

Community Resilience Toolkit



Community Resilience Toolkit

A Workshop Guide
for Community
Resilience Planning

A Publication of



Bay Localize

**“The significant problems we have cannot be solved at
the same level of thinking with which we created them.”
- Albert Einstein**



Bay Localize Steering Committee 2009.
Photo: Erin Kilmer-Neel.

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Executive Summary

If your neighborhood association, church organization, city planning office, or community-based organization is interested in building a more resilient community, this toolkit is for you.

The Bay Localize Community Resilience Toolkit guides groups in leading workshops to plan for resilience in their communities while decreasing reliance on fossil fuels. It is designed for community groups that would like to get involved in making a difference in their neighborhood, city, or county. The Toolkit offers Bay Area-specific resources and action ideas in six key sectors: food, water, energy, transportation and housing, jobs and economy, and civic services.

Why Resilience?

We live in interesting times, with far-reaching tangible impacts on our communities. Many Bay Area communities struggle to meet their basic needs even in the best of times. Now we are facing three additional major threats to our well-being:

- Economic downturn has led to high levels of job loss and foreclosures. With lower tax revenue cities and counties are cutting back services, just when more people need a social safety net.
- Climate change will directly impact communities in the Bay Area as well as throughout the world. Our region will face rising sea levels (a danger if you live or work near the Bay), heat waves, decreased air quality, and long-term decreased availability of water and food. Impacts in other parts of the world are likely to be catastrophic due to widespread hurricanes, flooding, drought, and famine. We need to do all we can do decrease greenhouse gas emissions that make climate change worse.
- Peak oil means that we are nearing or have already passed the point at which we have used the majority of easily accessible oil in the world. As the global economy is so reliant on oil, rising oil prices makes everything else more expensive. Increased oil prices are predicted to spur higher inflation, economic contraction, growing unemployment, increased poverty, and increased violence at home and around the world.

We need creative ways to make sure our communities can meet the basic human needs of all residents, while reducing reliance on fossil fuels and protecting the health of our environment for our children. This is especially true for communities that are already struggling. In order to meet the human needs of all in our communities, we need to examine and change patterns of power and distribution of resources that contribute to inequities in our society.

Fortunately, we already have local resources to face these challenges in our communities. These assets include our knowledge and creativity, relationships, institutions, infrastructure, and natural resources.

We can nurture, grow, and connect these resources in creative ways to make our communities strong and resilient enough to weather these challenges.

What Makes Communities Resilient

Community resilience is a community's ability to withstand and recover from hard times. Even in the case of a widespread emergency, residents can meet their basic needs including food, water, energy, transportation, housing, and economic and social services.¹

The following criteria can be used to evaluate the resilience of how a community meets its basic needs given the challenges of climate change and peak oil:

<p>Equity</p> 	<p>All members of a community can adequately meet all basic human needs regardless of race, gender, income, immigration status, and other factors.</p>
<p>Quality</p> 	<p>The basic goods and services we rely on are of good quality, for example healthy food, clean water, comprehensive health care, and convenient transportation.</p>
<p>Sustainability</p> 	<p>Goods and services we use are produced in ways that increase the earth's ability to keep producing them into the future. This means conserving resources, minimizing fossil fuel use, and reducing greenhouse gas emissions.</p>
<p>Ownership</p> 	<p>The community collectively and securely owns rights to essential resources. For example, publicly owned water rights help safeguard against a corporation selling a region's water to another area that can pay more.</p>

Using the Toolkit

As a guide for group leaders who are designing and facilitating resilience planning workshops, this toolkit contains three basic elements:

- **Background notes** offer facilitators background information and resources on each topic that may be helpful for discussions.
- **Facilitation notes** offer ideas for participatory workshop methods that help

- groups fully engage with the material, nurture creative thinking, and focus on meeting workshop goals.
- **Participant handouts** are ready-to-use resources that help communicate key information to workshop participants.

The Toolkit leads groups through a three-step process:

1 Getting Ready. This section covers some basics of organizing workshops, and offers materials to ground participants in:

- Asset-based development
- Social justice
- Understanding the local impacts of economic downturn, climate change, and peak oil

Notice that we present material on asset-based development before delving into the challenges. This is to establish a tone of empowerment in the workshop before dealing with difficult topics. Feel free to present this information in the order you think best in your workshops.

2 Evaluating Your Community. This section leads participants through a process of thinking deeply about what resilience means in the context of their community, including:

- Defining resilience
- Sector-specific criteria for resilience, fact sheets, and ideas for individual, collective, and community-level actions

This section covers the sectors of food, water, energy, transportation and housing, jobs and economy, and civic preparedness.

3 Designing Your Plan. This section helps groups identify priorities and develop community resilience action plans, including:

- 10 steps for program planning, including setting goals and objectives
- Ideas for measuring your progress
- An evaluation form for your workshop

This toolkit does not tell you what changes to make in your community, but rather empowers your group to analyze your situation and decide what needs to be done. The purpose is to lead your group through the process of identifying assets, needs, and priorities, then translating your vision into a concrete, achievable action plan.

Introduction

Using the Community Resilience Toolkit

Many Bay Area communities are facing hard times. High unemployment, foreclosures, crime, and reduced public services are straining families and neighborhoods.

We may be facing even tougher times ahead. Oil prices are predicted to continue rising over the long term, driving further inflation and unemployment. Climate change is predicted to bring floods and droughts, hotter summers, difficulties for farmers in growing food, sea level rise around the Bay and the Delta, and worse air quality affecting those with asthma. In addition, a major earthquake could hit the Bay Area at any time.



Building a school rooftop garden at E.C. Reems Academy in Oakland. Photo: David Hanks, www.davidhanks.org.

What can we do to make our communities a better place to live now, while making sure we can handle tough times ahead? This toolkit helps your community group think this question through and come up with a concrete plan for increasing your resilience.

The definition of “community” in this context can vary from your neighborhood block to your entire county, or could be a group of people brought together by common interests who don’t necessarily live near each other, such as a faith group or club. Use a definition of community that makes sense for you and your group.

Community resilience is a community’s ability to withstand and recover from hard times. Creating resilience is up to you. No one is going to do it for you. No experts can say exactly how it should be done in your community. You are the experts on what you think will work in the places and with the people you know best. It will take courage to ask big, difficult questions. It will take creativity to use our assets in new ways. It will take compassion and time to build communication, trust, and solidarity between all members of our communities, some of whom may come from very different backgrounds and traditions. Hopefully, it also will be inspiring and often fun.

This toolkit won’t tell you exactly how to do all this. Its purpose is to guide your group in thinking about the questions in ways that will offer new perspectives on the challenges and opportunities, and then help you chose actions that work for your community and your group’s interests and resources.

Who Should Use the Toolkit

This toolkit is designed for use by neighborhood associations, faith groups, service clubs, schools, city planners, and any other group that is motivated to figure out how to strengthen our communities while our society goes through difficult transitions.

Feel free to go through the activities and discussions in the order presented here, or pick, choose, adapt, or re-arrange the material to best meet your group's needs and interests over time. Most importantly, tell us how it worked for you and how it can be improved for the future!



Allyse Heartwell and Temra Costa facilitate a discussion on local food. Photo: Aaron Lehmer.

As a guide for group leaders who are designing and facilitating resilience planning workshops, this toolkit contains three basic elements:

- Background notes offer compiled resources on each topic that may be helpful for planning discussions, or as background reading for participants prior to the workshop.
- Facilitation notes offer facilitators ideas for participatory workshop methods that help groups fully engage with the material, nurture creative thinking, and focus on meeting workshop goals.
- Participant handouts are designed to quickly communicate key information to workshop participants at a glance. You can make copies to hand out as needed.

The workshops can be flexibly designed to accommodate meeting timeframes most appropriate for your group. Contact Toolkit@baylocalize.org if you would like assistance in planning or facilitating your workshop.

This toolkit is available both in print and online at www.baylocalize.org/toolkit. Text that is underlined is often a hyperlink to a useful resource that you can check online. We recommend you have a print version of the toolkit available to reference during your workshop, and also encourage you to check out the online version to explore the links and resources. You may want to send the link to all workshop participants so they can do the same.

“Have a good time saving the world,
or you’re just going to depress yourself.”
– David Brower, Environmentalist

Section One

Getting Ready

This section prepares workshop participants to evaluate your community and make a resilience plan.

- First, it grounds the discussion in the realities of your community. Participants identify community assets and explore how the history of your community has shaped how it is now.
- Second, it explores some challenges communities will increasingly face in coming years: economic instability, climate change, and rising energy costs from peak oil. These are in addition to challenges your community is already facing.

“The journey of a thousand miles begins with one step.”
- Lao Tzu, Chinese Philosopher,
600-531 BC

The Basics of Planning Workshops

Ready to prepare a community resilience planning process with your group? Here are some steps to get you started:

- Develop your core leadership team by meeting with key leaders in your group to get them involved and excited about workshop planning, and establish key roles and responsibilities for each person.
- Ask key leaders to commit to supporting the workshops and implementing the resulting plans. Make sure all key actors share clear goals and expectations for workshop outcomes and the level of effort and resources the group will invest.
- Schedule workshop dates, secure a location, and recruit participants well in advance.
- Send your participants background reading or anything you'd like them to prepare well in advance of your workshop. If your group plans to do the community history exercise, remember to ask participants to do this research ahead of time.
- Plan your workshop schedule and activities, prepare materials, and define facilitator and helper roles in advance. It's useful to recruit note takers and time keepers to keep you on track as well. Go over the workshop schedule in advance with your team.
- On the day of your workshop, arrive early enough to set up the space, seating, and refreshments according to your preferences.

Welcoming Participants and Setting the Tone

We recommend facilitators establish a participatory and empowering tone to the workshop series. Welcome and honor the useful skills, knowledge, and experience that each participant brings to your planning process. Assure participants that you will draw upon what everyone has to offer.

- Welcome participants and introduce yourself and the purpose of the workshop.
- Announce housekeeping items such as locations of restrooms and any site rules.
- Optional: facilitate an icebreaker to help participants feel comfortable with each other.
- Facilitate participant introductions. Try to avoid lengthy autobiographies as participants introduce themselves. You may ask participants to simply say their name and something they are good at – which also helps participants see each other as assets. Or you can have participants partner up, interview each other, then introduce their partner and their skill to the larger group if you have time.
- Go over the goals for the workshop, and ask participants if there are any other goals they would like to add.
- Go over the schedule or agenda for the workshop series, explaining clearly what participants can expect. Answer any questions.
- Establish ground rules to keep your workshop running smoothly, for example “one mic” (one person speaks at a time). For ideas see [ground rules](#).

Background Notes

Resilience and Assets in Your Community

The failure of public response systems in New Orleans after Hurricane Katrina in 2005 offers a tragic illustration of the human suffering that can result when communities are not resilient enough to meet human needs. The city’s chaotic evacuation and reconstruction exposed the worst of emergency preparation and racial and social divides in the contemporary United States.

Community resilience is a community’s ability to withstand and quickly recover from difficult situations and hard times. Community resilience means that communities use their assets in creative ways to meet basic human needs, no matter what the circumstances. Earthquake researchers at the University of Rochester describe resilient community systems as:²

- Able to withstand stress and less likely to fail. Using the example of New Orleans, if there had been extensive healthy wetlands around the city, they may have been able to absorb some of the floodwaters.
- Less likely to produce negative impacts if they do fail. This could have meant a backup system such as stronger levees, neighborhoods designed to withstand floods, and a well-implemented evacuation plan.
- Able to recover quickly. This is what New Orleans most lacked: the social and political conditions for a quick and equitable reconstruction. However, pockets of amazing neighborhood organizing emerged to pick up the pieces and help residents meet their needs.

Our understanding of human needs is based on the United Nations' Universal Declaration of Human Rights, signed in San Francisco in 1948. Article 25 offers an eloquent vision of a society that meets everyone's basic needs:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.³

Although this is the law of the land, we are falling far short of these commitments we have made to each other. For example, approximately one third of Bay Area residents already sometimes do not have enough to eat. Many of our region's communities are already in slow, long-term crisis.

We need to develop resilient communities that meet everyone's basic needs now and in the future.

