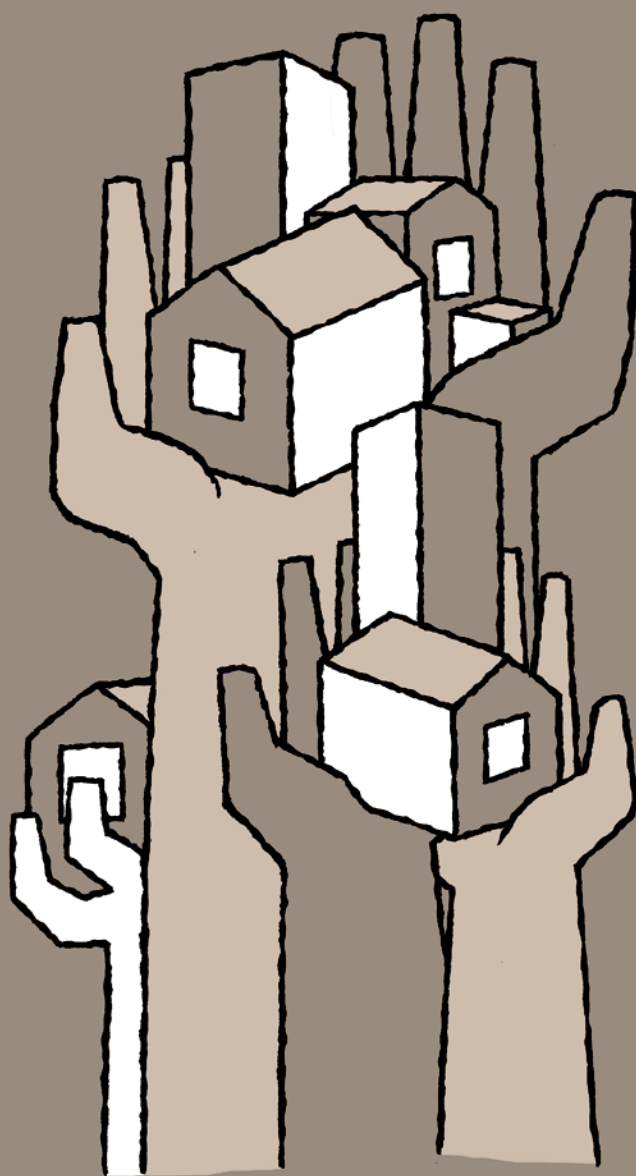


The Post Carbon Reader Series: Building Resilience

Personal Preparation

By Chris Martenson



About the Author

Chris Martenson is the creator of *The Crash Course*, a twenty-chapter online video seminar about our broken economic system, the crisis of our aging population, and peak oil. Since its launch in 2008, *The Crash Course* has been viewed more than 1.5 million times and has sold over 25,000 DVD copies. Previously, Martenson was a vice president at a Fortune 300 company and spent more than ten years in corporate finance and strategic consulting. He has a PhD in pathology from Duke University and an MBA from Cornell University. Martenson is a Fellow of Post Carbon Institute.



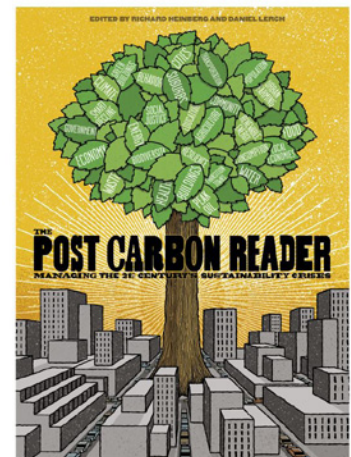
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The point of personal and community preparedness can be summed up in one single word: resilience.

It can feel pretty personally overwhelming to learn about all the economic, environmental, and energy challenges in store for us for the rest of this century. There's plenty of work to be done by governments and businesses, sure—but what about preparing yourself and your family for this quickly changing world? The choices seem overwhelming. Where does one begin?

Six years ago, I began to address these questions for myself and my family. I'll be honest; my first motivation came from a place of fear and worry. I worried that I could not predict when and where an economic collapse might begin. I fretted that the pace of the change would overwhelm the ability of our key social institutions and support systems to adapt and provide. I darkly imagined what might happen if a Katrina-sized financial storm swept through the banking system. I was caught up in fear.

