6224

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CSA hosts an annual conference at various historic and contemporary communal sites. Awards and fellowships promote research and honor those who help achieve a greater understand of communal living

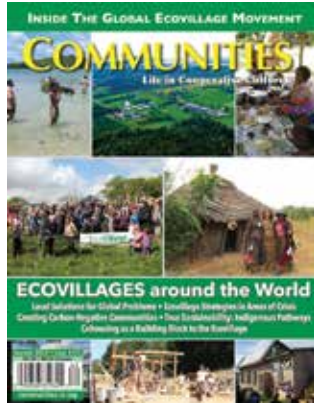
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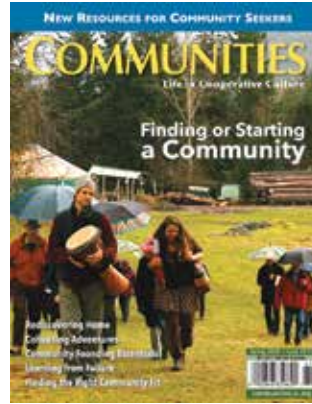
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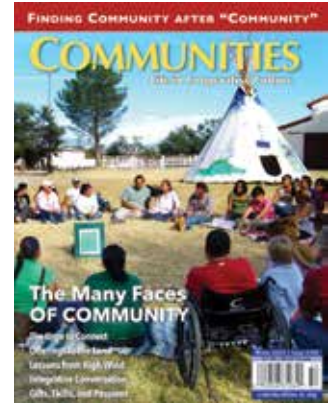
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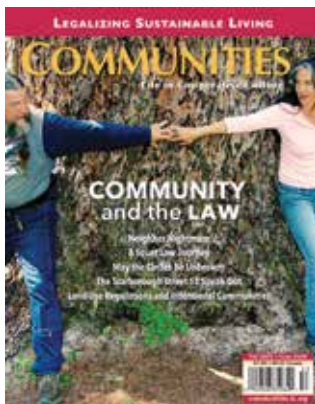
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#170 Finding or Starting a Community



#169 The Many Faces of Community



#168 Community and the Law



#167 Food and Community



#166 Community for Baby Boomers



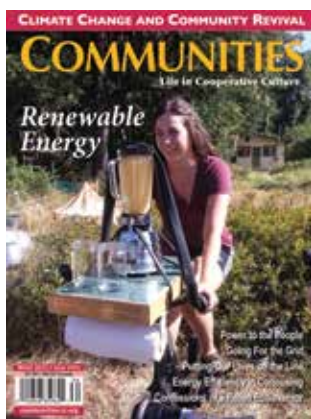
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#174

and two baths; heat is solar/electric hot water within radiant wood and concrete floors; cooling is achieved by whole house exhaust and ceiling fans; septic is a combination gray water tank/bed and composting toilet. The house has an electric range, fridge, dishwasher and washer/dryer stack. There are two porches, a living roof, big closets, ample storage space and workshop area. Kitchen cabinets are hickory and counters Paperstone. The metal roof is 10 years old. The composting toilet by Clivus has service available by NutriCycle Systems. The property is located at EcoVillage, a self-governing HOA in northern Virginia: <http://ecovillageloudoun.com/lots/ecovillage-lot-14/>. View property on YouTube: <https://www.youtube.com/watch?v=iy04SCund1Q>. Contact Nancy: NancyFunk@gmail.com.

**ASHEVILLE, NC - VILLAGES AT CREST MOUNTAIN** - Eco-Village offering lots and home packages. Construction must conform to Green Built NC standards. Lots start at \$62,000 and Land/Home packages start at \$250,000. Mountain view and Village lots available. Model Homes currently under construction- starting at \$285,000. [www.villagesat-crestmountain.com](http://www.villagesat-crestmountain.com) Lee Schrein, Broker- Crest Realty, LLC (828) 252-7787.