Community Assets

Every community has assets, usually more than we realize. What assets does your community have? Types of assets include:

- People and their skills, knowledge, experience, and motivation. Examples: an elderly woman who knows how to garden, and her young neighbors who have the energy to help her.
- Associations, or groups of people working with a common interest as volunteers. Examples: the PTA, service clubs, chambers of commerce, or neighborhood associations.
- Institutions, or paid groups of people who are structurally organized. Examples: local businesses, government agencies, utilities, schools, hospitals, universities, or organized religions.

- Physical Assets, includes our natural environment such as land and water, built infrastructure such as roads and buildings, physical objects, and even money. Examples: rain water, wind, vacant lots, construction materials from a demolished building that can be reused, investments in a local community development bank.
- Connections between assets. Example: The City of San Francisco (an institution) owns a piece of land (a physical asset) that it allows the Friends of Alemany Farm (an association) to garden.

Connecting assets builds resilience. You can nurture, grow, and combine assets in creative ways to make your community stronger. This approach is called Asset-Based Community Development. For more information, see the [Asset-Based Community Development Institute](#).

Another useful framework for using assets sustainably is permaculture design. Loosely defined, permaculture is a way of designing systems that mimics and works with natural processes. Wikipedia offers a useful discussion of [permaculture](#) and links to resources.

Local Self-Reliance

Localization is a way of meeting our needs through sustainable use and reuse of local assets. Localization is a useful framework for nurturing and networking assets that increases community resilience.

Localization does not imply getting rid of international trade, but rather making sure that we are meeting our community needs in ways that are the most sustainable, affordable, and secure in the long term.

Bay Localize's Principles of Localization

- Sustainable use and reuse of regional resources
- Vibrant economies which circulate wealth and opportunities locally
- Social equity in meeting basic needs of all community members
- Community control of essential resources
- Community empowerment in public decision making

For more information on localization, see www.baylocalize.org.

“Everybody can be great because anybody can serve. You don’t have to have a college degree to serve. You don’t have to make your subject and verb agree to serve. You only need a heart full of grace. A soul generated by love.”
- Martin Luther King, Jr.

Exploring Assets and Resilience

The goal of this section is to have participants identify community assets and how we can make better use of them. Starting off with skits also serves as an icebreaker that sets a fun, creative tone for the rest of the workshop.

Distribute the Community Assets and Resilience Handout, and explain that the group will be thinking about assets in our community that make it resilient.

Divide your participants into three groups, and ask each group to come up with one of the following scenarios:

- Group 1: a challenging situation one person in your community might face.
- Group 2: a challenging situation your community might face as a whole.
- Group 3: a challenging situation your region* might face as a whole.

If your groups are larger than five people each, then have them subdivide into smaller groups of four to five people. Each subgroup brainstorms what assets the community has and how they could be brought together to address the challenge, and writes them up on a large piece of paper that everyone can read (make sure these get captured in your notes). Groups then plan a skit to illustrate what they came up with. It should be interesting to see what different assets each group identifies! Keep the lists of assets posted in the room throughout the workshop, and add to them as you go.

After each subgroup performs its skit, discuss with the entire group:

1. What additional assets does our community have?
2. How could our community make better use of our assets?
3. Are there any assets that it would be useful for our community to have in these situations?

Record participant comments publicly by writing them down in a way that everyone can see.

Remember that in a brainstorm exercise, there are generally no right or wrong answers. Record each response as a valid contribution to the group's overall understanding, and show respect for each others' ideas and opinions.

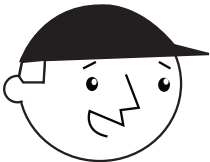




* We define our region as the 9-county Bay Area including the counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma – but you can define it whatever way makes sense for this exercise.

Community Assets and Resilience

Handout

Resilience is the ability withstand and recover from hard times. Resilient communities quickly bounce back from difficult situations that confront individuals or the entire community. Community members know how to use their **assets**, relationships and resources that people use to help each other out.

What examples of these assets can you think of in your community? Fill them in below:

	<p>Individuals All members of a community have gifts, skills, knowledge, or experiences to share. Examples:</p>
	<p>Associations Small informal groups of people, such as clubs, community organizations, or faith groups, gathering voluntarily with a common interest. Examples:</p>
	<p>Institutions Paid groups of people who are structurally organized. This includes government agencies, utilities, private businesses, schools, hospitals, organized religions, etc. Examples:</p>
	<p>Physical Assets This includes our natural environment such as land and water; built infrastructure such as roads and buildings; physical objects, and even money. Examples:</p>
	<p>Connections Exchange between people sharing their assets. Connecting assets builds resilience! Examples:</p>

Background Notes

History of Change in Your Community

Hurricane Katrina could have been only a temporary inconvenience for New Orleans. The resulting human disaster resulted more from the history of the city than from the winds and rain. A region with a history of valuing each resident equally and protecting its natural surroundings would probably have faced a different outcome.

To understand what change your community needs, it's useful to ground yourself in the history that shaped the place it is today. Even the sleepiest of neighborhoods were born of dramatic efforts to change history, successful and unsuccessful, triumphant or tragic, compassionate or cruel. As you work to create resilience in your community, learn what efforts have come before you.

Which parts of your city or county are doing well and which ones are struggling usually have roots in historic factors that are probably still shaping your community now. To address inequalities and make sure all members of your community can meet their basic needs, look at what causes these inequalities in the first place. A society where some can meet their basic needs and some cannot will never be truly peaceful or resilient.

There is no one correct history for a community, but rather many ways it can be told. Hearing history from different perspectives gives a clearer picture of how your community got to where it is. Many versions of history leave out the roles and struggles of low-income people and people of color.

For example, most schools teach that in the 1950s white children and children of color were required to attend separate schools throughout the country. However it is not commonly taught in our region that families of color were actively blocked from buying homes in many Bay Area neighborhoods well into the 1970s and later. For example, in Berkeley and North Oakland, real estate agents and banks kept African American families from buying homes east of Telegraph Avenue, a practice known as redlining.⁴

We still see the clear impact of the history of redlining in much of the Bay Area. Many public school districts remain functionally segregated, with vast discrepancies of quality between public schools in different neighborhoods of the same city. Is this true in your community? What impact does this have on the students' futures and on the resilience of the community as a whole?

“History is fables agreed upon.”
- Voltaire, French Philosopher

Equity and Resilience

In the United States and many other countries, a person's ability to meet her basic needs is strongly influenced by her background – for instance where she grew up, how wealthy her parents were, and the quality of the schools she attended. These factors in turn are closely link to her racial and ethnic background.

Even with our first African American president, deep racial and class divisions and disparities persist in our society. These can affect your options for where you live, how much you earn, the respect people give you, the assumptions people make about you, the quality of health care you receive, and many other important aspects of daily life. A 2008 study by the Alameda County Department of Public Health found that the average life expectancy of an African American child born in West Oakland is 15 years less than a white child born the same year in the Oakland hills, due to a wide number of factors.⁵

Discrepancies in the quality of public schools between neighborhoods is just one example of institutional racism – the differential access to goods, services, and opportunities based on race. When this differential access seeps into our institutions, it eventually becomes common practice, making it that much harder to rectify.

One difficulty with reducing institutionalized racism is that there is no true identifiable perpetrator. When racism is built into the institution, it appears to be an act of the collective population for which no one is held accountable. On the flip side, white privilege describes the advantages enjoyed by white people beyond those experienced by people of color in the same circumstances – often without even being aware of it.

Why is this relevant to resilience? For at least two reasons:

- Climate change, peak oil, and economic instability are predicted to have a greater impact on low-income people and people of color in California and around the world.⁶
- People with greater access to resources – especially middle- and upper-class whites – may already live in or find it easier to build resilient communities than people whose families have not been allowed to accumulate assets in the same way due to our history of discriminatory laws, prejudice, and violence.

From a very practical point of view, you are only as resilient as your neighbors, and your neighbors' neighbors. Truly resilient communities work to understand the realities, assets, and needs of everyone in and around them, to build mutually supportive networks instead of islands of plenty fending off a sea of crisis.

Examining Equity in Community History

This is a topic your group could choose to spend more time researching before or after the workshop. But whatever your group's background, do take time to ground yourselves in the history of change in your community, including histories of inequality and how they are still playing out today.

Several weeks before the workshop begins, ask the participants to research one person or group who significantly shaped the history of your community by making it a more just place for all residents to live. They could be people who worked locally for civil rights, disability rights, desegregated schools, better working conditions, services for the homeless, or other examples. They can be from any period of history, but should have done the bulk of their work in your community or region.

In your workshop, ask participants to share with each other the story of the person or group they researched. Probably not everyone will have remembered to prepare this – let them know that's fine, people get busy. Share the examples you have.

If your group is relatively small (approximately 5-12 participants), you may want to share your research all together. If your group is larger, divide into smaller groups (5-6 each) and have each participant share what he or she learned. Then discuss the following questions:

1. What lasting impact of these people's accomplishments can you see in your community today?
2. Do you think their work makes your community more resilient? How?
3. What do these examples tell you about how to create change in your community?



Workshop Participants collaborate to build a rooftop garden at the offices of People Organized to Win Employment Rights (POWER) in San Francisco. Photo: Kirsten Schwind.

The Need to Transition from Fossil Fuels

In addition to the complex challenges our communities already face, our society must now take on three new ones: climate change, peak oil, and long-term economic instability.

In his book *Heat*, George Monbiot tells the old European story of Faust as a metaphor for our society's dependence on oil and gas. Dr. Faust makes a pact with the devil to enjoy 24 years of magical powers to live in luxury in exchange for his soul. Faust enjoys using his powers to travel, sightsee, and summon up delicious foods from faraway places. At the end of 24 years the devil drags him into a fiery hell.

Ouch. Maybe Dr. Faust didn't really believe the devil's promise of consequences, or maybe he was enjoying his magical powers so much he forgot to think about what would happen when they ran out.

Faust's experience is a dramatic but useful metaphor for our societies' use of fossil fuel. Millions of years ago plants captured the energy of the sun, which was stored under the earth as fossil fuels in the form of oil, coal, and natural gas. Over the last 100 years the use of fossil fuels has completely redefined every aspect of our society and has significantly impacted all forms of life on the planet.

It's difficult to even imagine how dependent our society is on fossil fuels. Oil, gas, and coal have made our lifestyles more luxurious in some ways, and deeply precarious in others. Two fundamental problems with this way of life are:

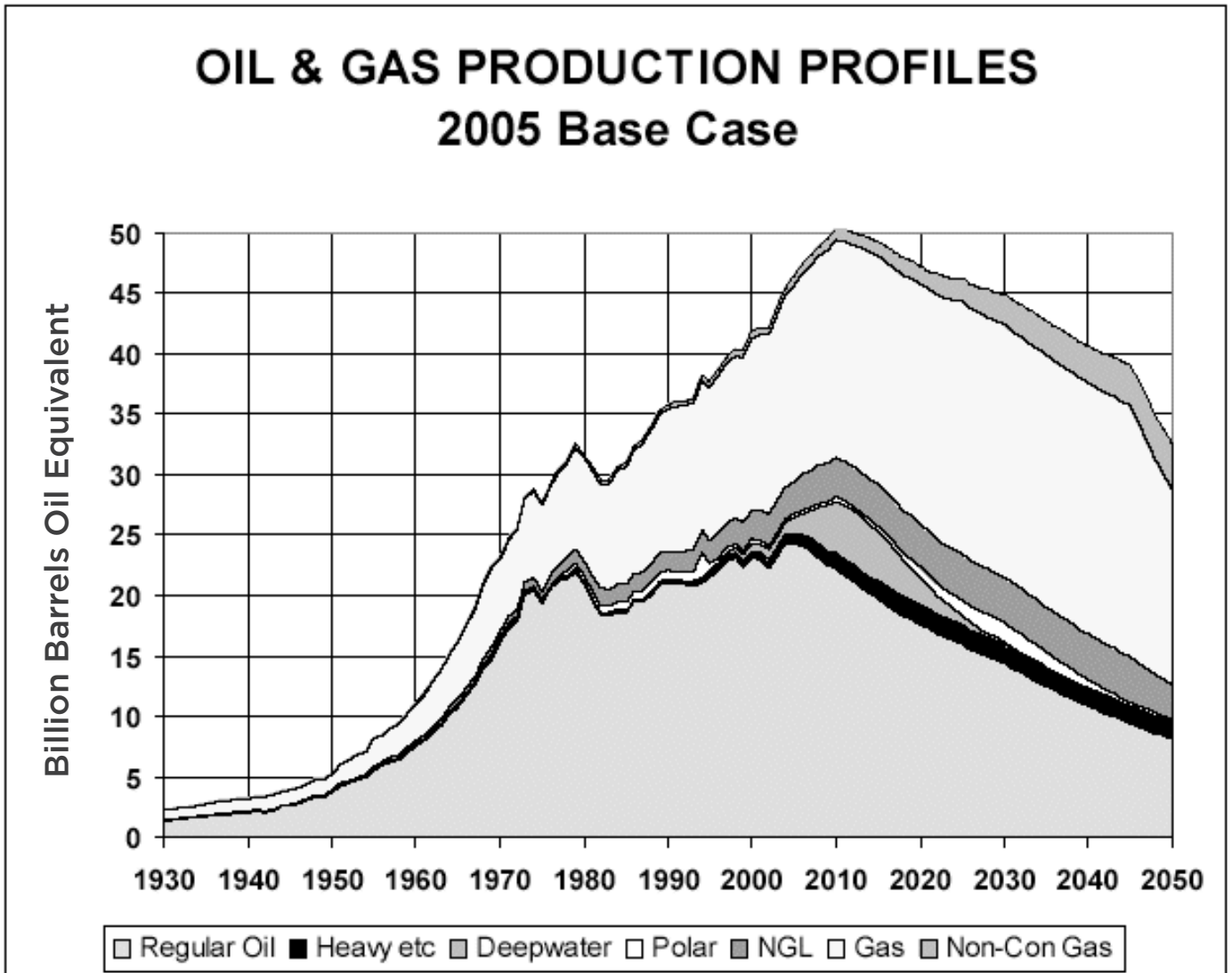
Climate change: Burning fossil fuels is warming the Earth. This is changing our climate in ways that will make it more difficult for people, plants, and animals to live in many places. Scientists estimate that many species are going extinct, and entire populations in some parts of the world could become climate refugees from their homelands.

Like Faust's bargain, we don't see the effects of our behavior until it is far too late. Most scientists agree climate change is already happening and we cannot stop it but we need to do all we can to prevent it from getting worse.

Peak oil: Our economy has become dependent on cheap energy from oil, but there is only so much easy-to-pump oil in the world. As oil production peaks (reaches its all-time historic high) and then declines, the price of oil rises. More wars may be fought to secure access to the shrinking supplies that remain. These factors have the potential to seriously undermine our economy and bring additional violence and suffering to the world – unless we can free ourselves from oil dependence in time.

One of the most challenging things about peak oil is that it's very difficult to find a replacement for oil, especially for powering transportation. Oil has been

The General Energy Depletion Picture



Source: Association for the Study of Peak Oil and Gas.

an amazingly cheap, efficient, and portable source of energy, like Faust's magical powers. There is certainly a future role for new clean energy technologies, but it is unrealistic to assume that the many services now provided by oil can be fully replaced.

It's ironic that our society is grappling with climate change and peak oil at the same time. Peak oil endangers consumer lifestyles, and climate change endangers most living things. Peak oil makes fossil fuels more expensive at a point when we need to limit their consumption anyway to prevent catastrophic climate change. Adapting to climate change may require large investments in public works infrastructure at just the time that our economy and tax base are in trouble from rising oil prices and spiraling debt.

"The use of fossil fuels is a Faustian pact."
- George Monbiot, *Heat*

Global Impacts

The major impacts of climate change and peak oil are likely to be felt worldwide, including in the Bay Area:

- **Strained global water resources.** Many parts of the globe depend on melting mountain snowpack and glaciers for year-round water supplies. Warming temperatures mean that more of this precipitation falls as rain instead of snow, causing cycles of floods and droughts. This is likely to create even more competition for water between farmers, residents, and commercial uses.
- **Volatile food supplies.** Droughts and floods are likely to endanger crops and food supplies in various parts of the world. In addition, demand for biofuels made out of food crops (such as corn-based ethanol) has driven up food prices, taking food from the hungry to power vehicles instead. See the Food Fact Sheet in Section 2.
- **Economic contraction.** Industries that use a lot of energy (such as transportation) are likely to see their costs rise, and will need to pass them on to consumers. This is one reason why rising oil prices cause inflation and economic recessions. Recessions generally cause unemployment, and those without an income will need to find creative ways to meet their basic needs. A sudden and rapid decline in the availability of oil could cause very serious crises as people struggle to access food. See the Appendix on Peak Oil Scenarios for more details.
- **Increased conflict over key natural resources.** An unfortunate likely impact of declining water, energy, and food supplies is increased conflict and violence between nations, regions, communities, and within communities for these resources.
- **Strained ecosystems.** Some plants and animals may not be able to adapt quickly enough to a changing climate, disrupting the complex web of relationships that make up ecosystems. For example, warming oceans may be a factor in the recent decrease of wild California salmon, impacting the fishing industry and our food supplies. Between 15 and 37 percent of the earth's species could go extinct by 2050.

Specific Impacts in the Bay Area

Some impacts are of special concern to Bay Area communities:

- **Droughts and floods.** Much of the Bay Area receives water supplies from rivers that are fed by the Sierra snowpack. This means that snow that falls on the Sierra basically acts as a reservoir, slowly releasing the water into rivers throughout the spring and summer. As our state gets warmer, more of this water falls in the form of rain rather than snow in the mountains, causing intense floods in the winter and spring and droughts in the summer and fall. Between the years 2025 and 2100, the cost of providing water to the western states in the United States could increase from \$200 billion to \$950 billion dollars per year.⁷

Of particular concern is the impact of drought and floods on agriculture in the Central Valley, a region that relies on irrigation to supply much of the fresh food for the Bay Area and beyond. The San Joaquin Delta area is also endangered by an outdated levee system which is already experiencing strain during floods.

Higher prices for food and water have a disproportionate impact on the poor. California households in the lowest income bracket spend three times as much of their income for water and twice as much of their income for food than those in the highest income bracket.⁸

- **Heat waves.** As our state heats up, even the temperate Bay Area will suffer from more extremely hot days that endanger the health of the vulnerable and increase demand for air-conditioning at the same time that we need to conserve energy. Hot days can also increase health risks for those with asthma or heart disease. In a study on nine California counties from May through September of 1999–2003, researchers found that for every 10°F increase in temperature, there is a 2.6% increase in cardiovascular deaths. The risk for African Americans was higher.⁹
- **Wildfires.** Increased incidences of droughts and heat waves contribute to more wildfires as well, endangering homes in rural and suburban parts of the Bay Area as well as air quality for miles around. This also affects those who suffer from asthma.
- **Sea level rise.** Homes, roads, factories, airports, train tracks, and other infrastructure located along the bay or the ocean may be in danger of flooding. No one knows for sure how much sea levels will rise; estimates range widely from a few inches to as much as 10 feet. However, given that some of the region’s major infrastructure such as San Francisco and Oakland airports and many communities such as Alviso, Foster City, and Corte Madera are very close to sea level, even relatively small increases in sea level could have major impacts on the region. Check out this [interactive map](#) and see the Appendix on sea level rise that shows potentially flooded areas in North America, including the Bay Area.

In much of the Bay Area, low-income communities of color live in the flatlands near the bay. Cities where some struggling neighborhoods may also face sea level rise including parts of East Palo Alto, Oakland, Hayward, Vallejo, and Marin City.

- **Inflation and unemployment.** As the cost of oil, water, and food rises, inflation generally causes the economy to contract and employers to lay off workers. This may hit workers in industries that are heavy emitters of greenhouse gas emissions especially hard. In California these industries have a workforce that is sixty percent people of color, while the workforce in other industries is fifty-two percent workers of color. These heavy emitting industries tend to pay slightly higher wages and be more unionized.

Addressing greenhouse gas emissions without an adequate plan for transition for incumbent workers and targeting opportunities for communities of color in the new “green jobs” sector could widen the racial economic divide.¹⁰ More specific impacts of both climate change and peak oil on key sectors are discussed in the next section.

A Difficult Transition

A common sense response to these challenges is to reduce our consumption of fossil fuels, while increasing regional self-reliance. This approach addresses multiple challenges at once, with a greater possibility of an equitable outcome.

However, this transition is likely to be difficult. Simultaneously, while retooling our economy, we need to learn to use less energy and everything produced by it, adapt to the impacts of climate change, and deal with the social fallout of economic upheaval on society's most vulnerable members. Natural disasters such as earthquakes and floods can further complicate this process.

As a part of this transition, many of us will need to get used to having fewer material goods - less stuff. That doesn't need to mean less happiness. Part of this transition will be redefining quality-of-life from the ability to buy stuff to the security to meet one's basic needs while enjoying quality relationships and activities that make us truly happy. The [Transition Town Primer](#) offers additional discussion of this transition.



Cartoon by
Chris Madden,
www.chrismadden.co.uk.

Who Will Be Most Affected? A Social Justice Response

Climate change and peak oil will affect everyone, no matter where or how you live. However, some are likely to feel the brunt more than others.

A serious danger of both climate change and peak oil is the potential for an increasingly fractured society in which relatively wealthy people are able to adapt, while communities with less money and privilege are left to shoulder the worst impacts. A recent report from Redefining Progress states:

Global warming amplifies nearly all existing inequalities. Under global warming, injustices that are already unsustainable become catastrophic. Thus it is essential to recognize that all justice is climate justice and that the struggle for racial and economic justice is an unavoidable part of the fight to halt global warming.¹¹

Highly unequal societies are less stable and more dangerous for everyone. We already have a high degree of social inequality and violence in many parts of the Bay Area. If our cities are going to continue to be livable, we need to work very hard to address social inequalities now.

One of the most important aspects of a transition to resilience is making sure everyone in your community is secure in the ability to meet her or his basic needs, regardless of race, class, gender, age, ability, or immigration status. This requires challenging ourselves to get to know, respect, share and collaborate with people from different backgrounds whom we may have never interacted with in this way before.

Building a diverse, inclusive movement for local resilience will be vital for the long-term, both as a way to ensure an equitable transition, and to build on the many perspectives and strategies we'll need to prepare our communities for the deepening challenges ahead.



Participants with Richmond Works install a solar panel.
Photo: Kirsten Schwind.

The Need for Transition

How you choose to explore the challenges of climate change and peak oil with your group depends on your group's interests, current level of understanding, and of course how much time you'd like to devote to delving into these complex topics.

Here's one quick and easy idea adapted from Transition Town trainings. This activity is more engaging than lecture-style presentations, and gives participants practice in communicating about these concepts to each other.

- Distribute the information cards found in the Appendix to the participants so that as many participants as possible have a different card. Ask participants to take a moment to read their cards over, then find someone in the group who has a different one. Each participant explains what she or he found interesting about the card to the other. Ask participants to continue finding those with different cards until every participant has discussed each one of the cards you distributed.
- Bring the group back together, and facilitate a group discussion to answer any questions. Identify what impacts and implications participants found most significant for their community, making sure to capture notes. If you have a large group, have the group split up into smaller groups with note takers for this discussion.*
- Recognize that the emotional impact of learning about big problems can seem overwhelming. You may want to ask participants to share one word about how delving into these topics makes them feel. Then, ask participants to share one asset in community that makes them feel hopeful about our ability to address these challenges.

If you have more time, you can also show and discuss a video. See the Transition Town Primer for a list and reviews of film possibilities as well as tips for running a screening event:

<http://transitionnetwork.org/Primer/TransitionInitiativesPrimer.pdf>

*If your workshop is fairly homogenous, also identify what impacts you think may be significant for the people in your community or nearby communities who aren't present in your workshop. You may then want to think about how to begin a dialog about these issues with people who are not in the room today.