But I am no longer in that frame of mind. Here, six years later, I am in a state of acceptance about what the future might bring (although I am concerned), and I have made it my life's work to help others achieve a similar measure of peace. While I am quite uncertain about what might unfold and when, I am positive that anyone can undertake some basic preparations relatively cheaply, and will feel better for having done so.

I am passionately interested in helping others to gracefully adapt their lifestyles and adjust their expectations

to a very different-looking sort of future. I have no interest in scaring you further, or having you approach the future with trepidation, anxiety, or fear. Quite the opposite. I want to let you know that adjusting and adapting can be one of the most rewarding and fulfilling journeys you could undertake. It has been so for our family.

Just so you have a sense of the scope and the pace of these changes in our lives I should mention that in 2003 I was a VP at a Fortune 300 company, forty-two years of age with three young children (the oldest was nine), living in a six-bedroom waterfront house, and by every conventional measure I had it all. Today I no longer have that house, that job, or that life. My "standard of living" is a fraction of what it formerly was, but my quality of life has never been higher. We live in a house less than half the size of our former house, my beloved boat is gone, and we have a garden and chickens in the backyard.

Peering in from the outside someone might conclude that our family had fallen off the back of the American-dream truck with a thud. But from the inside they would observe a tight, comfortable, confident, and grounded family. We owe much of our current state of unity to the fact that we embarked on a journey of becoming more self-sufficient and discovered the importance of resilience and community along the way.

Anyone can do the same. But first, we must lay some groundwork and address the question, “Why prepare?” After that, we can delve into the details.

The Basics of Preparing

BECOMING RESILIENT

The point of personal (and community) preparedness can be summed up in one single word: resilience.

We are more resilient when we have multiple sources and systems to supply a needed item, rather than being dependent on a single source. We are more resilient when we have a strong local community with deep connections. We are more resilient when we are in control of how our needs are met and when we can do things for ourselves.

We are more resilient if we can source water from three locations—perhaps from an existing well, a shallow well, and rainwater basins—instead of just one. If we throw in a quality water filter (essential for the rainwater anyway), then just about any source of water becomes potentially drinkable.

We are more resilient if we can grow a little bit more of our own food, rather than rely on a single grocery store. Our community gains food resilience when we demand local food, perhaps by shopping at a farmers’ market or purchasing a farm produce subscription (also known as “community-supported agriculture”), and thereby increase our local supply of food and farming skills.

We are more resilient when our home can be heated by multiple sources and systems, perhaps wood and solar to complement oil or gas.

For my family, resilience now stretches well beyond our four walls and physical things and deep into our local networks and community. But it began with focusing our initial efforts within our household.

Resilience, then, becomes the lens through which we filter all of our decisions. It is a great simplifying tool.



Should we buy this thing? Well, how does it make us more resilient? Should we invest in developing this new skill? Well, how will that help us be more resilient? Should we plant these trees or those? Well, which ones will add the most to the natural diversity and abundance around us?

It’s really that simple. Instead of finding ourselves overwhelmed by all the things we could or should be doing, we find our lives simpler and easier.

The first concept of becoming prepared is resilience.

INSUFFICIENT, BUT NECESSARY

We must become the change we wish to see. If we just sit back and wait for a world where people are living with a reduced footprint and in balance with our economic and natural budgets, that world will never come. It is up to each of us to inspire others by first inspiring ourselves. The good news is that you are not and will never be alone on this journey.

But let’s be perfectly honest: Any steps we might take to prepare for a potential environmental, societal, or economic disruption, no matter how grand, are nearly certain to be insufficient. Nevertheless, they are still necessary. They will be insufficient because being perfectly prepared is infinitely expensive. But actions are necessary because they help us align our lives with what

What's the difference between being zero percent self-reliant and 3 percent? Night and day.

we know about the world. In my experience, when gaps exist between knowledge and actions, anxiety (if not fear) is the result. So it's not the state of the world that creates the anxiety quite as much as it is someone's lack of action.