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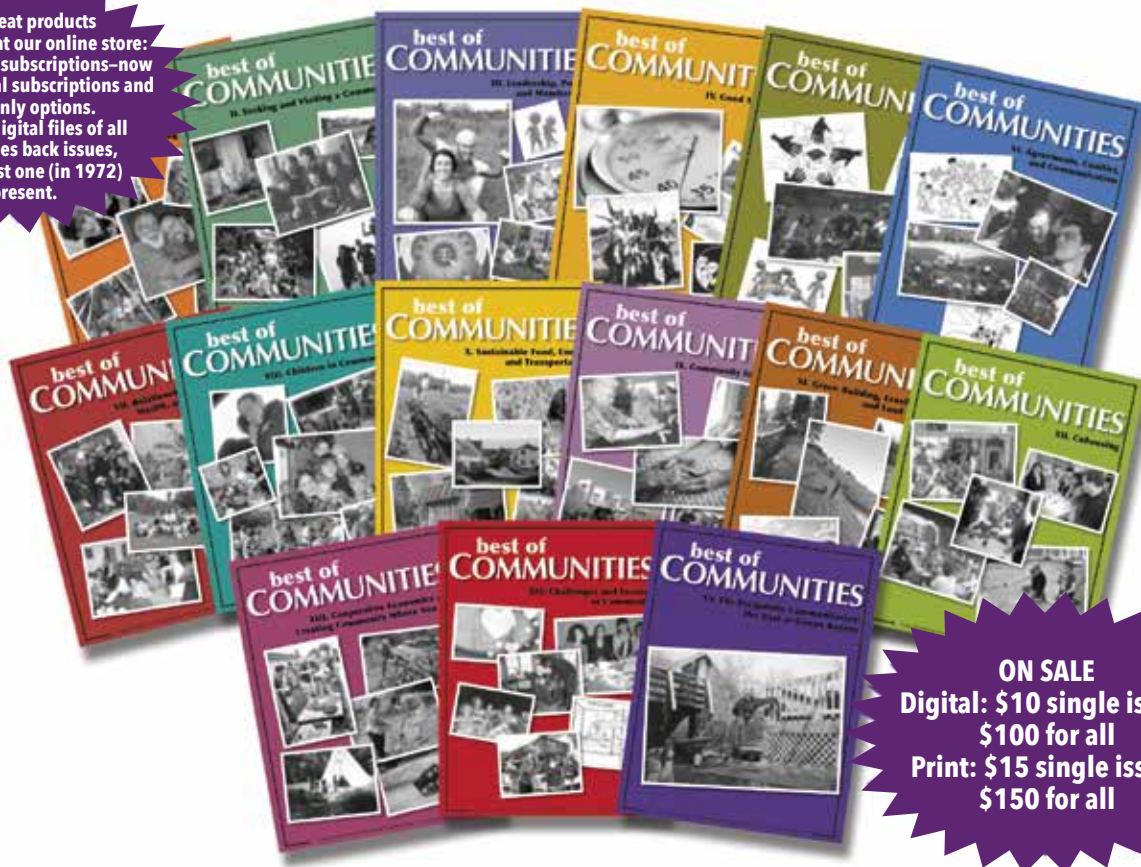
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- |   |  |  |
|---|--|--|
| I. Intentional Community Overview, and Starting a Community | VII. Relationships, Intimacy, Health, and Well-Being         | XII. Cohousing   |
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Each collection is comprised of about 15–20 articles, containing a total of 55–65 pages. All are available in both digital and print format.

If you're hungry for information about cooperative living, we have a menu that will satisfy any appetite! If you're thinking about starting a community, this collection offers an incredible storehouse of practical advice. If you're thinking of joining a community, these special issues will help you discern the right things to look for, and how to be a savvy shopper.

While there are some classic pieces that date back to the '90s, the vast majority of the articles in The Best of Communities Bundle have been written in the past dozen years, representing cutting-edge thinking and how-to explorations of the social, ecological, and economic aspects of sustainable living. We've gathered insights about what you can expect when raising children in community, and offer a wealth of information about what it's like to grow old there, too. For dessert, we have the collected wisdom of over 50 essays from Geoph Kozeny (1949–2007), the Peripatetic Communitarian.

