# CLIMATE AFTER GROWTH

WHY ENVIRONMENTALISTS MUST EMBRACE
POST-GROWTH ECONOMICS AND COMMUNITY RESILIENCE

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## About the Authors

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*Climate After Growth: Why Environmentalists Must Embrace Post-Growth Economics and Community Resilience*

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# Executive Summary

The nearly ubiquitous belief of our elected officials is that addressing the climate crisis must come second to ensuring economic growth. This is wrongheaded—both because it underestimates the severity of the climate crisis, and because it presupposes that the old economic "normal" of robust growth can be revived. It can't.

In fact, we have entered an era of "new normals"—not only in our economy, but in our energy and climate systems, as well. The implications are profound:

- *The New Energy Normal.* The era of cheap and easy fossil fuels is over, leading the industry to resort to extreme fossil fuel resources (tar sands, mountaintop removal coal mining, shale gas, tight oil, and deepwater oil) to meet demand. Unfortunately, these resources come with enormous environmental and economic costs, and in most instances provide far less net energy to the rest of society. They also require much higher prices to make production worthwhile, creating a drag effect on the economy. As a result, high energy prices and economic contraction are likely to continue a back-and-forth dance in the coming years.

- *The New Climate Normal.* Climate stability is now a thing of the past. As extreme weather events grow in severity, communities are increasingly adopting strategies that build resilience against the effect of these and other climate shocks. At the same time, we must take dramatic steps if we hope to avoid raising global temperatures more than 2°C above pre-industrial levels. According to Kevin Anderson of the Tyndall Centre, this would require a 10% reduction in $CO_2$ emissions per year, *starting now*—a rate so significant that it can only be achieved through dramatic reductions in energy use.

- *The New Economic Normal.* We've reached the end of economic growth as we've known it in the US. Despite unprecedented interventions on the part of central banks and governments, the so-called economic recovery in the US and Europe has been anemic and has failed to benefit the majority of citizens. The debate between stimulus and austerity is a distraction, as neither can fully address the factors that spell the end of economic growth—the end of the age of cheap oil, the vast mountains of debt that we have incurred, the diminishing economic impacts of new technologies, and the snowballing costs of climate change impacts.

These fundamental changes in our energy, climate, and economic systems require unprecedented (and previously politically untenable) strategies. Yet this new reality is still largely unrecognized. As long as our leaders' predominant focus remains on getting back to the days of robust economic growth, no national or international climate policies will be enacted to do what is required: *cut fossil fuel use dramatically*.

Instead of focusing on achieving climate policy within the economic growth paradigm, the US environmental community must embrace strategies that are appropriate to these "new normals."

Responding to each of these new energy, climate, and economic "normals" will require one common strategy: *building community resilience*. Efforts that build community resilience enhance our ability to navigate the energy, climate, and economic crises of the 21st century. Done right, they can also serve as the foundation of a whole new economy—an economy comprised of people and communities that thrive within the real limits of our beautiful but finite planet.

Thankfully, innovations that build community resilience are cropping up everywhere, and in many forms: community-owned, distributed, renewable energy production; sustainable local food systems; new cooperative business models; sharing economies, re-skilling, and more. While relatively small and inherently local, these projects are spreading rapidly and creating tangible impacts.

Growing the community resilience movement to the national and global scale that's needed will require the full support and participation of the US environmental community. Specifically we need to:

- build the capacity of groups—large and small—who are leading these efforts;
- support the growth of a global learning network; and
- enable local investments to flow into community resilience enterprises.

By making community resilience a top priority, environmentalists can offer an alternative to the "growth at all costs" story, one in which taking control of our basic needs locally has multiple benefits. Community resilience-building can create new enterprises and meaningful work, and increase well-being even as GDP inevitably falters. It can reduce greenhouse gas emissions and dependence on fossil fuels, while addressing social and economic inequities. And it can strengthen the social cohesion necessary to withstand periods of crisis.

On their own, community resilience projects can't overcome all the environmental, energy, economic, and social equity challenges facing us. That *will* require coordinated global, national, regional, community, business, neighborhood, household and individual efforts. But the community resilience movement *can* help create the conditions in which what is now "politically impossible becomes politically inevitable."[1]

How the environmental community responds to the risks and opportunities of the new energy, climate, and economic "normals" will make an enormous difference in its success, and in the fate of humankind.


# Introduction

On November 14, 2012, just days after his re-election and two weeks after Hurricane Sandy flooded New York City, President Obama was asked by the *New York Times* about climate policy, specifically the possibility of a carbon tax:

> I think the American people right now have been so focused, and will continue to be focused on our economy and jobs and growth, that if the message is somehow we're going to ignore jobs and growth simply to address climate change, I don't think anybody is going to go for that. I won't go for that.[2]

This short statement reveals the raw political calculus that prevents the Obama Administration—and really, most every national and international political body—from meaningfully addressing the climate crisis. Obama's comments reflect the underlying assumptions of politicians on both sides of the aisle (at least those who recognize that there is a climate problem) and conventional thinking across virtually all sectors of society.

The benefits of—and *need* for—economic growth are so widely assumed that they are hardly ever debated. And yet, maintaining perpetual growth on a finite planet is impossible—logically, physically, and yes, economically. Nevertheless, our Western way of life seems to depend on a shared belief in economic growth. And so most politicians, economists, businesspeople, and ordinary citizens continue to prop up this irrational view.

In our view, President Obama's widely shared judgment that addressing the climate crisis is secondary to getting "back to normal" is wrongheaded—not only because it implicitly underestimates the severity of the climate crisis, but also because it presupposes that the old economic "normal" can be revived. In fact, the "normal" of robust economic growth is gone and won't return, at least in the long term (as we'll show in this paper). But without recognition of that fact, and without a viable alternative to the growth paradigm, significant progress in climate policy is highly unlikely. And without climate policy, we are headed toward global catastrophe.

The environmental community recognizes that truly meaningful national and international climate policy solutions are currently politically infeasible. But the source of the intransigence is often attributed to

political partisanship and the corruptive influence of moneyed interests—most notably the fossil fuel industry, which has used lobbying, campaign contributions, massive advertising, and similar tactics to shift public perceptions and exert political influence.

Therefore, the strategies employed by many in the organized climate movement (particularly after painful failures in 2009 and 2010, at COP15 in Copenhagen and the US Senate) have centered on pursuing state and regional policies, and on growing a citizen movement to stand in vocal, active opposition to the fossil fuel industry. On both these fronts the environmental community has accomplished a lot.

*But the growth imperative is the underlying cause of the climate crisis.* As long as the climate movement leaves it unchallenged, meaningful climate policy won't come until it's too late, if at all. If we (politicians, businesspeople, environmentalists, and ordinary citizens alike) continue to prioritize growth above all else, we will refuse to do what is required to address the climate crisis—which is to *cut fossil fuel use dramatically*. To put it plainly, we're hooked on economic growth and economic growth is hooked on cheap fossil fuels.

Cheap fossil fuels—particularly oil—grease the wheels of our globalized, consumerism-based economy. Of course, we must correctly price fossil fuels (internalizing their environmental costs instead of externalizing to other sectors of the economy and future generations), and we must concurrently commit to a massive build-out of renewable energy production and embrace energy efficiency. But it is difficult to imagine accomplishing this without a reduction in that pillar of conventional economic thinking—Gross Domestic Product (GDP)—in at least the OECD nations.

The good and bad news is that the growth paradigm is already in its death throes thanks to fundamental changes occurring in the very systems (energy, climate, and economy) that have supported it for the last century. The transition to a new paradigm will be challenging, but the sooner we act the better chance we have of managing it. Thankfully, models are already emerging for making our communities healthy, vibrant, and resilient *without* the need for perpetual economic growth.

In this paper we argue why the changes taking place in our energy, climate, and economic systems constitute a new (post-growth) "normal" and why a different kind of growth is absolutely critical to addressing the climate crisis: the growth of small-scale, local efforts aimed at responding to these changes by building community resilience.