To put it all together, we take actions because we must. If we don't, who will? We change the world by changing ourselves. We reduce stress, fear, and anxiety in our lives by aligning our thoughts and our actions and by being realistic about what we can preserve, setting our goals and plans accordingly.

The second concept of preparation is that actions are both necessary and insufficient.

SET TARGETS

When considering preparation the first question is usually, "How much?" Here I recommend setting a realistic goal given the amount of money and time you have to devote.

My family's goal has never been to be 100 percent self-sufficient in meeting *any* of our basic needs. Instead our goal has been to increase our self-sufficiency to something, anything, greater than "none." For example, until we got our solar panels we were 100 percent dependent on the utility grid. Now we are something laughably less than that, perhaps 3 percent, but we can manufacture and use our own electricity. What's the

difference between being zero percent self-reliant and 3 percent? Night and day. We can charge batteries, have light at night, and, most important, prevent our fully stocked freezer from thawing during a power outage.

There's an enormous difference between being zero percent and 10 percent self-sufficient for food production. In the former case you rely on the existing food-distribution system. In the latter case you have a garden, local relationships with farmers, fruit trees in the yard, perhaps a few chickens, and a deep pantry. Developing even a limited percentage of your own food production does not take a lot of money, but it does take time. So set a realistic target that makes sense for you and your family and then find a way to get there.

The third concept of preparation is to set realistic goals.

BEING IN SERVICE

Reducing my own anxiety was reason enough to prepare but an equally important objective was to be of service to my community. Should a crisis occur, I expect to find many unprepared people scrambling around in a desperate bid to meet their needs and many others paralyzed by the situation and unable to effectively act. I feel it is my duty to not be among them.

Some have commented that they think of personal preparation as a selfish act, possibly involving guns and bunkers, but that's not what this is about. My

experience in life tells me that being a good community member means having your own house in order. If you do, you'll be in a better position to add valuable resources and skills to any future efforts.

My expectation is that communities will rally in the face of a disruption, an act I've witnessed several times having lived through hurricanes in North Carolina. But some communities will fare better than others and the difference between them will be dictated by the resilience of their respective citizen populations. I wish to live in a resilient community, which means I must become more resilient.

The fourth concept of preparation is that your community needs you to get yourself prepared.

STEP ZERO

Many people, when daunted by the potential magnitude of the coming change, immediately jump to some very hard conclusions that prove incapacitating. For example, they may have thoughts such as, *"I need to go back to school to get an entirely different degree so I can have a different job!"* or *"I need to completely relocate to a new area and start over, leaving all my friends behind!"* or *"I need to abandon my comfortable home and move to a remote off-grid cabin!"* These panic-driven conclusions may feel so radical that they are quickly abandoned. As a result, nothing gets accomplished. Further, nearly everyone has hidden barriers to action lurking within.

My advice here is crisp and clear. Find the smallest and easiest thing you can do, and then do it. I don't care what it is. If that thing for you is buying an extra jar of pimentos because you can't imagine life without them, then buy an extra jar next time you are shopping and put them in the pantry. I am only slightly joking here. I call this "step zero" to symbolize something minor that might precede step one.

The point is that small steps lead to bigger steps. If you have not yet taken *step one* toward personal preparation and resilience, then I invite you to consider taking *step zero*.



Examples might be taking out a small bit of extra cash to store outside of the bank in case of a banking disruption, buying a bit more food each week that can slowly deepen your pantry, or going online to learn something more about ways you can increase your resilience with regard to water, food, energy, or anything else you deem important to your future. It doesn't so much matter what it is, as long as an action is taken.

The fifth concept of preparation is to start with small steps.

THE IMPORTANCE OF COMMUNITY

My community is the most important element of my resilience.

In my case, I joined up with eight other gentlemen, and, as a group, over the course of a year we went through each and every "bucket" of a self-assessment we designed covering nine basic areas of our lives. We took a good, hard look at our then-current situations, made plans for preparation and change, and held each other accountable for following through with our plans. The support we shared was, and still is, invaluable.

My wife, Becca, and our children are deeply hooked into a wider community of people actively engaged in nature awareness, permaculture, native skills, fruit collection, and other pastimes that to them seem

recreational, but also offer deeper local connections to people and nature.