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## VARIATIONS ON A THEME: LOW-CARBON COMMUNITIES OF ALL SORTS

(continued from p. 35)

This has the potential to do an end-run around some of the stickier interpersonal dynamics of income-sharing, while providing many of the benefits (including cost savings and ecological savings by being able to take advantage of massive-scale bulk buying and growing of food). It also has the potential to create some traditionally very bad dynamics in terms of a “company store” set-up, where people could get locked into working for businesses that could easily abuse this situation. In fact, I think the biggest X-factor in this project is how the social dynamics will play out.

(For the sake of transparency, I heard about this project first in mid-2016 and ended up doing a short-term contract with the project to help develop social systems. Because there were not yet actual people involved to work with—an essential element in the work I do—I ended up not being able to do much for the project. Perhaps in 10 years when there are real people to work with, I’ll have another shot at helping it be functional. As a project basically designed by engineers, it seems to me that the likelihood of the core social dynamics becoming a main focus is fairly low—which is too bad.)

• • •



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Climate disruption is, I believe, the single most urgent issue facing us right now: no other issue has a literal biological clock ticking. And while I see residential intentional community as being an essential building block of a post-carbon future, the three projects listed here make it clear that the lines between intentional community and the mainstream are blurry at best.

Community is both a full-on lifestyle choice and a tool that can be employed in a variety of ways to bring us closer to a truly sustainable future. 🐦

*Ma'ikwe Ludwig has lived in community for two decades and is now part of a forming income-sharing ecovillage in Laramie, Wyoming. She serves on the FIC's Board of Directors, and is currently the Executive Director of Commonomics USA, an organization that works to bring together economic and ecological justice in the form of tangible legal, economic, and community systems. She is the author of one previous book, Passion as Big as a Planet. Ma'ikwe does regular training and consulting with communities and nonprofits on group dynamics, functional consensus, and integrated sustainability models, with cooperative culture development being a main theme of all of her work.*

## TWENTY PRINCIPLES OF ECORESILIENCE: PERSONAL AND CULTURAL ADAPTATION TO A CHANGED PLANET

(continued from p. 53)

history, philosophy, folkways, and the stories we have told and continue to tell about our life on this planet. The humanities engage us in discussions about primary values, about what matters most in life, and about paths that lead to fruition and wholeness and those we should not take. This is how we learn about human nature and what it needs, including justice, beauty, and purpose.

### 18. Slow Down and Reflect Deeply—Reground ourselves so we can stay sane during “The Long Emergency.”

When we’re in an extreme situation and are working towards quick individual or collective behavior change “or else,” we need to pace ourselves, be especially gentle and patient with our progress, and tend the inner psychospiritual ecosystem with ongoing reflective practices, both personal and collective. There are many ways to do this. Artful community guides will be able to help us individually and collectively keep our spirits and positive energy up as we confront the challenges and make the necessary changes in how we live. This is a challenging and delicate endeavor, as we need to find a balance between “doom and gloom” and unrealistic escapist fantasy: the place where an accurate assessment of our situation is accompanied by enjoyment and gratitude for the richness of nature and all our relationships.

### 19. Explore Reverent Practices—Cultivate awe and appreciation of the more-than-human.

By exploring a wide variety of possibilities, we can discover and benefit from a consciousness-raising practice of our choosing. Many practices increase the feeling of awe and love for the world and its cosmic frame. Let us not hesitate to call such activities “spiritual” if we choose, although “reverent” might be an alternative for some.

### 20. Put Arts at the Heart—Celebrate, create, and ceremonialize.

Too many environmentalists are caught up in gloom, fear, and panic. While it’s true that the situation is critical and life-threatening and we must yell “Fire!” to wake up our communities, it’s also a psychological fact that most people can’t effectively process unremitting traumatic information and soon numb out and resist such messages. As part of keeping our community’s spirits up during Transition, we can foster and integrate play, festival, dance, music, drama, and all the arts to nurture the cultural life of the community, share people’s rites of passage through the human lifespan, enjoy the experience of being together, and celebrate appreciative ties to Earth and the seasons. As we become more effective ecoresilience leaders and transition guides we learn to help ourselves and others balance the bad news with these simple joys of life: good food, music, inspiring stories, life-saving humor, beautiful art, joyful dance, kind friends, and exciting, earth-enhancing projects. 🌱