# Our "New Normals"

**A lot of opportunity** is going to arrive in the next 20 years disguised as loss.

—Martin Shaw[3]

A recent *Time* magazine article explored the question of why there is such a large gap between recognition of the climate crisis and action to address it:

> Daniel Gilbert, a professor of psychology at Harvard, has written about why our inability to deal with climate change is due in part to the way our mind is wired. Gilbert describes four key reasons ranging from the fact that global warming doesn't take a human form—making it difficult for us to think of it as an enemy—to our brains' failure to accurately perceive gradual change as opposed to rapid shifts. *Climate change has occurred slowly enough for our minds to normalize it, which is precisely what makes it a deadly threat,* as Gilbert writes, "because it fails to trip the brain's alarm, leaving us soundly asleep in a burning bed."[4] [emphasis ours.]

Climate change is history's most dramatic and consequential example of the "boiling frog" phenomenon, in which slow, compounding, detrimental change goes mostly unnoticed until it reaches a magnitude where adequate response is exceedingly difficult and costly. Developments in our energy, climate, and economic systems are exhibiting a similar dynamic. Each of these systems is prone to undergoing short-term shocks, of course: the Deepwater Horizon oil spill, Hurricane Sandy, the collapse of Lehman Brothers. But far more radical and fateful changes are occurring gradually and largely unnoticed. In each of these systems, what was considered "normal" just ten years ago seems like ancient history.

| | 2003 | 2013 |
|---|---|---|
| Price of a barrel of oil, in July[5] | $30 | $105 |
| Average extent of arctic sea ice in September (millions of km$^2$)[6] | 6.0 | 3.6 |
| Federal government debt per household[7] | $61,110 | $145,980 |

Our burning of abundant and cheap fossil fuels over the last 150 years is what's given us both extraordinary economic growth and civilization-threatening climate change. And now the energy system is going through a profound transition, one which will impact the economy and the climate in equally momentous ways. To understand the dynamics at work, we must first understand this "new energy normal."

## The New Energy Normal

**You know, the world's not running out of oil.**
There's all kinds of oil left in all kinds of places. We're never going to run out of oil. But what the world is going to run out of, indeed, what the world has already run out of, is the oil you can afford to burn.

—Jeff Rubin, energy expert & former chief economist, CIBC World Markets[8]

In the mid-19th century, humanity learned how to tap the Earth's vast deposits of fossil fuels—first coal, then oil and natural gas. As these energy-dense hydrocarbons became affordable to produce in enormous quantities thanks to steadily improving technologies, they fueled the industrial age and radically transformed every aspect of society. The unprecedented and rapid economic growth that occurred in North America and Europe during the 20th century can be attributed mostly to the machines built to capitalize on this abundance of cheap, easy energy.

We are now entering a new phase in the modern energy story. Vast stores of oil, natural gas, and coal are still trapped in the ground, but the "easy" resources are in decline. Today, every joule of energy we extract from drilling and mining comes at a far greater environmental, economic, and energy cost than was the case even a decade or two ago. Meanwhile, global demand for cheap energy continues to grow. The trend is clear: We're heading rapidly to the point when—even if we are willing to suffer the environmental and societal impacts—the return on investment in further exploration and production of fossil fuels simply won't justify the needed effort.

### The Oil Problem

The challenge is particularly acute with respect to oil, still far and away our most important energy resource. Oil is the most energy-rich resource we've ever found: a barrel of it has the equivalent energy of roughly 24,000 hours of human labor (over 11 years' worth, based on a 40 hour per week work schedule).[9] In the early days, oil production yielded a fantastic return—an energy return on energy invested (EROEI) of approximately 100 barrels of oil for every barrel used in its production. And in the first half of the 20th century we discovered lots of it. Giant fields in the United States—and later in the Middle East, Russia, and elsewhere—continued producing oil for decades after they were first tapped, making this powerful resource incredibly cheap.

These days, production of conventional oil (oil found in geological formations in which the reservoir and fluid characteristics permit the oil to readily flow to the wellbore) yields an EROEI of less than 30 to 1 globally,[10] and closer to 10:1 in the United States. The lower the ratio, the less energy is actually available to society. Global discoveries of conventional oil peaked in the 1960s and fields are declining on average at a rate of 5.1% per year[11]—the equivalent of nearly four million barrels per day that must be replaced each year just to maintain current levels of total production. In fact, the output of currently producing fields is set to decline two-thirds by 2035, a loss of nearly *forty million* barrels per day of production capacity (the equivalent of four Saudi Arabias' worth of production).[12]

Already the industry is resorting more and more to "extreme energy" resources to make up the difference. But these resources—tar sands (bitumen), deepwater oil, arctic oil, and hydraulically fractured, horizontally drilled tight oil (also known as shale oil)—require far greater financial and infrastructural investments and come with significantly higher climate, ecological, and health risks. In 2005, world crude oil production averaged 73.6 million barrels per

day (mbd). In 2012, it reached 75.6 mbd—an increase of just 0.3% a year (practically all of the increase coming from tar sands and tight oil).[13] During that same time, oil prices tripled to the current price of around $100 per barrel, and fossil fuel industry capital expenditures doubled to $650 billion per year.

All this for *less* net energy available to society. Tar sands oil is estimated to have a miserable EROEI of between 2.5:1 and 4.5:1.[14] The EROEI of tight oil (the latest domestic fossil fuel heralded as the key to "energy independence") is under investigation and is likely to be well under the current average for conventional oil, due to much higher drilling and infrastructure costs.

Tight oil has the added complication that its wells decline at a breathtaking rate. In the Bakken and Eagle Ford formations, the top two in the US and accounting for 80% of all domestic tight oil production, wells decline a whopping 89% on average in three years (see Figure 1).[15] This leads to what some have called "the drilling treadmill" and others the "Red Queen Syndrome,"[16] a phenomenon where ever more drilling must take place—with increasing consumption of freshwater and greater associated health and environmental risks—just to maintain production at current levels.

The situation is similar with shale gas. With conventional natural gas in the US past its peak, unconventional shale gas production has skyrocketed over the last decade. But like tight oil, shale gas wells deplete precipitously. Instead of the "100 years of natural gas" proclaimed by the industry and in the media not long ago, US shale gas production will likely be a bubble of a decade or two at most—dashing hopes of a long-term replacement of coal for electricity production and oil for transport.[17]

Unfortunately, the new energy reality is not widely understood. In fact, most people, including policymakers, believe the fossil fuel industry's claims that Canadian tar sands and domestic tight oil and

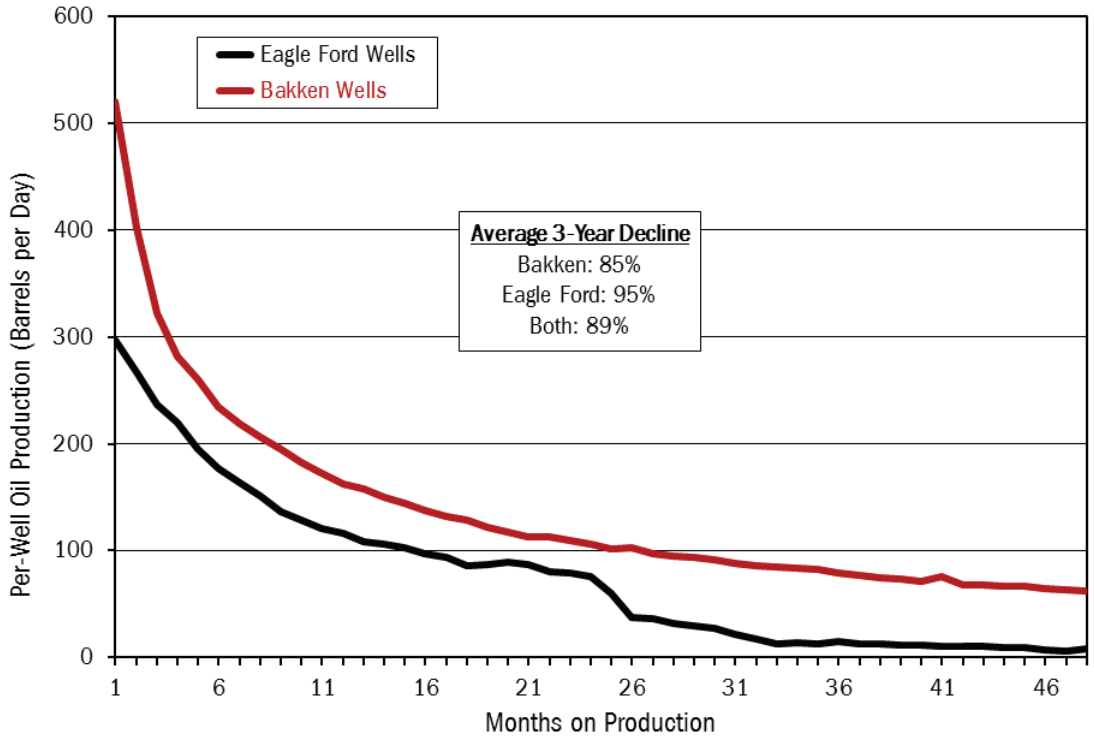


**Figure 1. Oil Well "Type Decline" Curves for the Bakken and Eagle Ford Tight Oil Plays.** Production at tight oil wells declines precipitously; within just three years, production falls (on average) 85% at wells in the Bakken and 95% at wells in the Eagle Ford. Source: J. David Hughes, Hughes GSR Inc., 2013, Data from DIDesktop/HPDI, May 2013.