Section Two

Evaluating Your Community

Every time you flip a light switch, turn on the tap, buy food, go to work, or send your child to school, amazingly complex systems engage to meet your needs. Giant gas turbines spin to produce electricity. Pumps heave water across the state. Food wholesalers make just-in-time deliveries. Refineries burn oil into gasoline. Banks loan money to your company. The State legislature argues over how much tax money to spend on education. That's just the beginning; there are many steps behind each of those actions that make them possible.

Each of these systems is highly dependent on plentiful and cheap energy and water.

These systems are not perfect, and they vary by community. Perhaps in your neighborhood buying food means searching for something healthy in liquor stores, and the local public high school can't afford enough books. You feel the absence of good fresh produce and well-funded government services every day. Or maybe you live in a community where all these systems work well enough that you take them for granted – until one breaks down. When the power goes out or your company goes under, you feel the absence of your refrigerator or your income strongly.

If any one of these systems doesn't work, seriously degrades, or stops functioning, the results range from frustrating to life threatening.

Take a close look at your community. How well do these systems work for you now? Will they be affected if oil prices go through the roof, or if climate change causes the longest drought on record?

What can we do to make our communities more functional and resilient, now and for the future?

This section helps you evaluate the strengths and vulnerabilities of your community's systems for providing:

- Food
- Water
- Energy
- Transportation and Housing
- Jobs and Economy
- Social Services and Civic Preparedness

Then it provides a menu of actions you can take to improve community resilience. These actions build on the work of many creative Bay Area organizations that pioneered new ways for communities to work together to improve their lives. The Action Menus contain links to their websites and resources. If you are using a printed copy of this toolkit, the next time you are on a computer go to www.baylocalize.org/toolkit to follow these links and learn more. If you are on a computer now, click on the underlined text to follow a link.

Rating Your Community's Resilience

If resilience means your community can withstand and recover from hard times – whether that's now or in the future – how do you build that into your community systems? What does it look like?

Bay Localize proposes four ways to evaluate your community's resilience in the long term, based on:

- **Equity** of access to basic goods and services, especially in hard times. For example, if inflation caused the price of food to rise 30% in one year, would everyone in your community have enough to eat? Ensuring this might require a major rethinking of your community food system.
- The **quality** of basic goods and services. Not only do you need drinking water, but you also need it to be clean and safe, even right after an earthquake.
- The ecological **sustainability** of how basic goods and services are provided. As climate change will already stress our natural systems, the ways we produce what we need should be as healthy for the environment as possible.
- **Ownership** of resources that provide basic goods and services. For instance, communities that do not publicly own their water rights could have their water sold away to the highest bidder in a drought. This is already happening in some parts of the world.

These four criteria are explained further in the “What Makes a Community Resilient” handout. In each of the following sections on food, water, and so forth, there are four evaluation questions based on each of these criteria. Look for their symbols.

Your group may decide to develop your own criteria for community resilience based on your experiences. If so, please share these with us at toolkit@baylocalize.org.

“We used to be hunter-gatherers,
now we're shopper-borrowers.”
– Robin Williams

Learning What You Can Do

Once you've evaluated your community's relative strengths and vulnerabilities, review the Fact Sheets and Action Menus for each sector, and pick out actions you or your group may be interested in taking on.

Actions are presented in the following categories, according to how much of a commitment you want to take on:

- Learn more
- Change what you do
- Do-It-Yourself
- Do-It-Collectively
- Set local policy
- Set state or federal policy

This list of action steps is just a start – there are many more ways to make change. Bay Localize's website (www.baylocalize.org) has our most up-to-date, comprehensive list of action steps. We are always adding more, so please contact us with your suggestions for action steps we have not yet included.

See the Facilitation Notes on how to use the Fact Sheet and Action Menus in your workshop. Section 3 covers how to focus your interests, set your goals, and develop your action plan.



Volunteers install the living roof on the shed at the Eco House.
Photo: Ingrid Severson.

What Makes a Community Resilient

What do you think a resilient community looks like? Here are some criteria to think about:

Equity



All members of a community can adequately meet all basic human needs regardless of race, gender, income, immigration status, and other factors.¹

Quality



The basic goods and services we rely on are of good quality, for example healthy food, clean water, comprehensive health care, and convenient transportation.

Sustainability



Goods and services we use are produced in ways that increase the earth's ability to keep producing them into the future. This means conserving resources, minimizing fossil fuel use, and reducing greenhouse gas emissions.

Ownership



The community collectively and securely owns rights to essential resources. For example, publicly owned water rights help safeguard against a corporation selling a region's water to another area that can pay more.

Notes:

“From the depth of need and despair, people can work together, can organize themselves to solve their own problems and fill their own needs with dignity and strength.”
- Cesar Chavez, Co-Founder of the United Farm Workers

Rating Community Resilience

How resilient is your community? Each sector covered in this toolkit has four evaluation questions based on the community resilience criteria. This handout gives instructions for rating resilience in each of these sectors. The purpose is to catalyze thinking about these topics and identify relative strengths and vulnerabilities in your community.

Before you begin, your entire group should specifically define what you mean by your “community” for the purposes of the assessment, using whatever boundaries you feel appropriate. It could be county or city limits, a neighborhood, a city block, membership in a certain group, etc. Some questions (for example, transportation systems) may be difficult to answer for smaller communities, so in this case think of the wider region.

1. First, look at the Now column.
2. Rate on a scale of 0 to 4 how well your community meets the resilience criteria listed, using this scale:

4 = Very well (close to 100% of the time)

3 = Fairly well (most of the time)

2 = Sometimes (about half of the time)

1 = Poorly (only part of the time)

0 = Hardly ever (almost 0% of the time)

It's OK if you're not sure what rating to give. Give your best guess based on the information you have now and your opinion. All ratings are valid.

When rating please consider **all** members of your community, including those of different ethnicities, languages, ages, incomes, physical abilities, and immigration status.

3. Optional: Then, rate what you think your community's resilience would be 10 years from now. Give it your best guess based on what you think may happen in the future. Don't worry too much about accuracy - the point is to think ahead and spur thoughtful discussion!

Setting a Standard for Resilience

Distribute the “Criteria for a Resilient Community” handout, and discuss it briefly to ensure that participants have a good grasp of the definitions. These are the concepts used to shape the resilience rating questions in each section.

Equity. Ask if there are any questions about this definition. Does it work for your group? Would they change it in any way?

Then engage participants in thinking about who everyone in the community is. Discuss the following questions:

- Does your group reflect a diverse representation of your community?
- Who in our community is not in the room today?
- Which underrepresented groups might you reach out to?
- Why aren't they here?
- If they were, what do you think they would add to the discussion?

Prompt participants to think about people of color, people with low incomes, immigrants, youth, elderly, and the differently abled as needed.

Quality. This is more straightforward. Again, ask if there are any questions about this definition. Does it work for your group? Would they change it in any way?

Sustainability. This is a big concept and may be difficult for some people to visualize. To help participants get their heads around this idea, first ask each person in the group to turn to their neighbor and think about something specific they used, ate, or drank today. Discuss with your neighbor how sustainable you think it is. Ask each other, what materials is the product made of? Where did the product come from? Who made the product? Was it grown or made locally?

Then, ask if there are any questions about this definition. Does it work for your group? Would they change it in any way?

Ownership. This is a rich concept likely to produce its own questions and discussion. Again, ask if there are any questions about this definition. Does it work for your group? Would they change it in any way?

Envision Your Resilient Community. Ask participants to sit quietly for a few moments to think about what their community might look like if it met all the resilience criteria, and write some thoughts down on a piece of paper. Participants pass the papers to the facilitator, who reads several participant's thoughts as examples. All are entered into the notes.

Exploring Resilience of Key Sectors

This section offers an introduction to specific key areas of resilience. It may also help guide working groups that meet over a longer period of time. To prepare, make copies of all the handouts for this section for all participants. You may also want to have participants identify in advance which sector they are most interested in, so they can review the Fact Sheets and Action Menus for that section before the workshop.

Before you begin, be sure all participants clarify together what you mean by your “community” when you respond to the questions.

Have participants divide into small groups (four to six people) to analyze each sector. Participants self-select the sector they are interested in. With a large number of participants you may have two or more small groups examine the same topic (for example, food), then compare notes. With fewer participants, you may ask each small group to cover more than one topic. Natural topic pairings are 1) food and water, 2) energy, transportation, and housing, and 3) jobs, economy, and civic preparedness.

Let participants know that it’s OK if they don’t feel like experts on the topic. Use the knowledge you have collectively now, and take note of what information you’d like to research for the future.

Ask each group to identify a note taker to thoroughly record the group’s thoughts on each discussion. These notes will be key to your planning process in Part 3 and in the future.

Using the handouts for each section, ask the small groups to:

1. Spend a few minutes exploring the group discussion question as a way to warm up your thinking on the topic and create a shared vision.
2. Ground your discussion in the current realities of your community by rating its resilience in this sector. See handout for instructions. This could be done individually or as a group. Note areas of strength and need for improvement in your community.
3. Take a moment to review the Fact Sheets and Action Menus. The Action Menus provide examples and ideas of existing programs and campaigns to inspire you. Brainstorm how your community could harness and cultivate its assets to improve its resilience in this sector.

Allow plenty of time for discussion of each sector – at least one hour, though preferably longer. Take good notes and report back to the entire group.





Local Food Systems

Group Discussion Topic

If you were hungry or in a situation in which you didn't have enough food, what would you do? What changes would you make in your community to make sure you're not in this situation again? Think of your local and regional assets.

Rate Your Community's Resilience

Rate the resilience of your community for access to food on a scale of 0-4, now and 10 years in the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	1. Residents in our community have enough to eat.		
	2. Fresh, healthy, organic food is convenient and affordable.		
	3. Food is grown locally or regionally in a sustainable manner.		
	4. Our community has a public strategy to ensure a secure food supply, even in emergencies.		
	Food subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Research the following data sources to get the facts about your community.

- [Number of people seeking emergency food services](#)
- [Proportion of the population within 1/2 mile from a retail food market, farmer's market or CSA drop-off site](#)

See also:

- <http://guide.buylocalca.org/search.php>
- <http://www.cafarmersmarkets.com/index.cfm>
- <http://www.cnngis.org/>

Local Food Systems Fact Sheet

For decades the United States has enjoyed access to relatively cheap food, although many still could not afford it. This situation is changing due to the effects of climate change and energy scarcity on food production.

In 2008, the price of food overall increased 6.2%, the largest increase in nearly 20 years. The price of key items increased even more: cereals by 12.3% percent and fruits and vegetables by 10.3%.²

Hunger and Food Security in the Bay Area

- The San Francisco Bay Area is one of the wealthiest areas of the nation, yet approximately one third of our residents struggle to access food.³
- The high cost of housing in our region is a major driver of hunger. Working families often have to choose between paying rent, utilities, health care costs, or food.
- Healthy food often costs more in low-income neighborhoods due to lack of grocery stores, which usually provide cheaper and healthier products than liquor or convenience stores.
- A large portion of food bank supplies are donated by food processing corporations – but corporate donations are decreasing as food prices rise.