I would recommend working with people you trust or with whom you already share basic values. The closer they live to you geographically, the better. One of my core values is this: I have no interest in living in fear, and my plan is to live through whatever comes next with a positive attitude and with as much satisfaction and fun as I can possibly muster. So it has always been important to me to be in community with others who share this outlook. And even now that I've experienced the pleasures (and joys and frustrations) of working in a group setting on matters of preparation, I would still immediately join or start another one if I happened to move away.

I now count this group as one of the most important elements in my life. I know who I can talk to about next steps, I know who I can count on in an emergency, and I know who will look after my family should I happen to be out of town when something big goes awry.

It is incredibly helpful to find people to join forces with as you step through the basics of self-preparation. I encourage you to consider seeking like-minded locals with whom to form such a group, if you have not already done so, and to encourage others to do the same.

My preparation group is now working outside of our group and exploring ways to help get our larger community into a more resilient position. I am only as secure as my neighbor is, and we are only as secure as our town, and our town is only as secure as the next town over. But it all begins at the center, like a fractal pattern, with resilient households determining how the future unfolds.

The sixth concept of preparation is that community is essential.

The Basics of Resilience

Now that we've covered the reasons why becoming more resilient is generally important, it is time to examine how we can best prepare to meet our basic physical needs for food, water, shelter, and warmth, and our modern need for electricity.

LONG-TERM FOOD STORAGE

Everyone should have a minimum of three months of food stored. It's cheap; it's easy; it's a no-brainer.

The three main reasons for storing some food are:

1. Because it's cheap.
2. Because it's prudent.
3. Because your great-grandparents would yell at you for not doing it.

Once upon a time, there was a person in every community whose job it was to ensure that sufficient food stocks existed in their town to carry the people through the winter. Their job was to travel to all the farms and granaries, total up all the food, divide by the number of people in town, and assess whether they were going to make it through the winter. In fact, it is only very recently that we have lost this function, and today most people think it rather odd to even wonder about food security.

But for all of human history, up until about a hundred years ago in the United States, this was not odd at all. In fact the reverse—going into winter without a local store of food sufficient to feed the community—would have been considered insane.

Once I examined the “just-in-time” delivery system that keeps us fed in this country, I began to grow concerned. Most communities have, at most, a total of three to five days' worth of food on hand in their local grocery stores and supermarkets. In other words, if trucks stopped rolling into town, and then everyone went down to the store to buy what they needed, the stores would be stripped bare in no time at all. I've seen

this happen several times living down in hurricane country—which were formative experiences I can tell you—but for people who haven't seen this dynamic at play it may sound quite foreign.

The list of things that could disrupt the food-distribution chain is frightfully long. Fuel scarcity, flu epidemics, terrorist events, martial law, and economic breakdown are but a few of them. So our food-distribution system is best described as both highly cost efficient (with low inventories and rolling stock) and extremely brittle.

Given this, Becca and I decided that putting some food into storage made sense. Having researched food storage for a while, we discovered that we could store food in a manner that would last for thirty years and would cost us less than \$3 per person per day's worth of food.

So we made that a priority, and instead of sweating it out alone we held a food-storage packing day with fourteen local families and made a grand old time of it. Many people opt to buy the food already prepackaged for long shelf storage and there are many sources providing such products.

Today we have eight months' worth of food stored for our entire family, plus additional food set aside in case it will be needed by anybody else. It's been a year since the food-packing day and I have neither worried nor thought about food security or storage since, and I won't have to for twenty-nine more years. All for \$3 per person per day. That is the cheapest peace of mind one can buy.

There are a lot of resources to help you decide what foods to store, how much, and where to get them. I've collected quite a few of them at my Web site (chrismartenson.com), but you can also locate plenty of helpful tips and information quite easily off of the Internet with a short amount of searching.

A simpler step than arranging for many months of food that will last for thirty years is to simply deepen your pantry. This means buying more of the very same foods



that you already eat and putting them into rotation in your pantry. I am only talking about those foods that will keep for a year (or more), not things like bread or what's in your refrigerator. Mainly dry goods like spaghetti, and whatever you eat that comes in cans or jars.