shale gas will provide energy security and tremendous economic benefits to the United States for the foreseeable future. These claims do not stand up to rigorous analysis.[18] Nevertheless, the hype of a "shale revolution" is now being exported to Europe, South America, and China.

While these extreme forms of energy are keeping the hounds of oil depletion temporarily at bay, they can only do so for a brief time. The shale bubble already looks ready to burst, with billions of dollars of write-downs in the value of shale assets by the industry,[19] and with four of the top five US shale gas plays (accounting for 80% of total domestic shale gas production) showing signs of flat or declining overall production.[20] When even the CEO of Chevron says the shale revolution "is a little bit overhyped,"[21] it's clear the bloom is off the fracking rose.

## Impacts

Although the economic impacts of the end of cheap and easy oil are already apparent, they are often interpreted as resulting from something else. For example, many analysts have spoken recently of "peak oil demand",[22] citing vehicle efficiency and replacement of oil with natural gas as the primary causes for declining consumption in the US and Europe. But while vehicle efficiency has certainly improved, the true culprit is undoubtedly high oil prices. The number of miles driven in the US hit an all-time peak in 2008,[23] a direct result of oil prices shifting to their new and current normal (now over $100 per barrel) in the years since. And while the "Great Recession" was triggered by much more than oil prices, sticker shock at the gas pump clearly played a major role (Figure 2); indeed, a spike in oil prices preceded 10 of the last 11 recessions in the US.[24]

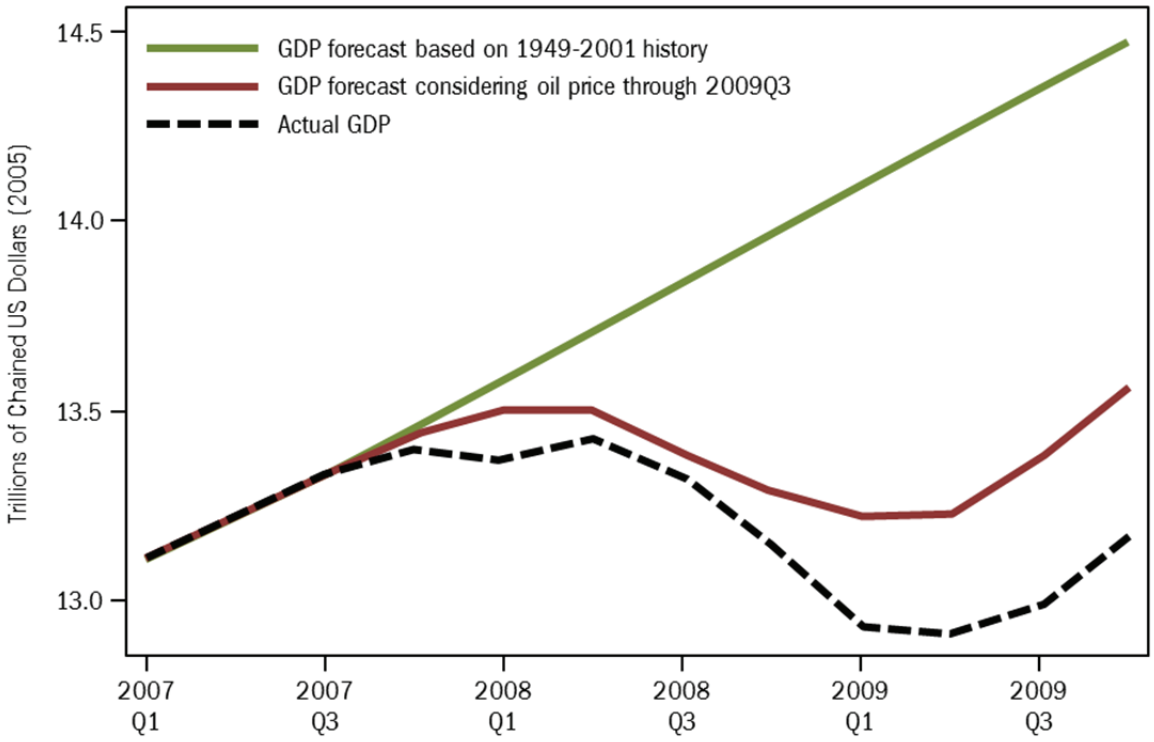


**Figure 2. Effect of Oil Price Spike on GDP During the Great Recession.** According to economist James Hamilton, high oil prices accounted for roughly two-thirds of the decline in GDP during the Great Recession. The green line shows what GDP would have been had historical growth rates persisted; the red line applies the record-high oil prices of 2007-2009 to that same forecast; the black dashed line shows actual GDP during this period. Source: James Hamilton, "Oil Prices, Exhaustible Resources and Economic Growth," University of California–San Diego, October 1, 2012, Figure 15, http://dss.ucsd.edu/~jhamilto/handbook_climate.pdf.

The fossil fuel industry tends to portray energy policy as a choice between climate and environmental protection on the one hand and economic growth and jobs on the other. Given this framing, few politicians will choose environmental over economic priorities—and so subsidies continue for the production and consumption of fossil fuels. But if the era of cheap and easy fossil energy is indeed waning fast, then this choice is false: Further fossil fuel dependency is an environmental *and* economic dead end.

Unfortunately, while renewable energy can greatly reduce the climate impacts of energy production and consumption, it does little to address the economic problem of rising energy costs and the challenge of meeting energy demand. Renewables require massive up-front investments if they are to rival coal and gas in capacity. And—as with unconventional fossil fuels—it's questionable whether renewable energy can be realistically scaled up enough to meet current energy demand, let alone projected.[25] Moreover, solar and wind can't directly replace existing transportation fuels without a costly transition to electric vehicles that would take decades. Petroleum products currently power over 95% of transportation in the US. Despite recent gains in electric vehicle sales, these still accounted for less than 3.5% of total vehicle sales in the US in 2012[26]—and they and natural gas powered vehicles are projected to still make up only a fraction of total vehicles in 2030.[27]

Can a more rapid deployment of electric or natural gas powered vehicles, coupled with efficiency gains in internal combustion engines, offset the declines of conventional oil and the impact of related high prices? It seems highly unlikely, unless accomplished in the context of a much larger "transportation revolution," which includes a significant shift to rail for personal and commercial transportation, as well as a significant decline in vehicle miles traveled overall.[28] The challenge is even greater for air travel and shipping, upon which so much of our globalized commerce relies, since there is no renewable energy alternative to petroleum-based air and naval transport fuels ready to be produced at the prices and quantities needed in the foreseeable future.

For all these reasons, our "new energy normal" is diverging sharply from the energy expectations built up during the 20th century. The path we choose going forward—a foolish reliance on diminishing and destructive fossil fuels, or a wholesale commitment to renewable energy—will make an enormous difference. But in either case, we should anticipate significant energy and economic flux in the coming years. Increasingly, we will see a self-reinforcing energy-economy dynamic that looks—at least from the perspective of the growth paradigm—like a trap (Figure 3).