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(continued from p. 76)

The “Background” chapter is divided into three parts. In the first, the authors summarize the nature of our current climate change reality, and recognize that while it’s important to continue efforts to mitigate the causes of increased atmospheric CO<sub>2</sub>, it’s also critical to build capacity for resilience. In other words, we are going to have to adapt our political, social, and economic systems to account for the impacts of climate change.

koan-like axiom of permaculture method) by seeking ways to make their research more relevant and effective for communities that would use it and benefit from it. The growing popularity of citizen science and participatory action research in health care and social science fields is opening the way. A new Permaculture International Research Network (PIRN) is a project of the UK Permaculture Association, and the Association has produced a research handbook for permaculture practitioners.

### Global and Local Perspectives

By directing our attention to how the effective interface between permaculture and climate change adaptation can occur not only on the smaller, local level, but also on the broader level of bioregions, biomes, and planetary boundaries, the authors persuasively show that action on both scales is desirable, and necessary in the pursuit of sustainability.

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## In the principle of “fair shares,” “permanent culture” solutions are inextricably tied to social justice and equity.

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The next section describes the ethical framework of permaculture: Earth Care, People Care, Fair Shares. This means, the authors argue, that a permaculture approach to climate change is both environmentalist and humanist, and recognizes, in the principle of “fair shares,” that “permanent culture” solutions are inextricably tied to social justice and equity. As the authors point out, “working precedents for such an ethos of environmental stewardship can be found in the many ways indigenous and traditional societies have ecologically enriched the lands they inhabit.”

### Action Learning and the Need for More Research

The final background section deals with the need to improve and expand the research base for permaculture as an adaptive approach to the challenge of climate change. Local knowledge can be gained from action learning, a “Plan, Do Study, Act” process in which participants critically assess the outcomes of any intervention and take into account the measurable results for the next iteration. But the large-scale, systemic changes we need to make to adapt to climate change can be hard for NGOs or governments to implement without an evidence base—without data.

The authors acknowledge that both lack of funding and a culture clash between permaculturists and academic researchers have impeded research progress. They urge permaculturists to become researchers, documenting and evaluating their activities, and at the same time ask researchers to “see the solution in the problem” (a

By directing our attention to how the effective interface between permaculture and climate change adaptation can occur not only on the smaller, local level, but also on the broader level of bioregions, biomes, and planetary boundaries, the authors persuasively show that action on both scales is desirable, and necessary in the pursuit of sustainability. Appreciating that “there is no simple or uncontroversial way to define ‘indigenous,’” they explore how indigenous resource management systems and traditional responses to ecological changes share some key features with permaculture tactics, while also noting that to “overstate the parallels runs the risk of oversimplifying both approaches.” They cite some specific initiatives that seek to weave together traditional agricultural practices with permaculture design capabilities, such as the Chikukwa Project in Zimbabwe.

The second section of the “Perspectives” chapter examines biomes, planetary boundaries, and sustainable development goals. Current data on the effects of climate change on major terrestrial biomes, such as the Mediterranean Forest and Temperate Grassland biomes, indicate that human activity has decreased the area of these by about two-thirds. When I read the phrase “planetary boundaries” in the section title, I thought it referred to geopolitical boundaries. It turns out “planetary boundaries” are something else. Unfortunately the book doesn’t actually explain what the term means, and I had to go look it up on the internet, where I learned that a group of Swedish scientists led by Johan Rockström have posited that there are safe levels for human activity/development in nine defined areas. By quantifying our current levels of activity, they suggest, we can more easily stay within a “safe zone” and not cross the boundary—which results in catastrophic changes in earth’s systems. A recent examination of nine interlinked planetary systems shows that three boundaries have already been breached (climate change; biosphere integrity; and biogeochemical flows of phosphorus and nitrogen). Permaculture and systems thinking are inextricably interwoven, and the concepts of biomes and interplanetary boundaries provide different systems frameworks for large-scale planning. So, too, do the 17 Sustainable Development Goals developed by the UN to demonstrate some of the targets that permaculture methods might address. The chapter lists all the goals and discusses how they fit with the Earth Care, People Care, and Fair Shares framework of permaculture design and practice.