Climate Change Decreases Food Production

- The erratic weather patterns of climate change are causing more droughts and floods that affect crop production.
- In 2008 drought in rice producing areas of Australia contributed to rice prices doubling in the Bay Area.⁴
- In the same year, floods in the Midwest and drought in California also contributed to higher food prices.^{5, 6}

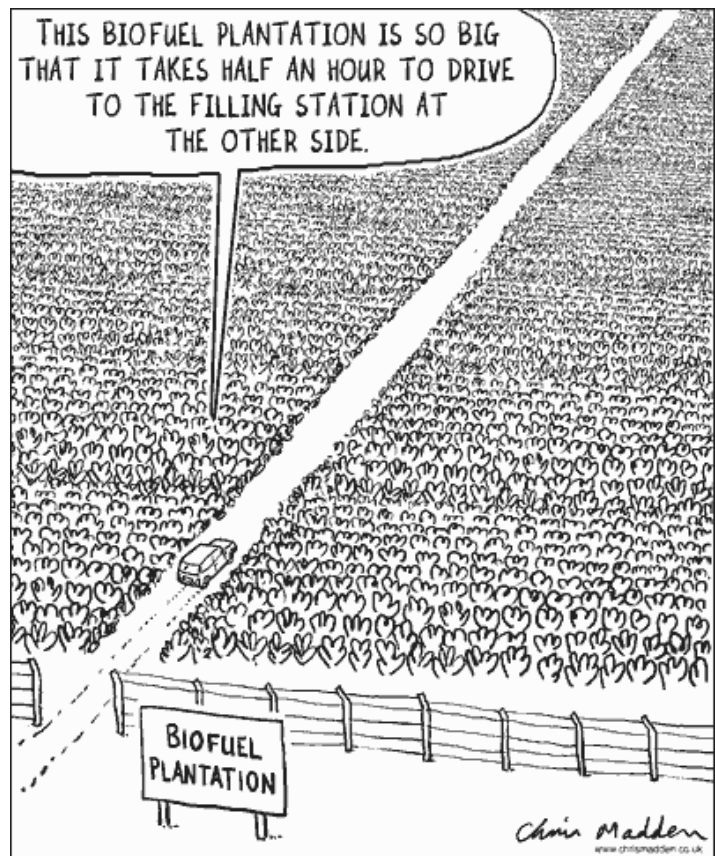


Ingrid Severson and Guillermo Herrera check out the field-fresh tomatoes at a U-pick produce stand in Solano County. Those who pick food themselves get a discount. Photo: Kirsten Schwind.

- The meat industry, especially beef from factory farms, is a major emitter of the greenhouse gases that cause climate change.

Energy Scarcity, Biofuels, and Food Production

- Rising prices of oil and natural gas make food more expensive to grow. The more chemical fertilizer, transportation, processing, packaging, and refrigeration our food requires, the more its price will increase.
- The U.S. currently uses seven to ten units of fossil fuel energy to produce just **one** unit of food energy. As fossil fuels become increasingly scarce, we will need to learn to produce more food using less fuel.
- Increasing demand for biofuels results in competition for farmland between food and fuel production. A World Bank study has estimated that corn prices rose by over 60 percent from 2005-07 due to the U.S. ethanol program among other market forces.⁷



Cartoon by Chris Madden,
www.chrismadden.co.uk

Corporate Profit

- Global agribusiness firms, traders and speculators are reporting large profits while consumer prices rise. Food trading corporation Archer Daniels Midland (ADM) reported a 67% profit increase from 2006 to 2007, and Cargill, the world's largest grain trader, posted a 36% increase in profit.⁸

FOCUS	ACTION
Learn More	<ul style="list-style-type: none"> • Check out the latest numbers on hunger in your community. • Read Weaving the Food Web: Community Food Security in California by the California Food and Justice Coalition. • Watch The Power of Community: How Cuba Survived Peak Oil. • Watch The Future of Food. • Read Food System Meta-analysis for the San Francisco Bay Area.
Change What You Do	<ul style="list-style-type: none"> • If you cannot afford enough food, call the National Hunger Hotline at 1-866-3-HUNGRY for emergency food services in your area. • Support local, sustainable food producers. See the Buy Fresh Buy Local Guide from Community Alliance for Family Farmers or browse Local Harvest's online database of local and organic producers. Organic food is often tastier and healthier as well. • Join a CSA. With Community Supported Agriculture, you pay a fixed fee per month for a box of produce fresh produce from a local farm. The National Resources Defense Council offers a list of Bay Area CSAs at The Green Gate. Think it's not affordable? See People's Grocery Grub Box model of a CSA for low-income communities. • Eat less meat and animal products. Because raising animals and feed crops for meat produces so much greenhouse gases, eating less meat can dramatically lower your carbon footprint. For more information and recipes, see PETA's site goveg.com, or for soul food, try the Black Vegetarians website. Mmm, vegan BBQ ribs! • Set up an emergency food supply for earthquakes. Get Ready Marin has a checklist of supplies you should have on hand, enough to last each member of your household for three days.

FOCUS	ACTION
<p data-bbox="282 237 472 331">Do-It-Yourself</p>	<ul data-bbox="529 237 1474 657" style="list-style-type: none"> <li data-bbox="529 237 1474 457">• Plant a garden. University of California Cooperative Extension offers a Master Gardener information and mentoring program. Some groups will provide materials and help you plant your backyard garden, such as City Slicker Farms in West Oakland. The Urban Permaculture Guild offers trainings in garden design and more. <li data-bbox="529 510 1474 657">• Grow food on your roof. Live in a building with no yard, but with public access to the roof or a balcony? See Bay Localize's Use Your Roof! Project to see whether you can start a rooftop garden.
<p data-bbox="201 747 472 842">Do-It-Collectively</p>	<ul data-bbox="529 758 1474 1591" style="list-style-type: none"> <li data-bbox="529 758 1474 905">• Join or start a community garden or farm. See the American Community Gardening Association's database of community gardens, or information on starting a community garden. <li data-bbox="529 957 1474 1062">• Join or start a food cooperative. Learn about the Cooperative Grocery in Emeryville or Rainbow Grocery in San Francisco. <li data-bbox="529 1115 1474 1335">• Support or start a produce stand or delivery service. Learn about Somethin' Fresh in San Francisco's Bayview and Farm Fresh Choice in West Berkeley. Or if your community already has vendors selling healthy food on the streets, talk with them about how you can support their work. <li data-bbox="529 1388 1474 1461">• Support or start a school gardening program. See resources from The Edible Schoolyard. <li data-bbox="529 1514 1474 1591">• For more food resources throughout the Bay Area, see Bay Localize's online Localization Asset Map.

FOCUS	ACTION
Set Local Policy	<ul style="list-style-type: none">• Start a Food Policy Council in your city to design and implement a long-term food security plan for your community. Food Policy Councils are made up of community members and city and county staff who work together to improve food security. Cities can do great things by enacting local food policies - read more about the Brazilian City of Belo Horizonte's zero hunger program in Bay Localize's report, or check out Food First's research on food policy council best practices• Increase access to fresh, healthy food in local stores. Check out Policy Link's equitable development toolkit.
Set State or Federal Policy	<ul style="list-style-type: none">• Advocate for better farm bill spending. Much of our food policy in the United States is set at the federal level by the Farm Bill. To learn about the latest action steps for Farm Bill reform, sign up for alerts from the Community Food Security Coalition.





Local Water Systems

Group Discussion Topic

Your group is suddenly put in charge of running your regional water utility in a major drought year. The state informs you that this year you will receive only 50% of your annual water allocation from the Sierra-fed river you usually rely on. Your region’s farmers, industry, businesses, residents, golf courses, and water parks are all expecting their usual share of water. What do you do? Think of your local and regional assets.

Rate Your Community’s Resilience

Rate the resilience of your community for access to water on a scale of 0-4, now and 10 years in the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	5. Residents in our community have enough water to meet everyone’s basic needs.		
	6. Our community’s water is clean and safe.		
	7. Our community conserves as much water as possible, and our water comes from our local watershed. ⁹		
	8. Our community collectively owns our water rights and can guarantee continued access.		
	Water subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Research the following data sources to get the facts about your community.

- [How clean and safe is your water?](#)
- [Where your water comes from](#)
- Check out this [map](#) of Northern and Central California watersheds.

Local Water Systems Fact Sheet

Climate Change and the Bay Area's Water Supply

- 85% of California, including much of the Bay Area, depends on rivers fed by the snowpack in the Sierra Nevada Mountains for our water supply.
- The Sierra snowpack acts as a natural reservoir, holding snow in the winter and slowly releasing it into rivers as it melts during the spring and summer.
- Predicted warmer winters will mean less snow and more rain in the Sierras. The rain will run off faster in spring floods, leaving the rivers dryer in the summer.
- In summer months there will be less water for agriculture and cities, even as our population continues to grow.
- Lower water levels in dams in the summer may mean lower electricity production.
- We need to balance the amount of water we take from rivers with the amount needed to maintain healthy habitat for fish and other life.

Energy Scarcity and the Bay Area's Water Supply

- Pumping, moving, heating, and treating water require massive quantities of energy.
- The California State Water Project is the largest single user of electrical energy in the State.¹⁰ It pumps large quantities of water long distances to meet municipal and agricultural demand.

Water Rights

- As drinking water supplies become more precious worldwide, who owns water rights will become a key question. Water is a human right and necessity, yet if a community does not own its water rights its water can be taken away and sold to those with more money.
- Most water rights for Bay Area communities are publicly owned by municipal water districts.

Earthquakes, Natural Disasters, and Water

- In a major earthquake, some Bay Area communities could be shut off from water supplies if pipes break or other infrastructure fails, leaving residents dependent on their own emergency supplies.

FOCUS	ACTION
Learn More	<ul style="list-style-type: none"> • Check out National Geographic’s magazine specifically on how California gets its water. • Find out where your water comes from on this map. • For more in-depth information, read New Vision for California Water: Cut Waste by 20% by the Pacific Institute. • Watch Flow - For the Love of Water.
Change What You Do	<ul style="list-style-type: none"> • Conserve water. The Mono Lake Committee offers user-friendly household tips such as washing full loads of laundry and watering the lawn less frequently. For a more comprehensive approach, follow the example of one Berkeley family that cut their water usage in half, chronicled in this article. • Set up an emergency water supply. Get Ready Marin recommends five gallons of water per person per day for at least three days in case of earthquakes or other emergencies. Change the water every six months, and also have a way to purify additional water. Remember water for your pets. • Stop buying bottled water for everyday use. Bottled water doesn’t make sense for everyday use. It uses extra energy in its transportation and packaging, produces trash, drains aquifers, and promotes water privatization. You may be drinking plastic pollutants as well. Bottled water is frequently just municipal tap water in packaging. For more information, see Food and Water Watch. Carry a reusable stainless steel bottle that you can fill from the tap.
Do-It-Yourself	<ul style="list-style-type: none"> • Install low flow shower heads, toilets, and appliances. Low flow showerheads are easy to install, and some local programs will come to your home to install them for you. Check with your local water utility – many offer rebates and incentive programs to help you save water and save money. • Replace your grass lawn with drought tolerant native plants. You won’t have to water them as often or as much. Check out the resources at Bay Friendly Gardens.

FOCUS	ACTION
Do-It-Yourself (cont.)	<ul style="list-style-type: none"> • Install a rainwater catchment tank. You can capture winter rains to water your plants in the spring. It can also serve as a supplemental emergency water supply (not recommended for drinking). See Bay Localize's Use Your Roof program or Brad Lancaster's resources. • Install a gray water system. Re-using water from your home or business for irrigation is a very powerful way to conserve. Check with your local city or county building department for regulations, and see resources from Greywater.net, DIG Coop, and Greywater Guerillas.
Do-It-Collectively	<ul style="list-style-type: none"> • Organize your friends, family, workplace, church, or other groups to which you belong to conserve water. Start a group discussion on how you could conserve water and save money using the resources listed on this action sheet. The Low Carbon Diet program offers tips on how to do this. • Join or organize a "Friends of Your Creek" group. The Watershed Project has a list of watershed groups in the Bay Area. • Organize a group purchase of rainwater catchment tanks. Groups can often arrange bulk discounts and help each other with installation. For vendors, see the American Rainwater Catchment Systems Association. • Organize emergency water supplies for your neighborhood.
Set Local Policy	<ul style="list-style-type: none"> • Update your local building codes to permit greywater and other water conserving systems. See plans from the Berkeley Eco House, the first permitted greywater system in Berkeley. • Advocate for water conservation and low impact development at your local water agency. Your local Sierra Club chapter can get you up to date and plug you in to their campaigns.

FOCUS	ACTION
<p>Set Local Policy (cont.)</p>	<ul style="list-style-type: none"> • If your water utility is corporately owned, organize to have your community get it back. See the example of Felton, California, near Santa Cruz, and see resources from Food and Water Watch. • If you are concerned about the quality of your tap water, organize to improve it. Learn about your water's safety and contact the Environmental Justice Coalition for Water.
<p>Set State or Federal Policy</p>	<ul style="list-style-type: none"> • Get up to date and get active with the Sierra Club's California Campaign for Clean Water or the Environmental Justice Coalition for Water.