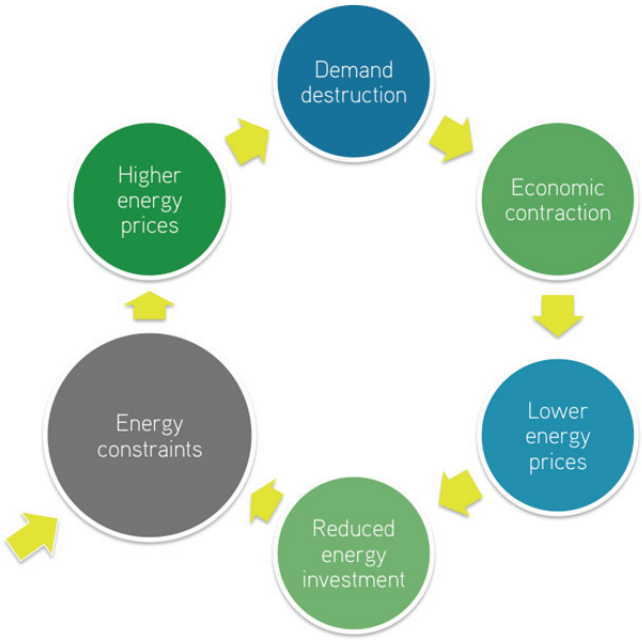


**Figure 3. The Energy-Economy Trap.** Energy constraints (in terms of costs required to produce) can trigger a vicious, reinforcing cycle wherein constraints raise prices, which create a drag on the economy, leading to reduced energy use (as a result of decreased consumer spending, driving, etc.), which in turns pushes energy prices down, resulting in decreased capital expenditures by the industry, which then leads to further constraints.

## The New Climate Normal

> My sick joke is that Eastern Australia had average rainfall for the last seven years. The first six were the driest six years in the record books, and the seventh was feet deep in unprecedented floods. **Such "average" rainfall makes farming difficult.**
>
> —Jeremy Grantham[29]

2012 was a year of extreme weather. The United Kingdom had the worst summer anyone can remember, which began with the driest spring for over a century, followed by the wettest summer since 1776.[30] At the same time, the US had one of the hottest summers on record and a severe drought, second only to the Dust Bowl of the 1930s, leading to more than half of all US counties (1,584 in 32 states) being designated primary disaster areas.[31] Brazil experienced floods and landslides; Australia had massive floods; the Sahel suffered devastating droughts; heavy rains and flooding led to five million people being evacuated in China; two weeks of rain fell in one day on Manila, flooding half of the city; and 60,000 homes in eastern China were damaged by typhoons.[32] And then there was Hurricane Sandy.

Although we can't say categorically that all these extremes are caused by climate change, a recent study published by the American Meteorological Society found that human-caused global warming increased the likelihood of about half of the recent extreme weather events they studied.[33] This is entirely consistent with what we would expect to see as the world's climate warms. Kevin Anderson, Deputy Director of the UK Tyndall Centre (one of the leading climate research centers in the world) had this to say when asked if such extreme weather events would have been less likely had atmospheric concentrations of carbon dioxide remained at 280 parts per million:

> Yes, I think that would be a fair comment. It would be much less likely. We are starting now to see events that [are] difficult to explain in terms of normal probabilities. We get extreme weather events. We always have had such events; extremes do occur. But if extremes start to occur regularly they're no longer extremes, and what you're then seeing is not a weather extreme, you're seeing change in the climate.[34]

The consensus seems to be that any "new climate normal" will be defined by an increase in extreme weather and by its sheer unpredictability.[35] As UN Secretary-General Ban Ki-moon told the 2012 Doha climate summit, "The abnormal is the new normal."[36] In contrast, Kevin Anderson feels that to talk of a "new normal" for climate change misses the point. If there were to be a new normal, he says:

> It would probably be a very short normal; I don't think this is the normal at all. It's the normal for today, but I think the rate of increase of emissions, and there is no sign at all of that rate significantly coming down, would suggest that we'll be reaching a new normal, and then another new normal, and then another new normal.[37]

This, of course, makes it very difficult to know what to expect, though some communities are making plans for changes that can be foreseen. The term *climate resilience* has recently become a watchword of climate response and preparation efforts globally. In May 2013, the Rockefeller Foundation announced a new $100 million program to "build resilience" in cities around the world.[38] In June, the local government sustainability organization ICLEI launched its Resilient Communities for America program with 50 US mayors[39] and the City of New York unveiled their $19 billion Special Initiative for Rebuilding and Resiliency.[40] That same month, President Obama presented the President's Climate Action Plan, which includes a large focus on "preparing the United States for the impacts of climate change."[41]

These strategies are a step in the right direction. However, adaptation must be accompanied by greatly strengthened efforts to avoid climatic changes so extreme that there is no hope of adapting to them. As Bill McKibben has said: "We must adapt to that which we can't prevent; we must prevent that to which we can't adapt."

The planet has warmed 0.8˚C since the start of the Industrial Revolution, two thirds of that since 1975.[42] The general consensus is that warming must remain below 2˚C in order avert disastrous climatic tipping points, as evidenced in the 2009 Copenhagen Accord, which was signed by 141 nations.[43] At the moment, the steps we are taking to reduce our carbon emissions aren't even coming close to what is needed. Although carbon dioxide emissions are falling modestly in Europe and the United States,[44] those reductions are being far outstripped by increases from emerging economies such as India and China (**Figure 4**). In fact, in 2012 global annual carbon dioxide emissions from energy use hit an all-time high.[45]

What is required? According to Pricewaterhouse-Coopers, in order to have just a 50% chance of avoiding global warming of 2˚C, the carbon intensity per unit of GDP would need to fall an average of 5.1% per year through 2050, over six times the rate achieved since 2000.[46] When factoring in projected population growth and global equity, economist Tim Jackson argues that decarbonization would need to average 11.2% per year.[47] In its 2012 World Energy Outlook, the International Energy Agency said that *"If action to reduce $CO_2$ emissions is not taken before 2017, all the allowable $CO_2$ emissions would be locked-in by energy infrastructure existing at that time."*[48]

Kevin Anderson is more specific about what it will really take to avoid global warming of 2˚C:

> What we know is that in the short term, because we need to start this now, we cannot deliver reduction by switching to a low carbon energy supply, we simply cannot get the supply in place quickly enough. Therefore, in the short to medium term the only major change that we can make is in consuming less…
>
> We have no historical precedents for anything greater than 1% per annum reduction in emissions. We're saying we need nearer 10%

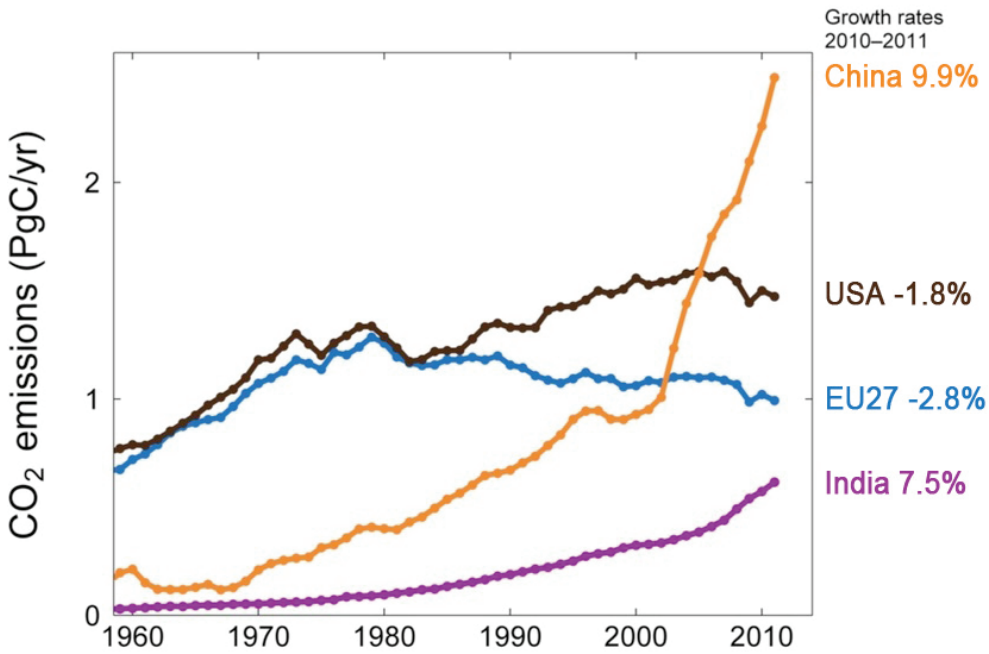


**Figure 4. Annual increase in $CO_2$ emissions in the US, EU, India, and China since 1960.** It should be noted that the per capita emissions in developed countries are still substantially higher than in China or India. Source: C. LeQuéré, Max Planck-Gesellschaft, http://www.mpg.de/6678112/carbon-dioxide-climate-change.