### What Can We Do—17 Strategies

In Chapter Four, the authors present 17 strategies permaculture has developed that can be deployed to mitigate and adapt to climate change. This chapter forms the bulk of the book, and each of its 17 sub-sections explains one concept succinctly, while providing many real-world examples of projects using the method at under discussion. Of special interest to communitarians is the section on “Commons-Based Governance.” Other strategies commonly used in intentional community are also discussed: energy descent, bioclimatic building, and conflict transformation. The remaining adaptive strategies presented are probably all used to one extent or another by some intentional communities: water regulation and management; soil protection and restoration; revegetation; agrodiversity; agroecology; creation and use of microclimates; bioregionalism and economic localization; regenerative enterprise; social technologies; personal resilience; changing worldviews; indigenous and local knowledge; and popular education.

It is within this chapter that most readers in community will seek information and inspiration for projects they can implement, and there are plenty of citations in the references at the back for further exploration. Each of these strategies probably merits its own book, but having a succinct introduction to all of them in one place could be very helpful to communities starting on a land use and planning process that hopes to take the realities of climate change into account and to look several generations ahead.

## Affecting Climate Change Policy

The book culminates with a look at five ways permaculture can engage with and affect climate change policy making, and presents the Climate Change Action Statement crafted at the International Permaculture Convergence in 2015. This is a pithy statement, one I think everyone, even those not directly engaged with either permaculture or climate change activism, could benefit from reading. It pinpoints some sources of our climate crisis—including the use of fossil fuels, mismanagement of land and resources, and the degradation of soils—and can serve as a menu of actions we can take to face climate change head-on.

In my intentional community, although the immediate pipeline threat is diminished, many of us are continuing to work locally and regionally to battle this and other new fossil fuel infrastructure. At the same time, we are starting to talk more about what adapting to climate change might look like for our community. We have begun to discuss a host of topics that impact sustainability, including how much land we devote to haying, whether and where to establish Monarch Butterfly habitat, developing sustainable firewood collection practices, managing invasive species, and more. Beyond talk, we are acting too, from installing a solar array to offset the energy use of our Community Center, to planning a Community Day around the topic of land stewardship. The community is just embarking on these explorations, and I expect that *Permaculture and Climate Change Adaptation* will be passed from hand to hand as we forge ahead. 🌱

*Amelia L. Williams, Ph.D., lives with her two sons at Shannon Farm Community in central Virginia. She is a medical writer/editor, poet, and eco-art activist (learn more at [www.wildink.net](http://www.wildink.net)). In addition, she volunteers with One Earth Sangha ([oneearthsangha.org](http://oneearthsangha.org)).*



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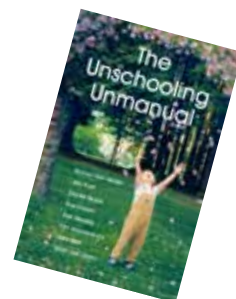


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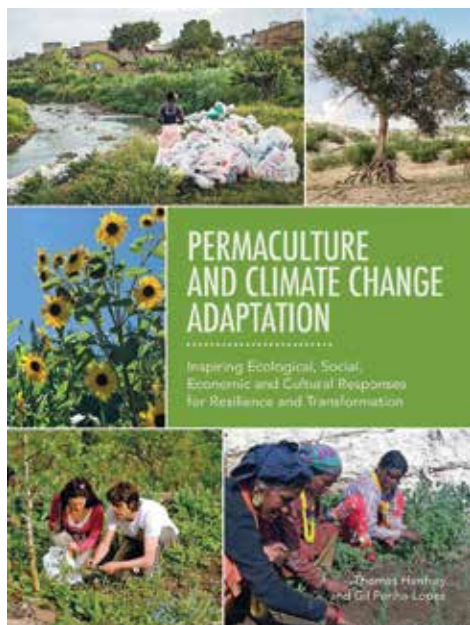
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# Global and Local Strategies for Climate Change

## Permaculture and Climate Change Adaptation: Inspiring Ecological, Social, Economic and Cultural Responses for Resilience and Transformation