Local Energy Systems

Group Discussion Topic

Think of the regional assets your community has that could save energy or produce renewable energy. Take a few minutes to brainstorm about the most sustainable energy system you can think of to serve local homes, businesses, industry, government, and utilities.

Rate Your Community's Resilience

Rate the resilience of your community for access to energy on a scale of 0-4, now and 10 years in the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	9. Residents in our community have enough energy to meet basic needs.		
	10. Our energy supply is stable, consistent, and can withstand natural disasters.		
	11. Our community conserves as much energy as possible and gets the rest from local renewable sources.		
	12. Our community controls where our energy comes from and how it is distributed.		
	Energy subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Research the following data sources to get the facts about your community. The California Energy Commission's [statistics and data](#) page is a great resource.

- [Map of utility service areas in California](#)
- [Map of existing power plants in California](#)
- [Database of proposed power plants in the Western Region. Check to see if any are proposed in your community](#)
- [Reports on California utilities' progress toward state goal of 20% renewable energy by 2010, and renewable project status spreadsheet](#)

Local Energy Systems Fact Sheet

The Path to Cleaner Energy

- Electricity and natural gas use is the second largest source of greenhouse gas emissions in the Bay Area.
- Most Bay Area residents get their electricity from corporate utility Pacific Gas and Electric (PG&E).
- PG&E's energy mix is mostly made up of gas-fired power plants, nuclear power plants, and large dams. Due to state regulations coal is not widely used in Northern California.
- To cut greenhouse gas emissions from energy, we currently have two real options: learn to use less energy (demand reduction and energy efficiency), and produce energy more cleanly (renewable energy).

Running Behind on Renewable Energy

- In 2008, 11.9% of PG&E's energy mix came from renewable energy.¹¹
- According to PG&E, the corporation is not on target to meet California state law requirements for 20% renewable energy by 2010. Most other California utilities will not meet the target either.
- Meanwhile, approximately 60 new gas fired power plants are proposed or in process in California.
- To meet state climate protection goals, we cannot afford to increase our greenhouse gas emissions with any new fossil fuel power plants.

Energy Efficiency: Where is the Money Going?

- Energy efficiency can be a cost-effective way to save money on energy bills while creating green jobs.
- Utility companies such as PG&E collect fees on your bill to pay for energy efficiency programs.
- Only 40% of these fees are used to directly help ratepayers save energy. The majority of the \$4.2 billion is spent on administration, general overhead and marketing materials.¹²
- In 2008, California's corporate utilities (including PG&E) collected \$82 million in state incentives for meeting energy efficiency goals - then declared they did not actually meet these goals.¹³

Bay Area Public Sector Energy Is Cheaper and Greener

- The cost of electricity from PG&E rose 43% from 2000 to 2008. Meanwhile, Bay Area customers who buy electricity from their cities, such as Alameda, enjoy electricity that is cheaper and greener.

Local Cities Sell Energy for Less Than PG&E

City Utility	Savings
Alameda Power & Telecom	22%
Palo Alto Small Commercial	48%
Palo Alto Small Commercial Green	31%
Silicon Valley Power	29%
Santa Clara Green Power	17%

- Community Choice Energy allows businesses and households to choose whether or not they wish to buy electricity from the corporate utility or from their city or county.

California's Climate Change Plan

- In 2006 California passed the California Global Warming Solutions Act, also known as AB 32, to reduce the state's greenhouse gas emissions to 1990 levels by 2020.
- The California Air Resources Board, the state agency in charge of implementing California's climate change policy AB 32, is developing plans on how to do so.
- One key controversy for AB 32 implementation has been whether to implement a cap-and-trade program or a carbon tax.
- Another controversy is whether offsets should be allowed in AB 32. Offsets claim to "soak up" the greenhouse gases you emit, often through planting trees. Offset markets are unregulated, inconsistent, and can contribute to deforestation of native forests in developing countries.



FOCUS	ACTION
Learn More	<ul style="list-style-type: none"> • Measure your household's carbon footprint, with the tool from the Global Footprint Network (this is a user-friendly version, but it sometimes crashes – just reload browser and start again). • Read 21st Century Energy Greenprint for the East Bay, by the Local Clean Energy Alliance. It is applicable to other regions of the Bay Area as well. • Watch Energy Crossroads: A Burning Need to Change Course. • Watch The End of Suburbia: Oil Depletion and the Collapse of the American Dream.
Change What You Do	<ul style="list-style-type: none"> • Get a home energy audit. Many utilities offer free basic home energy audits. Contact your utility for a referral as part of state-mandated energy efficiency programs. If you live in Alameda, Contra Costa, or Marin counties, try Rising Sun Energy Center. • Conserve energy. See Flex Your Power for tips. • Conserve water. Moving water around the state uses a lot of energy! See the previous section on water.
Do-It-Yourself	<ul style="list-style-type: none"> • Make your home energy efficient. See Flex Your Power or Build it Green for ideas. Based on your income you may qualify for free home weatherization services. Check your eligibility and find your local service provider. Many local governments are working on financing programs for energy efficiency upgrades – check with your city or county for an update. • Install a solar thermal (hot water heating) system. See the Solar Living Institute or Build it Green for ideas. • Install solar panels, or if you live in a suitable area, a wind or water turbine. Not sure how to get started? Solar Richmond, a green jobs training agency, can assess your roof anywhere in the Bay Area and get comparative quotes from solar companies to install panels. See the Solar Living Institute to learn to do it yourself, or the American Wind Energy Association if you're thinking of installing a small windmill.

FOCUS	ACTION
Do-It-Collectively	<ul style="list-style-type: none"> • Work with your neighbors to conserve energy. See Acterra's Green Team or the Berkeley Ecology Center's Low Carbon Diet programs - or start one where you live! • Organize a neighborhood purchase of solar thermal or solar PV systems. Learn how the Downtown San Jose Solar Project organized and got a great deal on solar panels and financing.
Set Local Policy	<ul style="list-style-type: none"> • Advocate for local clean energy and strong climate action in your community. Get involved with the Local Clean Energy Alliance or your local chapter of the Sierra Club. • Help your city learn about climate action plans. If your city hasn't started a climate action plan, ask city staff to contact ICLEI, Local Governments for Sustainability, to learn more. • Pass a city climate action ordinance. See the resolution text for Berkeley's Measure G or the Sierra Club's Cool Cities Campaign. • Form a city or county Peak Oil Task Force. See resources from Post Carbon Cities. • Sign up for action alerts from Bay Localize.
Set State or Federal Policy	<ul style="list-style-type: none"> • Advocate for a strong implementation of California's climate action laws that also protect air quality and public health. Learn more at EJ Matters for Climate Change. • Advocate for a strong national climate protection policies. There are many organizations you can get involved with that have differing points of view on how strong an agreement to work for. Do some research to find with which one you are comfortable.





Local Transportation and Housing

Group Discussion Topic

Take a few minutes to brainstorm what the most sustainable and affordable transportation and housing system for your community would look like, using existing technology and your local resources and assets. Try to get away from cars! Could everyone who wanted to live in your community afford to do so in dignity?

Rate Your Community's Resilience

Rate the resilience of your community for access to transportation and housing on a scale of 0-4, now and 10 years into the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	13. Those who wish to live in our community can find quality affordable housing near jobs and schools.		
	14. Neighborhoods in our community have access to jobs, schools, open space, fresh produce, and key services via walking, biking, and public transit.		
	15. Our transportation systems are powered by local renewable energy sources.		
	16. Our community has adequate political control over our transportation and housing systems to keep them affordable and accountable to community needs.		
	Transportation and Housing Subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Check out the following data sources to get the facts about your community.

Affordable Housing and Homelessness

- To learn more about access to affordable housing, see resources from the [Greenbelt Alliance](#).
- Contact your county human services agency or look at their website for the latest statistics on homelessness. For example, in Alameda County see [Everyone Home](#).

Accessibility of Transit Options (from US Census Data)

- [Proportion of workers with 1/2 mile access to work or regional bus, rail or ferry link](#)
- [Proportion of children near schools or transit to school](#)
- [How workers get to work in the Bay Area](#)



Cyclists in Downtown Oakland doing their part to fight climate change. Photo: Kirsten Schwind.

Transportation and Housing Fact Sheet

Peak Oil and the Economy

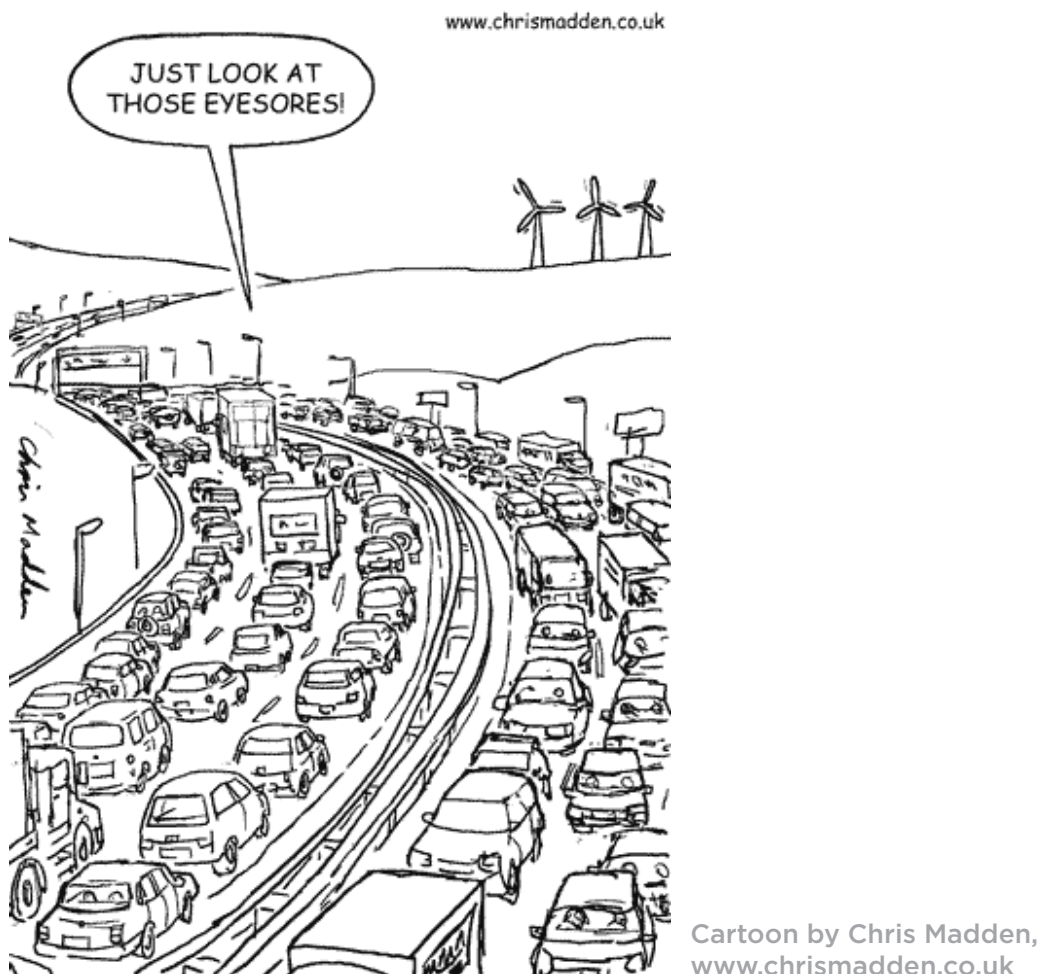
- Most oil industry experts agree that we are running out of easily accessible oil supplies, and that the price of oil will continue to rise.
- Because we are so dependent on oil for transporting people and goods, rising oil prices can make everything more expensive, sparking economic downturns and potentially serious long-term social crisis.

Urban Housing near Jobs and Transportation Needs to Be Affordable

- According to the United National Universal Declaration of Human Rights, housing is a human right.¹⁴
- In the Bay Area, only 16% of residents can afford to buy a median-priced home.¹⁵
- With gas prices continuing to rise, commuting long distances to work or school will become more difficult and expensive.
- Families that moved or are planning to move to the suburbs in search of cheaper housing may see the savings disappear as gas prices rise.
- Affordable housing in urban areas near transportation – also known as in-fill or transit-oriented development— helps people save money, gas, and commuting time.
- Nonprofit urban land trusts help make housing affordable by owning the land housing sits on, and selling the housing at a reduced rate.
- Co-housing allows families, singles, and seniors to live together in community while enjoying the privacy of separate units.