> per annum, and this is something we need to be doing today. And therefore, we can draw a very clear conclusion from this, that in the short to medium term… the wealthy parts of the world, to meet their obligations to 2°C, [must] cut back very significantly on consumption. And that would therefore mean in the short to medium term a reduction in our economic activity, i.e. we could not have economic growth.[49]

In other words, *we need nothing less than a fundamental shift in our economies.*

## The New Economic Normal

**We are stealing the future, selling it in the present, and calling it GDP.**
We can just as easily have an economy that is based on healing the future instead of stealing it.[50]

—Paul Hawken

It has been more than five years since the beginning of the "Great Recession" and it's clear that something fundamental has shifted in the global economy. Desperate attempts by governments to stimulate the economy—near zero percent interest rates, massive government expenditures, and other interventions—have simply not worked as hoped.

Most Americans and Europeans haven't benefited from whatever tepid recovery we hear about in the media. In the first two years of the "recovery," the top 1% of the US population captured 121% of all income gains (the incomes of the remaining 99% of the population dropped), while the top 10% took in more than half of total income in 2012, the largest proportion since the government began tracking such figures over a century ago.[51]

Much was made of the fact that the Dow Jones hit a new high in July 2013 and unemployment fell to 7.4% that same month. But the Federal Reserve has since changed its mind about "tapering" purchases of US Treasury Bonds—$85 billion of new liquidity that the Federal Reserve has pumped into the economy month after month, keeping interest rates and the value of the dollar low, raising the prospects of inflation, and driving up investments in the stock market.[52]

Without the Federal Reserve's quantitative easing program and other interventions, the US economy would be in a tailspin. As it is, the true number of Americans who are unemployed or underemployed is 14% according to the Bureau of Labor Statistics, and even more according to others.[53] The labor participation rate in July 2013 fell to its lowest level since the late 1970s, as more and more Americans give up hope of finding a job.[54] And a record number of Americans—over 47 million people—are on food stamps, compared to 33 million in 2009, at the height of the recession.[55] That's some recovery.

The economic debate has largely centered on the best way to get back to growth—austerity or stimulus—but as Graham Barnes from the Foundation for the Economics of Sustainability has said, "The austerity versus Keynesian spending debate is about as useful as arguing whether the Earth is flat or sitting on the back of a pile of turtles."[56] Neither is likely to get us back to sustained growth.

In 2011, the International Monetary Fund—based on evidence from 173 historical examples—showed that government actions (tax hikes and/or budget cuts, collectively referred to as "fiscal consolidations") typically reduce incomes and raise unemployment.

Household and business spending also declines, lowering the prospects for an economic recovery. Fiscal contractions (reduced government spending) "raise both short-term and long-term unemployment… but the impact is much greater on the latter."[57] This seriously calls into question the likelihood of governmental debt reduction leading to economic recovery. And considering the sheer size of the debt overhang in many countries, it's also questionable (even if the pain inflicted on the populace could be justified) whether fiscal contractions would bring debt levels down to sustainable levels.

At the same time, the prospects of government stimulus refueling meaningful economic growth are increasingly unlikely. The hand-wringing over the size of the US federal government debt is justified, but rising debt is hardly a new phenomenon: the ratio of total debt (government, household, and business) to GDP in the US has been growing significantly since the 1980s (Figure 5). The difference is that, formerly, most of the new debt was being issued to households and businesses. Since 2007, the government has taken over as "borrower of last resort" to keep debt (and hence the economy) growing.

Unfortunately, it's taking more and more debt to create each dollar of growth in the US—from $1.74 in the 1970s to $5.67 in the 2000s.[58] The World Economic Forum projects that global credit will need to nearly double by 2020—from $109 trillion in 2009 to $213 trillion—just to maintain the current, low level of GDP growth.[59]

How long can this be maintained before the other shoe drops—massive defaults, lending dries up, or mandatory "haircuts"? In September 2013 William White, the former chief economist of the Bank for International Settlements (BIS)—famous for being the only head of a major global institution who foresaw the 2007/2008 global banking crisis— warned that exuberance in the credit markets "looks like to me like 2007 all over again, but even worse." According to the BIS, the share of "leveraged loans" (those used by the weakest borrowers) has jumped to 45% of all loans—10% higher than in the peak of the bubble in 2007-2008.[60]

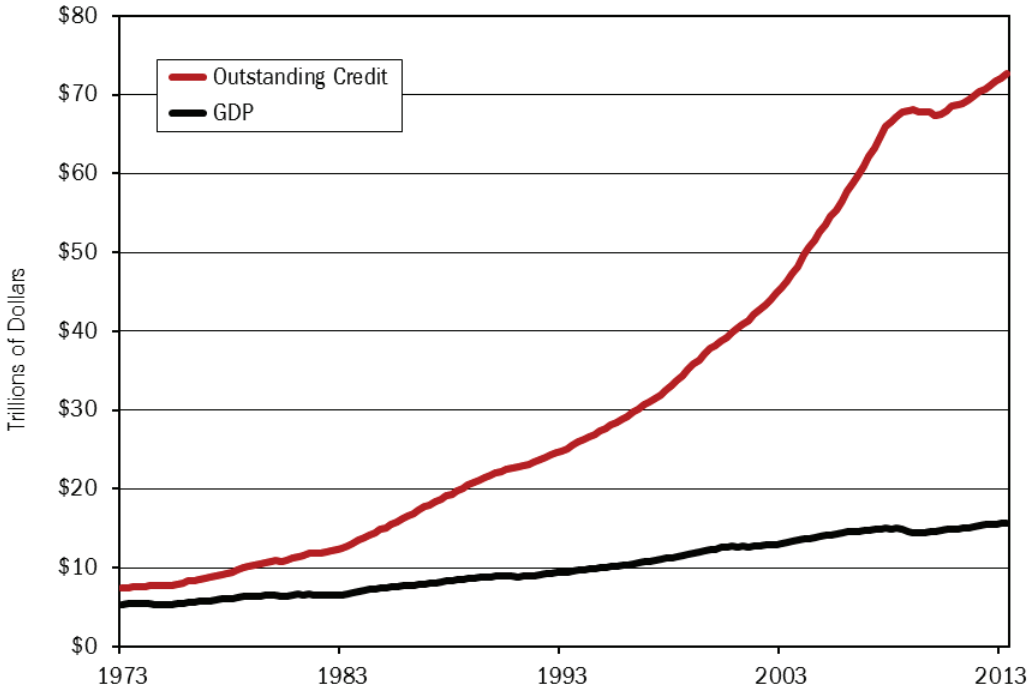


**Figure 5. US GDP vs. Total Outstanding Credit, 1973-2013.** Outstanding Credit includes total government, corporate, and private debt, currently standing at over $70 trillion. US GDP is calculated on quarterly basis, at 2009 Chained Dollars. Source: US Federal Reserve.

In his 2011 book *The End of Growth*, Post Carbon Institute Senior Fellow Richard Heinberg argues that the 20th century's economic growth spurt is now a thing of the past. This is thanks to the combination of the end of the age of cheap oil, the vast mountains of debt that we have incurred, the diminishing economic impacts of new technologies, and the increasing costs of the impacts of climate change.[61] Tim Morgan, Global Head of Research for Tullet Prebon (a FTSE 250 brokerage company) is equally pessimistic:

> The economy as we know it is facing a lethal confluence of four critical factors – the fall-out from the biggest debt bubble in history; a disastrous experiment with globalization; the massaging of data to the point where economic trends are obscured; and, most important of all, the approach of an energy-returns cliff-edge.[62]

And yet we continue to tether ourselves to the false hope that a return to robust economic growth will end all our woes.