By Thomas Henfrey and Gil Penha-Lopes

Permanent Publications, 2016, 112 pages

Many of you may already be familiar with permaculture; perhaps you are using its methods in your communal or personal gardens or in your community as a whole. By contrast, I opened up the book *Permaculture and Climate Change Adaptation* with just a vague understanding that permaculture was more than an advanced style of organic gardening. I also brought to the table my recent experiences as an after-hours climate change activist—though a late adopter of that role. I came to intentional community in my late 20s, worked, raised kids, all the while living in a small (by conventional standards) passive-solar house, recycling, and occasionally carpooling. That was the extent of my non-donations-based action against climate change.

Then in 2014, we were told that a fracked gas pipeline was going to run down from the Marcellus shale in West Virginia, and bisect our land. The route has since been shifted, but this threat helped spur many of us, myself included, to learn more about interstate fossil fuel pipelines and their negative impacts. For me, this threat also became a catalyst to continue my activism beyond the NIMBY phase. This has included taking a new look at possible implications of the term “stewardship of the land” that is in our community bylaws.

So I jumped at the chance to read a book that uses the lens of permaculture to look at strategies that may help us reduce our carbon footprint and adapt to what scientists now agree is inevitable. The book introduces us to the ways that permaculture, as a movement and a developing set of practices, can contribute to the goals of mitigating and adapting to climate change.

The co-authors, Dr. Thomas Henfrey, and Dr. Gil Penha-Lopes, are well-positioned to have put together the book. Both hold positions at the Centre for Ecology, Evolution and Environmental Change (cE3c) at Lisbon University. Both are also involved in the Transition Network, a global organization seeking to “inspire, encourage, connect, support and train communities as they self-organize around the Transition model, creating initiatives that rebuild resilience and reduce CO<sub>2</sub> emissions.”

In addition, Henfrey, a Senior Researcher at the Schumacher Institute, has a background in indigenous forest management research and permaculture design, and cofounded an ecovillage in Southern Spain. Pena-Lopes is a climate scientist with experience in local, grassroots approaches to climate change adaptation. He is currently an Invited Professor in the Science Faculty at Lisbon University, and coordinates Lisbon University’s involvement in the EU-funded FP7 BASE Project (Bottom-up Climate Adaptation Strategies Towards A Sustainable Europe), and the ClimAdaPT. Local project.

The book is arranged into five chapters: Introduction; Background; Perspectives, Local and Global; Strategies; and Future Steps. In turn, each chapter has one or more numbered sub-sections. The writing has an academic flavor, yet the book is accessible, and the short sub-sections are accompanied by concrete examples of current projects in many parts of the globe. Sources are well-footnoted—a help to anyone wanting to pursue a topic further. I looked up an article on the EcoSocial Matrix (ESM) referenced in the chapter on social technologies, hoping it might be useful in my own community’s land management planning. The book is also nicely illustrated by many full-page photos.

*Permaculture and Climate Change Adaptation* is structured so that someone who has a particular adaptive strategy they want to pursue (such as soil protection, or seeking the benefits of indigenous and local knowledge) can move right to that section, while a reader who needs more background on the global permaculture movement and its potential role in climate change adaptation can take advantage of the opening “Background” sections. These summarize the current climate change reality and the need for adaptive strategies, how permaculture got started, its major themes, and its potential role in providing a framework for adaptation both from the ground up and for policy-makers.

### Bottom-Up Organizing—Taking Personal Responsibility

The introduction notes that around the globe there are an increasing number of self-organized efforts by concerned citizens to take “meaningful action on climate change.” Such community-based initiatives are often “under the radar of policy processes, media coverage and public attention.” Yet these efforts are progressing quietly apace even as the climate crisis comes into brief prominence in the media before and during large international meetings such as COP 21, and then, alas, recedes from attention. The enormity of the issues that face us, from climate refugees to sea-level rise, mean it is a “small wonder that many among the general public prefer not to think too deeply or often about climate change.” The book therefore seeks to celebrate climate adaptive permaculture projects from around the globe in which people “take personal responsibility for making a difference.”

(continued on p. 74)



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