Driving Drives Climate Change

- Driving is the largest single contributor to greenhouse gases in California.
- Finding ways to drive less is one of the most important things you can do to combat climate change – and it will save you money on gas.
- To give people the choice to get out of their cars, we need safe, convenient, and attractive walkways, bikeways, and public transit.
- To shorten commutes, we need housing that is affordable to all income levels near jobs, services, and education in established urban areas.
- Driving gets more funding than other forms of transportation: 80% of federal transportation dollars go to fund highways and roadways, with just the remaining 20% left to support transit, walking, and bicycling.
- In 2008 California passed SB 375, a law that requires regional land use and transportation plans to meet greenhouse gas reduction targets.



Can We Just Keep Driving with Alternative Fuels? The Problems

- Agrofuels such as ethanol compete for resources with food production, driving up the price of food and leaving more people hungry.
- Recycled vegetable oil from local restaurants offers a better alternative, however available supplies will meet only a small fraction of our current demand for oil.
- Natural gas is also a finite resource with prices predicted to keep rising. Burning natural gas releases greenhouse gases as well.
- Hydrogen is not an energy source, but rather a way to store energy. It is only as “clean” as its production process.
- Local renewable electricity may be the cleanest and most sustainable way to run our transportation systems – if we can generate enough. BART and San Francisco’s MUNI system both run on electricity, and electric streetcar systems used to be common around the Bay Area before automakers pushed local governments to remove them.
- With the exception of biodiesel, the use of alternative fuels requires retrofits and new infrastructure.
- Since transit systems have limited funding, investment in new green infrastructure needs to be cost effective in order to avoid service cuts and rate hikes for the majority of transit users.
- Plug-in electric cars could be a useful tool in rural areas that are difficult to serve with transit, but are economically out of reach for most people. Like all new cars, they also take a lot of energy to manufacture.

FOCUS	ACTION
Learn More	<ul style="list-style-type: none"> • Check out TransForm's website to learn more about transportation and land use. • Check out the website of the National Alliance to End Homelessness. • Watch Who Killed the Electric Car? • Watch A Crude Awakening.
Change What You Do	<p>Drive less. In addition to saving gas money, there's a lot of other cost savings such as less maintenance and insurance. Check out the following alternatives to driving:</p> <ul style="list-style-type: none"> • Take public transit or carpool. The website 511.org offers a convenient trip planner to figure out your route on public transportation all over the Bay Area. Google Maps offer public transport and walking route options. • Ride your bicycle. Check out the Bay Area Bicycle Coalition to find your local bike coalition - they often offer support, bike routes, safety trainings, and discounts on gear. • Walk. It's good for you! And there's nothing quite like holding the hand of a loved one as you go. <p>If your neighborhood isn't safe for walking or biking, work with your neighbors and city to do something about it. See below.</p>
Do-It-Yourself	<ul style="list-style-type: none"> • If you are in danger of losing your home to foreclosure, get help now. • Choose a fuel efficient vehicle if you need to drive. Many inexpensive used cars, such as Honda Civics, offer good gas mileage. Check your car's gas mileage. • Go carfree. Save money by selling your car and carpooling, walking, riding your bike, using a car share program, or renting a vehicle as needed. See Zip Car or City Car Share to learn about car sharing.

FOCUS	ACTION
Do-It-Yourself (cont.)	<ul style="list-style-type: none"> • Live close to where you work to cut your commute and make more time for the important things. Think your income is too low to afford a home near work? Check out the Northern California Land Trust model for affordable housing.
Do-It-Collectively	<ul style="list-style-type: none"> • Organize friends, family, colleagues or neighbors to drive less. Organize carpools or bike caravans to work, school, and shopping trips. You can use carpool lanes! • Work with your employer or building owner to create incentives to drive less to work. Ideas include a safe bike storage room and showers at work (or nearby gym membership) for bike commuters, company commuter shuttles, or pre-tax savings on commuter checks for public transit. • Make it safe for kids to bike or walk to school. Hook up with or start a Safe Routes to Schools program in your community. You may be able to get federal grant money for walking and biking infrastructure for your community. • If safety is a deterrent to walking and biking in your neighborhood, talk with your neighbors about the root causes and options that could help. Joining or organizing a Neighborhood Crime Prevention Council is one option. • Start a land trust or cohousing community. See these resources on land trusts or cohousing. • End homelessness in your community. See the National Alliance to End Homelessness' Ten Essentials Community Toolkit to learn how.
Set Local Policy	<ul style="list-style-type: none"> • Get your city to adopt inclusionary zoning policies. See Policy Link's Equitable Development Toolkit or the Nonprofit Housing Association of Northern California. • Support policies that encourage affordable transit-oriented development. Check out Policy Link's Equitable Development Toolkit or the Great Communities Collaborative.

FOCUS	ACTION
Set Local Policy (cont.)	<ul style="list-style-type: none">• Get access to safe and convenient transit, bike, and walking options in your neighborhood. See Access Now.• Get your city or county to establish a strong bike and pedestrian plan. Contact your local bicycle coalition or TransForm.• Advocate for better regional public transportation through the Metropolitan Transportation Commission. See TransForm for ideas or to get involved in their campaigns• Get better air quality in your community. Comment on the Bay Area Air Quality Management District's air quality monitoring plans.• Support your community in implementing SB375 to develop a strong sustainability strategy.
Set State or Federal Policy	<ul style="list-style-type: none">• Ensure state funding for transportation, walking, and bicycling. See TransForm to get involved.• Reform federal transportation funding and policies with Transportation for America.• Support strong implementation of SB 375 at the state level with Climate Plan.





Local Jobs and Economy

Group Discussion Topic

Do you know someone who has lost a job recently? What type of jobs are being lost and why? What sectors are growing and creating jobs, and why? Take a few minutes to brainstorm about what types of jobs have good potential for the future and make a positive contribution to the health of your community and the planet. How can you use your assets to nurture these jobs and industries in your community?

Rate Your Community's Resilience

Rate the resilience of your community's jobs and economy on a scale of 0-4, now and 10 years into the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	17. Residents of our community have access to sufficient income to sustain a household.		
	18. Our schools and training programs prepare students to secure or create work locally.		
	19. Our community's economy is based on sustainable use and re-use of our region's resources.		
	20. Our community has effective public strategies to secure local employment opportunities.		
	Jobs and Economy Subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Check out the following data sources to get the facts about your community.

- [Annual household income needed for self-sufficiency, per county](#)
- [Unemployment rates](#)
- [Employment by occupation category](#) (choose your city and scroll to bottom of page)

Local Jobs and Economy Fact Sheet

The Human Right to an Adequate Education and Livelihood

- The United Nations Universal Declaration of Human Rights, signed in San Francisco in 1948, states that “everyone has the right to a standard of living adequate for the health and well-being of himself [or herself] and of his [or her] family.”
- It also states that “Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.”¹⁶
- Access to education and training to find a job in a changing economy is not just a good idea: it’s a human right.
- The push for **green collar jobs**, well-paid, career track jobs that contribute directly to preserving or enhancing environmental quality, requires prioritizing investment in education and vocational training.

Costs of a Global Economy

- Since the close of World War II, we’ve built our national and regional economies on increased global trade to meet growing consumption of energy, goods, and services.
- Meanwhile, US corporations have expanded their influence globally in search of international markets and cheap labor.
- Nations with the lowest standards for working conditions and environmental protection attract industry with low production costs, at the expense of workers and the environment.
- As recently as 1983, manufacturing jobs accounted for nearly 20% of all California jobs. As of 2006, these dropped to just 5.5%, with heavy losses in the computer, electronics, aerospace, fruit and vegetable processing, and clothing industries.¹⁷
- Loss of manufacturing plants results in a loss of economic diversity, declining real wages and working conditions, and increasing wage gaps between the rich and poor.
- Financial capital and economic decision making is increasingly concentrated in the hands of global corporations, whose wealth dwarfs the gross national product of entire countries.¹⁸

Debt, Oil Prices, and Economic Recession

- In 2009, the United States' national debt is estimated to rise to over 12 trillion dollars, over 90% of national GDP.¹⁹
- The United States' General Accounting Office (GAO) recognized peak oil as a threat to the US economy in 2007, and pointed out that the government does not have a coordinated plan to deal with it.²⁰
- The combination of economic instability, high national debt, and high oil prices drive inflation, unemployment, and economic recession.
- Given that oil prices are predicted to keep rising, our economy may not recover to its past levels of growth.
- Economic recession usually results in lower tax revenues, and less money to fund education, social services, and government programs. In a severe recession, we will need to re-think how we fund and provide essential services.

Local Economies are More Resilient

- A study in San Francisco found that local merchants keep money circulating in the local economy more than chain stores do through employing local workers, contracting local services, and reinvesting profit locally. This further stimulates the local economy, which then generates additional tax revenue for local public services.²¹
- A strong independent small businesses sector can produce a wide range of goods and services, with networks of local businesses contracting with each other and hiring local workers.
- Local business is held to California's relatively high standards for protecting workers and the environment.

Green Jobs Expected to Grow

- All of the Bay Area's green collar job sectors are expected to grow over the next decade(s), increasing opportunities in areas such as alternative energy, bicycle transit, energy and water efficiency and conservation, green building, materials reuse, organic food, public transit, and recycling.
- 73% of green business owners/managers surveyed in Berkeley in 2007 stated that there was a shortage of qualified green collar workers for their sector, with the greatest needs in energy, green building, and bike repair.²²

Remanufacturing: Making the Best Use of Local Resources

- Remanufacturing means fixing or upgrading goods we already have for resale.
- Just by remanufacturing office furniture rather than buying it new, U.S. business could avoid \$93 million in disposal costs and small companies could save 30-50% in purchasing costs.
- Purchasing a remanufactured product can cost consumers 50 to 75 percent less than a new product.
- Annual energy savings resulting from remanufacturing activities worldwide equals the electricity generated by eight nuclear power plants, or 16 million barrels of crude oil (about 350 tankers, or 120 trillion Btus).
- The raw materials saved by remanufacturing in a year would fill 155,000 railroad cars forming a train 1,100 miles long.²³
- Reducing waste by re-using local materials helps fight climate change by cutting the energy costs associated with using new materials, and reducing landfill emissions from throwing them away.



Independent business owner of produce market in Solano County sent his kids to college selling healthy food. Photo: Kirsten Schwind.

FOCUS	ACTION
<p>Learn More</p>	<p>Learn more about building a strong local economy that creates quality, green jobs and thriving area businesses. Your group can read and discuss the following resources:</p> <ul style="list-style-type: none"> • Going Local or The Small-Mart Revolution, by Michael Shuman. These books highlight efforts by policymakers, investors, and organizers to revitalize local economies. • Green Collar Jobs, by Raquel Rivera-Pinderhughes. • The Hometown Advantage, by the Institute for Local Self-Reliance. Online resource with articles, books, reports, and policy ideas for reviving locally owned businesses. • Community Jobs in the Green Economy by Urban Habitat. • Watch The Story of Stuff, a 20-minute online animation on where stuff comes from and where it goes. • Watch Affluenza: The All-Consuming Epidemic on our consumption patterns. • Watch The Take on how Argentinean factory workers saved their jobs during a national economic crisis.
<p>Change What You Do</p>	<p>When making your next purchase, buy from a locally owned or green-certified area business. Here are some Bay Area resources to help you keep your dollars local and green:</p> <ul style="list-style-type: none"> • Business Alliance for Local Living Economies - networks of independently-owned and operated local businesses. • Bay Area Green Business Program - verifies businesses that meet high environmental performance standards. • Network of Bay Area Worker-Owned Cooperatives (NOBAWC) lists businesses owned by their workers • Keep more of your investment dollars circulating in the local economy - move your bank account to a community development bank or one of the many San Francisco Bay Area credit unions.