---

**Too much and for too long, we seem to have surrendered personal excellence and community values in the mere accumulation of material things.** Our Gross National Product, now, is over $800 billion dollars a year, but that Gross National Product—if we judge the United States of America by that—that Gross National Product counts air pollution and cigarette advertising, and ambulances to clear our highways of carnage. It counts special locks for our doors and the jails for the people who break them. It counts the destruction of the redwood and the loss of our natural wonder in chaotic sprawl. It counts napalm and counts nuclear warheads and armored cars for the police to fight the riots in our cities. It counts Whitman's rifle and Speck's knife, and the television programs which glorify violence in order to sell toys to our children.

Yet the Gross National Product does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile.

—Robert F. Kennedy (1968)[63]


# The Case for Community Resilience

> **I have a lot of sympathy for governments that see the immediate problems and strive to deal with them,** but I have much less sympathy if they don't have a longer-term vision that makes sense of where we're heading. I'm very concerned that trying to pull out all the stops to re-stimulate economies, to use the cliché 'to get back on track', is actually a formula for far worse things to happen, probably in the not-too-distant future.
>
> —Peter Victor, author, *Managing without Growth*[64]

Mounting a meaningful response to the confluence of these three "new normals" demands unprecedented courage and conviction. This will ultimately require coordinated policy mechanisms across local, regional, national, and international levels—but leadership from our elected officials is woefully lacking. And yet, is this any surprise? What politician at the moment could stand up and call for dramatic reduction in energy consumption and GDP and have any hope of being (re-)elected?

Any approach that explicitly questions assumptions about economic growth is distinctly at odds with the systemic economic and political incentives that guide our leaders. Therefore, it falls to individuals and communities to take the lead. How? By challenging conventional thinking and by showing that a different future is not only inevitable, it's *preferable*. That different future must be based not on economic growth but on community resilience. Efforts that build resilience will make it easier to navigate the 21st century's "new normals." Done right, they will also serve as the foundation of a whole new economy—an economy comprised of people and communities that thrive within the real limits of our finite planet.

The most fertile soil for these efforts is at the community level. Between the things we can do as individuals and the large-scale policies that only state and federal governments can enact lies great, untapped potential for positive action. Thankfully, the idea of local, community resilience has already begun to spread around the world, driven by need and a recognition that the "old" way of doing things no longer works. (Of course, it's a bit ironic to refer to the 20th century's norms as "the old way" when, in fact, human communities lived in greater balance with ecological limits for thousands of years prior.)

Innovations in the local economy are cropping up everywhere, and in many forms: community-owned, distributed, renewable energy production; sustainable local food systems; new cooperative business models; sharing economies, re-skilling, and more. All they need is a little oxygen to catch fire.

What we advocate here is not a turn away from national or international policy engagement in favor of community isolationism. After all, no community, however independent or self-sufficient, can put a bubble around itself to keep the climate, energy, and economic crises at bay. Rather, we believe that community resilience efforts—if done in the context of these "new normals"—can help shift the public conversation and show what a future based on more realistic assumptions might look like. In this we find ourselves, perhaps surprisingly, in agreement with the words of Milton Friedman, the patron saint of free-market economics:

> Only a crisis—actual or perceived—produces real change. When the crisis occurs, the actions that are taken depend on the ideas that are lying around.
>
> That, I believe, is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes politically inevitable.[65]

Ideas, actions, alternative policies to the growth paradigm… all these are most likely to emerge at the level of cities and towns—in part because of the greater flexibility and support they provide, but also because much of what will make us more sustainable and resilient is grounded in our communities: among families and neighbors, with the ecological resources that sustain us, and through the institutions with which we govern ourselves.

For good or ill, there will be ample opportunities in the coming years and decades for real change. While we cannot ignore the very real risk of profoundly negative events occurring, there is also great possibility in these extraordinary times. After all, humans are an adaptive, creative species. We can be brilliant and insightful, but we need to apply those gifts to a future filled with different opportunities and constraints than the one we've known.

## What We Mean By Resilience

> The resilience frame suggests a different, complementary effort to mitigation: to redesign our institutions, embolden our communities, encourage innovation and experimentation, and support our people in ways that will help them to be prepared and cope with surprises and disruptions, even as we work to fend them off.
>
> —Andrew Zolli & Ann Marie Healy, *Resilience: Why Things Bounce Back* (2012)[66]

*Efficiency.* That word, perhaps more than any other but growth, embodies the priorities of our globalized economy over the past few decades. The striving for economic efficiency (through the use of human, technological, and natural resources so as to maximize the production of goods and services) has ostensibly benefited consumers and shareholders. But it's also led to the creation of brittle, centralized systems across virtually all sectors of society, leaving us vulnerable to geopolitical, environmental, energy, and economic shocks.

Perhaps because shocks to these systems have become more commonplace, and because there is a growing recognition that more shocks are on the way, the concept of resilience has gained popularity. But what does "resilience" really mean?

The term is used in a variety of ways, but most commonly resilience is viewed as the ability of a person, community, or system to bounce back from disruption to a normal state of being. For nearly four decades, scientists have studied the resilience of ecosystems and found that their degree of resilience depends on three defining parameters:

- The amount of change the system can undergo and still retain essentially the same function and structure;

- The degree to which the system is capable of self-organization;

- The ability to build and increase the capacity for learning and adaptation.[67]

Our communities are vulnerable to disruptions caused by extreme weather, energy constraints, economic shocks, and resulting political unrest. This is true in terms of both individual "black swan" events and general trends. And so it is vital that we build resilience, so that communities can both withstand these disruptions and continually adapt to the new realities that are creating them.

But when we think about efforts to "retain essentially the same functions and structures," where should we invest our limited time and capital? Is it in large infrastructure projects so that we can continue driving in our cars to buy our groceries at the national supermarket chain? Is it in building sea walls in New York City so that Wall Street traders can continue to go about their business as the oceans rise? Even the development of large-scale, centralized, wind and solar projects by multinational corporations may reinforce an energy system that is far too rigid and brittle, and that leaves more people vulnerable to foreseeable disruptions.

Perhaps our "normal state of being" is not the growth society we've built over the last century on the back of a remarkable, one-time energy bonanza. Perhaps our normal state of being is closer to home, thriving within the limits of Earth's carrying capacity.

If self-organization and the capacity to learn and adapt are key features of a resilient system, then the greatest opportunity for resilience-building lies at the community scale. In *The Resilience Imperative*, Michael Lewis and Pat Conaty offer seven principles that help identify what generates resilience within our communities:[68]

1. Diversity: A resilient community supports and sustains diversity in various forms, in terms of cultures, economic activity, landscapes, and so on. Diversity provides for greater adaptation and innovation, while reducing the risks of systemic collapse.

2. Modularity: A resilient community is made up of distributed elements that can operate independently of one another. Rather than being hyper-connected, these elements are capable of functioning alongside, and overlapping with, but independent from, other parts of the system.

3. Social capital: A resilient community fosters trust, leadership, and the ability to community members to respond collectively to challenges and disruptions.

4. Innovation: A resilient community encourages and values learning, exploration and adaptation, and creates an environment that fosters experimentation.

5. Overlap: A resilient community prioritizes redundancy over economic efficiency in order to minimize risk.

6. Tight feedback loops: A resilient community seeks to grow and maintain strong feedback loops that allow its members to recognize thresholds (social, ecological, economic) before crossing them.

7. Ecosystem services: A resilient community takes into account the impacts of its activities on the ecosystem, rather than just passing those impacts on to somewhere else "out of sight and out of mind."

In real terms, a resilient community is one that meets a growing proportion of the local economy's needs for food, energy, building materials, and employment opportunities from as near as possible. It measures its progress in terms of broader indicators of well-being, rather than just economic performance. It has a high degree of democratic participation in decision-making—reflecting the true diversity of the community

in all government and community institutions, including businesses. It offers a diversity of opportunities for learning and employment in the economy. It supports innovation and entrepreneurship. And it seeks to maximize the opportunities for "inward investment" (the community investing in itself)—particularly towards the financing of ongoing resilience-building enterprises.