Whether you decide to store a little or a lot, I encourage you to get started right away. And start small.

GROWING AND STORING FOOD

For us, the next step after getting some food stored away was to increase our local sources of food. Our primary local sources include the farmers who produce our meat and raw milk and the community-supported agriculture (CSA) vegetable operation to which we belong. Our local demand translates into more local food—a worthy outcome by itself, but we also happen to get superior food as part of the bargain.

And there's more. Our CSA is run by two fabulous young farmers whom we adore, it employs a crew of young local people, and they grow everything organically. We are getting tastier and healthier food, increasing demand for local food, and supporting our local community, all in one fell swoop. If you do not yet belong to a CSA and have the opportunity, it is well worth pursuing. If a CSA is not available or affordable to you, then at the very least, make connections with

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local farmers and food producers and purchase food from them directly whenever possible.

For the past six years we’ve also been growing a vegetable garden at what can only be termed “hobby level,” and our learning process has been steep. While we enjoy and preserve the fruits of our labors, it seems that each year brings new challenges to surmount. The spring of 2009 here in the U.S. Northeast was the wettest and coldest in living memory, leading to all sorts of problems and plant diseases. The year before that it was extremely dry and hot. When I asked a local organic farmer if there was some book or internship that could accelerate my learning process he laughed and remarked, “Nope. It’s ten years for everybody.” By this he meant that there’s no substitute for experience. One must live through the wettest year and the driest year and the year with funny yellow bugs and so on. So my advice is to get started.

Whether the food is grown by us or by our CSA, our family has developed a practical plan for food storage. We have fashioned a workable root-storage cellar out of our basement bulkhead for use over the late fall and winter months. All of our various root crops (potatoes, beets, turnips, carrots, etc.) are stored there until we use them. Effective storage in a root cellar requires a bit of learning and experimenting, with the variables being the method of storage, varieties being stored, tem-

perature and humidity control, and culling to ensure minimal spoilage.

We keep chickens, which handily convert our kitchen waste into eggs and fertilizer. We also raise a few turkeys for the freezer every year. Over the years, we have gained increasing experience with butchering and processing our own birds, and now people come to us to learn this skill. This, too, has become a point of community for us.

After several years of practice, Becca has become a master canner and works throughout the fall to can many different kinds of fruits and vegetables. As with our informal food-storage and butchering outreach, I often find her sharing the kitchen with friends as they work side by side. This kind of sharing has the benefit of nurturing relationships within our community. It also introduces local friends to new skills that may be useful to them on their own path toward personal preparation and increased food independence.

Each of these areas represents a more direct relationship with our food and each requires a different set of skills and knowledge. I wish I could tell you that a smart and dedicated person could pick these skills up more rapidly than others, should the need arise, but it turns out that there really isn’t any shortcut to becoming a gardener, or a canner, or a butcher, or a food preservationist. The vagaries of each growing season and

the environmental variations of each year ensure your food-production education will be anything but dull.

Wherever you live, do what you can to learn about the specific growing conditions there and the varieties of food plants that particularly thrive in your area. You may want to start by adjusting your eating habits and expectations to match what is easy to grow and obtain locally.

Our family's goals from this point forward are to plant a wide variety of hardy, semi-dwarf fruit trees—apples, pears, plums, peaches, and cherries, along with hardy kiwis and grapes (on trellises). Further, we intend to work with local permaculture experts to design a system of growing food on our land that will require the least amount of energy to produce the largest possible gains. Our goal is to produce as much food as we can on our plot of land using the least amount of our personal energy. If everybody did this, think how much more resilient we'd be, and probably healthier too.

Whether you can begin to grow your own food or not, I highly recommend that you figure out how to obtain as much of your food locally as you can while it's in season, and then learn how to store it so that it lasts as long as possible. Set a goal. How about 10 percent?

WATER

Clean water is a necessity of life. For most Americans, drinking and washing water comes either from a municipal (town/city) water supply or from a private well. Storing water is an enormous inconvenience, because stored water takes up a great deal of space, it's heavy, and it needs to be replaced with a fresh supply every couple of years.