## Community Resilience in Action

So what does community resilience look like in action? You've probably seen elements of it in your own community already—local food projects; community energy initiatives, "go local" campaigns, and so on. What follows is just a handful of examples, taken from the international Transition Network[69] and Post Carbon Institute's recent Community Resilience Guides book series:[70]

### Energy


**Co-op Power, New England**

Co-op Power is a consumer-owned energy cooperative and network serving New England and New York. The organization employs an innovative structure that allows it to form multiple businesses—including a sustainable biodiesel plant and an energy services company—to meet its mission of creating a multi-class, multi-racial movement for a sustainable and just energy future. Co-op Power has formed six regional councils in New Hampshire, Massachusetts, and New York. **cooppower.coop**

**Brixton Energy, England**

In a diverse South London neighborhood, Brixton Energy (originally a project of Transition Town Brixton) is London's first community-owned solar energy company. It has so far raised around £200,000 in three share launches. Brixton Energy offers local shareholders a good return on their investment, trains young people in a range of skills related to installing renewable energy systems, and generates a fund for energy efficiency measures in some of the poorest housing in the area. **brixtonenergy.co.uk**

### Food


**The Local Food Shift, Colorado**

Transition Colorado is leading a coalition of grassroots organizations to promote food localization in Boulder County and down the Front Range in Colorado. This effort includes: creating vehicles for local capital formation to support new or expanded local food businesses (already deploying $2.5 million); underwriting an innovative local food-distribution enterprise; commissioning a study on the economic impact of a 10% shift in the economy towards local food; a range of events, publications and a 10% challenge. **localfoodshift.com**

**Appalachian Center for Economic Networks (ACEnet), Ohio**

ACEnet is pioneering economic development in a rural and economically challenged region in Ohio by fostering innovation in the local food system. The

organization operates a manufacturing and commercial kitchen facility for small food entrepreneurs, business training and incubation, a revolving loan fund, networking, and collaborative purchasing to help ensure that local food businesses survive and thrive. acenetworks.org

## Economy


Bristol Pound, England

Started by Transition Town Bristol, the Bristol Pound is a complementary local currency designed to support Bristol's independent businesses and strengthen the local economy by keeping the flow of money within the 800,000-person city. The currency combines printed notes, an Open Source Pay-by-Text system, and integration with the local credit union. It's accepted as payment on city buses, and the City Council pays part of its staff's salary in the currency. The mayor also takes his full salary in Bristol Pounds. bristolpound.org

Local Investment Opportunities Network (LION), US-wide

Started in Port Townsend, Washington and since adopted in other communities around the country, LION is an innovative program that bypasses many of the archaic securities laws that make it so challenging for local businesses to generate investment. LIONs are connection points for businesses looking to raise capital with citizens who are interested in investing locally, thus strengthening the local economy. l2020.org/LION

For many more examples of community resilience in action, visit the Transition Network (transitionnetwork.org) or see the three books of the Community Resilience Guide series (resilience.org/guides):

- Michael Shuman, *Local Dollars, Local Sense: How to Shift Your Money from Wall Street to Main Street and Achieve Real Prosperity*, 2012.
- Greg Pahl, *Power From the People: How to Organize, Finance, and Launch Local Energy Projects*, 2012.
- Philip Ackerman-Leist, *Rebuilding the Foodshed: How to Create Local, sustainable, and Secure Food Systems*, 2013.

## Community Resilience As Economic Development

Building community resilience is a sound strategy to prepare for energy, climate, and economic shocks. But it also holds the promise of meaningful employment and strong local economies. Community economic development since the 1980s has largely centered on the idea of attracting and retaining large employers—big box stores, supermarket chains, and other large corporations—through tax incentives, attractive leases, and infrastructure (roads, parking lots, etc.) investments. Unfortunately, this strategy has only served to reinforce the trend of globalization (which hurt local economies in the first place) and make communities more vulnerable to disruptions that can take place anywhere in the world. In addition, a number of studies have shown that the economic benefits these large corporations bring to communities are *smaller* than those from local, independent businesses.[71]

For example, a study focusing on New Orleans compared 179,000 square feet of retail space housing 100 independent businesses to a similarly sized space that's home to a single supermarket. The former

generated $105 million in sales with $34 million staying in the local economy, while the latter generated $50 million in sales with just $8 million staying locally—and required 300,000 square feet of parking space.[72] Another study looked at 2,953 rural and urban US counties and found that those with a greater density of small, locally owned businesses experienced higher per capita income growth, while those with more chain businesses experienced a negative impact on income growth. The authors noted that "opening a single Walmart store lowers the average retail wage in the surrounding county by 0.5-0.9%."[73]

These studies focused only on the *economic* benefits of local, independent businesses compared to large, corporate chains headquartered elsewhere, regardless of what types of businesses these were. But community resilience enterprises have the potential to do far more—meeting not just the triple bottom line to which sustainability-oriented business aspire (profits, people, and planet) but a fourth bottom line, *resilience*.

In a more localized *and* resilient economy, the money that leaves the community is seen as both a missed opportunity and a vulnerability. A growing percentage of the money that would normally pour out through supermarkets, online shopping, and energy bills instead stays local—generating training opportunities, new businesses, new investment opportunities and livelihoods; strengthening the existing economy; and enabling all manner of new creative ideas to come to fruition. The distance between producer and consumer is shortened, reducing oil dependency and carbon emissions. It is easy to see how this model of resilience-through-localization applies to food—but when it's expanded to building materials, energy generation, and other key components of our local economies, the potential becomes enormous.

Transition Network recently conducted three "Local Economic Evaluations" for communities in England—a market town (Totnes), a county (Herefordshire), and an urban neighborhood (Brixton in South London).[74]

Each evaluation mapped the local economy in some depth, looking at where money currently goes in terms of food, energy and care for the elderly, as well as the potential for retrofitting poorly insulated homes in the community. What emerged was a strong case that resilience-building is a powerful form of economic development.

For example, the Totnes Local Economic Blueprint shows that this community of 8,500 people spends £30 million (around $46 million) on food every year, of which £20 million (around $30 million) is spent through just two supermarkets—over half through just one. And this is in a town with a very strong local food sector.

The Blueprint—created by a coalition of Transition Town Totnes, Totnes Town Council, the local Chamber of Commerce, Development Trust, and local schools and colleges—shows that just a 10% collective shift to local procurement would lead to a £2 million ($3.8 million) injection into the local economy. Add in the potential from community-owned renewables, retrofitting houses and caring for the elderly in a different way, and that's a potential £5.5 million ($8.75 million) boost for a community of fewer than 9,000 people. *That's* economic development.

# Taking it to Scale

> I felt finally that in Portalegre, my town, the town where I was born and live, there were people that were in need of changing something, just like me. I thought that was amazing, and when I saw so many people going to this presentation, I thought "this is it, we can do something. We can actually change something."
>
> — Sónia Tavares, Portalegre em Transição (Portugal)[75]

It's easy when viewing just one or two of these community resilience efforts to dismiss this entire approach as idealistic and irrelevant. But when we step back to view such efforts in the aggregate—the explosive growth of Transition initiatives around the world and the far larger, though largely unnamed, movement of community organizations building elements of resilience—we can begin to get a sense of the scale of the potential change they represent.

On their own, community resilience projects can't change all the environmental, energy, and economic challenges facing us. That *will* require coordinated global, national, regional, community, business, neighborhood, household and individual efforts. However, the middle terrain—between the little things we can do as individuals and what we need our governments and institutions to do—is absolutely vital. It's the missing piece, with countless opportunities: the community engagement, new enterprises, local investment opportunities, skill-sharing and training, local sharing economies, new employee-owned businesses, community-owned and community-developing assets… the potential for significant change is vast.

For example, if a community starts its own energy company, which draws in investment from local people, it may shift the way the local city council thinks about energy generation and its relationship to it, as well as how it invests its money. If enough communities do this, it might shift how policy is made at higher levels of government. And it can all start with a small group of people making a decision to do something.

But at the moment we're stuck. The politically difficult decisions that need to be made in order to reduce our dependence on fossil fuels, dramatically reduce our carbon emissions, build local economic resilience, address social and economic inequities, and move beyond the growth imperative are ones that, at present, politicians and decision-makers can't imagine

or don't feel would be supported by their constituents. So it's up to community groups to lead themselves—to serve as the example, to get started without waiting for permission from anyone, to show what's possible. Such actions are the lubricant, the axle grease, which allows the wheels to start turning again—turning in the right direction.

## What's Needed

*The community resilience movement already exists, and it's growing rapidly.* This movement—of which Transition Network is a central player—is comprised of many networks and institutions: American Independent Business Alliance, Business Alliance for Local Living Economies, Capital Institute, Center for a New American Dream, Center for the Advancement of the Steady State Economy, Cutting Edge Capital, Ecotrust, Democracy Collaborative, Green for All, Generation Rising Up, Interfaith Power & Light, Institute for Local Self Reliance, Local Harvest, Local Tools, Movement Generation, New Economy Coalition, New Economy Working Group, Northwest Earth Institute, Permaculture Network, Post Carbon Institute, Public Banking Institute, Resilience Circles, RSF Social Finance, Shareable, Slow Food, Slow Money, Sustainable Economies Law Center, Tellus Institute, Thriving Resilient Communities Collaboratory, US Federation of Worker Cooperatives, and dozens more.

To scale and amplify these efforts, five things are needed:

1. Engage the environmental community. The environmental community is unlikely to succeed in reducing greenhouse gas emissions if it doesn't also challenge the economic growth imperative. But there is an enormous opportunity for the environmental community to create and support programs and activities that increase the well-being of people and communities, while building the critical mass of people and models to shift climate policies.

2. Name the elephant in the room. Perhaps it seems too radical to publicly challenge the economic growth paradigm. It may be that many environmental advocacy organizations understandably make the strategic decision not to do so. But we believe that the environmental community must at least *internally* name the elephant in the room and adjust its strategies and programs based on an understanding of the "new normals" outlined above.

3. Grow a broader learning network. One of the key lessons from the rapid growth of the Transition initiatives is that there is an urgent need to develop innovative infrastructure internationally, nationally, and regionally to enable best practices to be shared quickly and easily between countries and communities. Skillfully connecting people together into a true learning network is absolutely critical to scaling up community resilience efforts quickly and effectively.

4. Enable Investments. The Economic Blueprints developed by a number of Transition initiatives in the UK and others in the US[76] have highlighted the potential for livelihoods to be made through community resilience enterprises. Scaling these, however, requires much-needed "patient capital," enabling community resilience enterprises to develop at volume and scale. Environmental philanthropic institutions could lead the way by divesting in fossil fuels, *but then re-investing* in distributed, community-owned, renewable energy.

5. Build Capacity. Even when a local group is able to spawn self-financing enterprises, there is still a need for resources to grow and maintain the efforts of the core group of people who are devoting their time and energy to developing these and other projects that build the resilience of their community.

While funding for individual projects can often be found, funding for the core of initiatives is much harder to come by. The risk is that groups fall victim to the "doughnut effect," where all the energy goes into emergent projects and enterprises while the core—which links everything together—goes empty. Providing income for paid staff for core activities can open up incredible opportunities, particularly when it comes to influencing key local decision-makers.

The Transition movement has grown rapidly—from one initiative in 2005 to thousands in 44 countries today. It has demonstrated that there is a huge pool of talent, ideas, and innovative social enterprises waiting to be tapped in communities across the US and the world. If the above five needs are met, there is potential for an international movement that:

- builds resilience in the face of the our new energy, climate, and economic "normals";
- rebuilds local economies framed around social justice and resilience;
- puts pressure *and* gives permission to politicians to make needed policy changes; and
- comes in under the radar, without the polarization that often occurs around adversarial campaigning.

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Transition Town Brixton has no core staff. When coordinator and chair Duncan Law was asked what difference a small amount of funding would make to the initiative, he said:

**Oh, it would take off.** It would take off. If those of us who are passionate about this could spend more of our time following the leads that that passion throws up, we would be able to have a seismic effect on the direction of Brixton... I could be doing it full time, and I would if I could, and we would be able to achieve everything that we set out in [our Local Economic Blueprint report] if we could just get 3 or 4 people working on it for a sizeable chunk of their week.[77]

# Conclusion

The fossil fuel industry has successfully swayed policy and public opinion by portraying energy policy as a choice between the economy and the environment.

Every year since 2000, Gallup has polled Americans on the question of whether protection of the environment should be given priority "even at the risk of curbing economic growth." The poll shows a clear trend: when economic times are hard, more Americans prioritize growth (Figure 6).

The choice between environmental protection or economic growth is false: foreseeable environmental damage from climate change would wreck the economy, and economic growth as we knew it over the past few decades is ending anyway. But the growth imperative is so strong in the minds of policymakers and the public—and the fossil fuel industry is so adept at presenting oil, coal, and natural gas as drivers of growth and prosperity—that the environmental community faces a very real risk of being viewed with increasing hostility as the economy sputters.

Some within the environmental community have championed the term "green growth" as a banner for efforts to solve the climate crisis and grow the economy; but that is a ship that won't sail, for all the reasons outlined in the "New Normals" section above. We can certainly have growth in certain sectors of the economy, and in fact *must* have growth in the clean energy sector and in all sorts of local enterprises. (And globally, equity dictates that the poorest countries in the world must be supported by the right kind of growth.) But robust, long-term growth in overall economic activity, as measured by GDP, is a thing of the past.

Instead of trying to help bail out the sinking ship of globalized, fossil-fueled, inequitable, growth-based economy, the environmental community should build a different vessel. By growing community resilience, environmentalists can offer an alternative to the "growth at all costs" story, one in which taking control of our basic needs locally has multiple benefits: creating new enterprises and meaningful work; increasing well-being rather than GDP; reducing greenhouse gas emissions and dependence on fossil fuels; addressing social and economic inequities; and building the social cohesion necessary to withstand periods of crisis; and perhaps most critically, *showing a different way*.

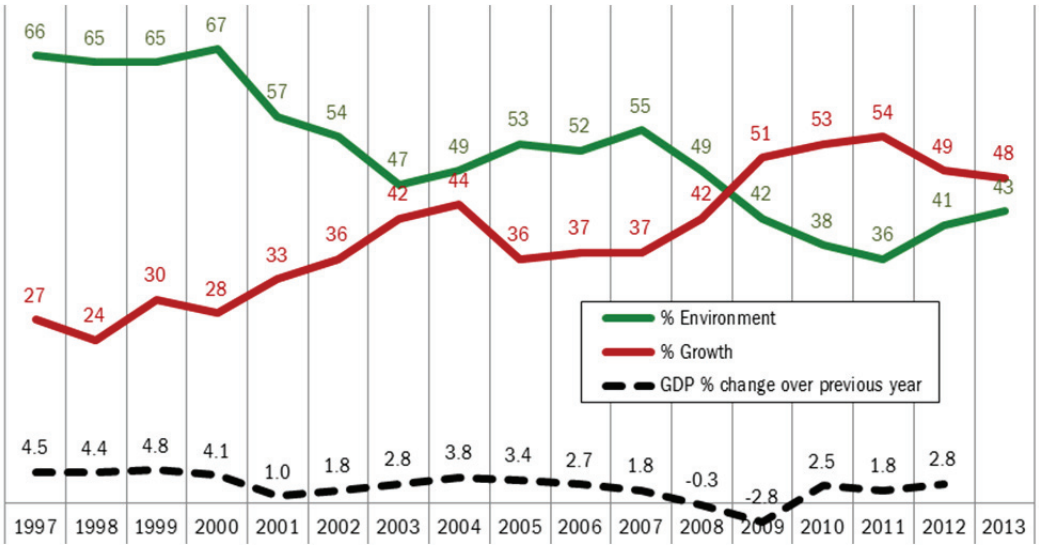


**Figure 6. US public opinion on prioritizing environmental protection vs. economic growth, compared to GDP.** Poll results are from Gallup's annual Environment survey. GDP numbers are from St. Louis Federal Reserve.

# Further Reading

## Books

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transitionnetwork.org

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# Endnotes

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