Fortunately for me, I've never had to worry about water much because each place I've lived has had potable surface water nearby. Our house has a deep well, but I plan to invest in a second, shallow well by drilling down 80 to 90 feet to a water-holding gravel layer that sits under our land. I intend to attach both a windmill (for relatively continuous pumping for gardening purposes) and a hand pump capable of drawing from that depth.



We will also be installing rainwater catchment systems. Clean water is critical for sustaining life, no matter what your standard of living.

We also have a ceramic filter based on a very old technology that can render the most foul pond water into clean drinking water. You just pour water in and let gravity do the rest. These filters remove all bacteria, all other little critters, and even a host of noxious chemicals. We even use it to treat our well water right now, because it removes even slight impurities and improves the flavor—but it also gives us familiarity and practice in using this system of filtering water.

Knowing that our family will always have clean drinking water, no matter what economic or weather emergency may arise, adds to our resilience. It also gives us a peace of mind that is invaluable.

SHELTER AND WARMTH

The primary goal in meeting the need for shelter and warmth is to make your house as efficient and self-sustaining in energy as possible so that you are not completely reliant on imported energy to function—energy that could be either very expensive or intermittently available in the future.

For us, this means having three ways of heating our house and heating water: We have an oil furnace, we

Remember the airplane emergency rule: put on your oxygen mask first before assisting others.

have a woodstove, and we are about to install a solar hot-water system. Our goal here is to cut our oil use by 50 percent in the first year after installation of the solar hot-water system.

However, our very first step after buying our house was to ensure that the house was as insulated and airtight as possible. With the number of states offering tax credits and other forms of assistance to help make houses more energy efficient, there is little excuse not to button up your home if you own it yourself. Check out the programs and get busy if you haven't already done so. When it comes to energy, saving it is far easier, and cheaper, than creating it, so you might as well invest first in conservation.

When it comes to selecting systems and components, one of my new criteria is that they be as simple as possible. I will gladly give up some efficiency or pay a little more if the system has fewer moving parts and seems like it could be fixed without flying in a Swedish engineer. Unless someone local can service and fix the system, I want no part of it. Simplicity now has a very high premium in my decision-making processes.

After we are done getting our house into shape with respect to energy, I anticipate utility bills that are half what they used to be, a less drafty and more comfortable house, and the security of knowing that hot water will always be a part of our lives.

ELECTRICITY

Next, we also have solar photovoltaic (PV) arrays to create a modest amount of electricity and a modest battery bank for limited storage. The primary purpose of this system is to provide a 100 percent fail-safe source of electricity to run our 25-cubic-foot freezer, the failure of which would result in a devastating food loss if the power went out in the early fall when it is most packed with food.

Our PV array provides about 2 kilowatts, which is far more than the freezer needs but far less than our house uses. Still, in a pinch, it would be sufficient to recharge batteries and run a laptop computer and drive a solar pump on our shallow well.

Our home is on the grid, but, at the very least, I am comfortable knowing that we have a source of electricity on the property that could serve a wide range of purposes if necessary. Again, the difference between being zero percent self-sufficient and slightly self-sufficient is simply enormous.

Personal and Local Resilience Begins at Home

We've just covered the six basic concepts of personal preparation and the areas of food growing and storage, water, shelter, warmth, and electricity. I strongly

encourage you to make progress in each of these areas before moving on to others.

Six years ago my family lived in a big house by the sea, and we were completely dependent on outside systems and efforts to deliver to us our daily bread, our daily water, our daily warmth, and our daily electricity. Perhaps even more worryingly, we had a relatively narrow community defined by the people with whom we worked or knew through our children's lives and activities.

Today we have a garden, chickens, food-preservation skills, solar hot water and electricity, local food connections, and a deep network of relationships around each of these elements and many more besides. We did not do this all at once but over a period of years, and I invite you to consider starting your own journey toward personal and local resilience as soon as you can.

Personal preparation is prudent, rational, liberating, and necessary. Remember the airplane emergency rule: Put on your oxygen mask first before assisting others. Start with small steps. Your community needs you.

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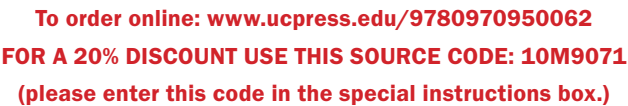
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