FOCUS	ACTION
	<ul style="list-style-type: none"> • Throw out less stuff. See StopWaste.org for ideas for moving toward zero waste in your household.
<p style="text-align: center;">Do-It-Yourself</p>	<p>Interested in a green job or starting a local green business?</p> <ul style="list-style-type: none"> • Your job may be vulnerable to rising energy prices and recession if it's an industry that 1) provides luxuries that people can do without, and/or 2) is <u>energy intensive</u> (for example, airlines). If so, consider <u>transferring your skills to an industry that meets basic needs while conserving natural resources</u>. • Looking for a green job training program? Check out this <u>list of training providers</u>. • Interested in starting your own business? The <u>Small Business Administration's</u> online resources guide you through each step of the process. • Find out what makes a business green through the <u>Bay Area Green Business</u> program. • Interested in starting a recycling or remanufacturing business? Find out about <u>Recycling Market Development Zones</u>. • Interested in starting a worker-owned cooperative? Contact NOBAWC, the <u>Network of Bay Area Worker Owned Cooperatives</u>.
<p style="text-align: center;">Do-It-Collectively</p>	<p>Help promote the viability of local, sustainable businesses.</p> <ul style="list-style-type: none"> • Organize your workplace to do its purchasing from <u>local green</u> and <u>democratic</u> businesses. • Get involved in a local <u>Business Alliance for Local Living Economies</u> group. • Have your organization join the <u>Social Equity Caucus</u>, a Bay Area coalition of 75 organizations working to ensure that the economic development priorities of low-income communities and communities of color are addressed by decision-makers.

FOCUS	ACTION
<p>Set Local Policy</p>	<p>Use the power of your city government to set policies that favor local businesses and quality jobs for local residents!</p> <ul style="list-style-type: none"> • The New Rules Project offers sample resolutions such as establishing purchasing preferences for local businesses and requiring living wages in local contracting. • Check out local hire policies and other tools in Policy Link's Equitable Development Toolkit. • Start or support a green jobs training program in your community. Check out Richmond Build as a model program started by the City of Richmond. • Establish a Zero Waste policy in your city. See StopWaste.org as an example of a countywide zero waste agency funded by dump fees. • Work with your city or county economic development staff to analyze the vulnerability of your region's economy to rising energy prices, and create a plan to attract green businesses that are likely to grow in the future.
<p>Set State or Federal Policy</p>	<p>Work with organizations to advance state and federal policies that boost local, equitable green economies.</p> <ul style="list-style-type: none"> • Get involved with the Ella Baker Center for Human Rights' Green-Collar Jobs Campaign and Green for All to promote green jobs training at the state and federal level.





Social Services and Civic Preparedness

Group Discussion Topic

Think about all the social services local government provides in your community: sanitation, police and fire departments, schools, transportation, health programs, housing, parks and recreation, emergency services, and more. How has the recession impacted tax revenues for local services? How can you use your assets to ensure these essential services continue in your community as the economy changes?

Rate Your Community's Resilience

Rate the resilience of your community's social services and civic preparedness on a scale of 0-4, now and 10 years into the future.

	Resilience Evaluation Questions	Now 0 - 4	Future 0 - 4
	21. Neighbors in our community are well organized to help each other in times of need.		
	22. Our local government is adequately prepared for climate change, rising costs, and natural disasters.		
	23. Our local government services are funded from sources that are sustainable as energy prices rise.		
	24. Our local government responds effectively to community needs.		
	Civic Preparedness Subtotal (16 points possible)		

Resilience Indicators and Resources

Want to really dig in and study these issues? Check out the following sources to get the facts about your community.

- Take [The Crash Course](#), designed by Chris Martenson.
- Check out the [California Budget Project](#) to learn where our state revenue comes from and how it's spent.

Social Services and Civic Preparedness Fact Sheet

The Human Right to Health Care and Social Services

- The United Nations Universal Declaration of Human Rights, signed in San Francisco in 1948, states that “everyone has the right to...food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his [or her] control.”²⁴
- Despite being one of the wealthiest countries in the world, the United States still does not guarantee these basic human rights to all residents.
- As baby boomers retire at a time of high national debt, we need to think creatively about how to fulfill our national commitment to the human right to health care and basic social services.

Oil Prices, Debt, Recession, and Funding Social Services

- Public spending on social services, education, infrastructure, and other government services is mostly paid for by 1) taxes on economic activity, and 2) borrowing.
- The combination of economic instability, national debt, and rising oil prices drive inflation, unemployment, and economic recession.
- Economic recession usually results in lower tax revenues.
- Given that oil prices are predicted to keep rising, our economy may not recover to its past levels of growth, and may enter into a long-term severe economic recession.
- Lower tax revenues and increased public debt are already resulting in cuts in public spending and social services, just when people most need a safety net.
- We need to re-think how to fund and provide essential public services in an era of economic transition.

A Resilient Local Tax Base

- Resilient, diversified local economies that depend less on fossil fuels may provide a more reliable tax base in the long term.
- Local public spending also depends on federal tax dollars. We need a national transition to a less fossil-fuel dependent economy.
- Communities that are well organized to meet their basic needs have less need for a public safety net.

Adapting to Climate Change and Peak Oil

- Climate change and peak oil will have specific impacts on each community based on local vulnerabilities.
- In the Bay Area, the impacts of climate change such as sea level rise, floods, decreased water supplies from drought, increased risk of wildfires, and increased heat waves and air pollution will impact each community in different ways.
- Peak oil is likely to have greater impact on economies that depend on intensive energy use, air or highway transportation of goods, or production and retail of luxury goods which fewer people are likely to afford.

Civic Preparedness as Social Justice

- New Orleans under Hurricane Katrina offers a precautionary tale of a woefully unprepared city where the most vulnerable – people of color and those with low incomes – suffered most.
- Civic preparedness for contingencies ranging from earthquakes to climate change is an issue of social justice.
- The Bay Area is due for a major earthquake at any time, especially along the Hayward Fault in the East Bay.
- In the case of a major natural disaster, emergency help may not be available for 72 hours. Neighbors organized to work together will be the first responders.²⁵
- The challenges of climate change, peak oil, and economic instability may offer the equivalent of a long, slow emergency, requiring civic preparedness and community organization in advance.



Sal Vaca, Director of the Richmond Build green jobs training program (left), with newly elected Richmond City Council member Dr. Jeff Ritterman (right). Dr. Ritterman, Chief of the Cardiology Division at Kaiser, decided to run for city council to help create a healthier community. Photo: Kirsten Schwind.

FOCUS	ACTION
Learn More	<ul style="list-style-type: none"> • Read The Universal Declaration of Human Rights • Watch When the Levees Broke (Click here for synopsis) • Learn about emergency preparedness at 72hours.org. • Take The Crash Course, designed by Chris Martenson – it’s online and free. • Learn about your community. Talk with your neighbors and other people you meet in your neighborhood. Get in touch with local community organizations. Learn more about your community’s challenges and assets.
Change What You Do	<ul style="list-style-type: none"> • Buy and invest locally to support your local economy. See resources in the Jobs and Economy section. • Meet and look out for your neighbors. Does the young mother next door need occasional babysitting, or could the elderly couple down the street use help going to the grocery store? • Join neighborhood groups. If it’s not focused on issues important to you, getting involved can be a good way to set the agenda. Look into your nearest neighborhood organization, crime prevention council, redevelopment citizen advisory board, or ACORN, Sierra Club, or Transition group.
Do-It-Yourself	<ul style="list-style-type: none"> • Prepare your household for emergencies such as earthquakes. Check out resources from the USGS and 72hours.org. • Make an earthquake kit for your home with food, water, emergency supplies, etc. • Get Citizen Emergency Response Team (CERT) Training. Contact your local city or county for details. • Write letters to the editor of your local paper about your concerns and proposals on local issues, or comment or blog on local media websites.

FOCUS	ACTION
<p style="text-align: center;">Do-It-Collectively</p>	<ul style="list-style-type: none"> • Bring your neighborhood together. Strong communities mean knowing and looking out for each other. Oakland resident Nicolas Epple has put together a list of neighborhood roles that people can volunteer for to nurture “active neighboring”. Or you can organize skills exchanges to learn useful skills from each other. Host a local gathering to talk about it with your neighbors! • Get involved in local politics. Join or start a politically active grassroots organization in your area that represents your values. Check out the agendas and start going to local government meetings and hearings. Get to know your local elected representatives. Is she or he doing a good job meeting your area’s needs? If so, offer your support. If not, apply pressure, including through elections. • Run for local office yourself – see these tips. Or try out politics by getting appointed to or starting a local citizen commission first.
<p style="text-align: center;">Set Local Policy</p>	<ul style="list-style-type: none"> • Research your city and county’s emergency plans for your neighborhood. Do they seem adequate? If not, work with your local organizations and representatives to strengthen them. • Organize a Peak Oil and/or Climate Action Task Force for your city to research and make recommendations on how to prepare your community to be more resilient as oil prices keep rising, and/or as climate change impacts your community. • Work with your city or county to develop a climate change adaptation plan. See the Climate Adaptation Group’s guidebook for local government. • Research your city and/or county’s sources of funding for essential services. Do you think they are sustainable into the future? Do they leave local government beholden to a few powerful political influences? Work with local policy makers and community groups to identify and legislate sustainable sources of revenue

FOCUS	ACTION
	<ul style="list-style-type: none"> • Support a regional <u>gas tax</u> to fund action on climate change and peak oil.
<p>Set State or Federal Policy</p>	<ul style="list-style-type: none"> • Work to reform our state budget process. California's two-thirds vote requirement to pass state budgets make a mess of our budget process every year, affecting government services at the community level. Learn more at the <u>California Budget Project</u>. Groups such as <u>Common Cause</u> and the <u>Bay Area Council</u> are calling for a state constitutional convention to rewrite the state constitution.



Santa Cruz Rotary Club members finish a multi-day ride as a fundraiser for local schools.
Photo: Kirsten Schwind.

Section Three

Design Your Plan

Twenty five centuries ago, Greek Philosopher Heraclitus said “Nothing endures but change.” Kids grow up, new technologies are invented, new leaders emerge, and surprises happen – both good and bad. While it seems like we have little power over some change, change can be meticulously orchestrated by small groups of motivated people. Climate change and peak oil are largely unforeseen consequences of changes made by many people over many decades.

With the challenges we’re facing now our communities will change whether we want them to or not. The question is, what would we like to see happen, and what role are we willing to play in achieving it?

It’s up to you. You can create the change you want to see.

This section leads your group in creating a community resilience plan tailored to your group’s interests and ambitions. It will not tell you what type of plan to make or what you need to do: that part is up to you. Do what your group feels is most important and interesting. You will create your vision, set goals, devise strategies to implement them, and commit yourselves to doing so. This section leads you through this process in ten steps. As always, feel free to adapt this material to best fit your group’s needs.

Finally and importantly, this section also offers resources for evaluating the effectiveness of your workshop and planning process. We appreciate you sharing the results of these evaluations with the developers of this toolkit so we can improve future editions. Send comments to toolkit@baylocalize.org.

Step 1: Decide on the Scope and Scale of your Plan

How extensive do you want to make your plan? That will depend on what kind of group you are: a county commission designing policy for a twenty-year regional adaptation plan? A community group designing an energy descent plan for your city? Or neighbors who want a fun, hands-on project to build community? Any of these are good and necessary plans – the point is to start taking steps down the path. Whatever your type of group, ask yourselves the following questions:

1. For what purpose did your group come together? Honor the reason you were formed or what motivated people to get involved. Harness the passion that those who formed it bring to the table.

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.
-Margaret Mead

2. How long will you work on implementing your plan? Three months or ten years? Make a plan that you can implement in your time frame.
3. How much time, energy, and resources will your group dedicate to designing and implementing your plan? You're not limited by your initial resources, as you can always use them to bring in more assets – but a realistic assessment of your initial capacity can help you plan for early success.

Your responses to these questions may look like the following:

Example 1.

The County Economic Development Task Force is charged with designing a coordinated multi-agency ten-year economic development plan to position Alameda County in the new economy. We have an initial budget of \$1.5 million allocated for the next three years.

Example 2.

The Spaulding Street Block Group gathered to identify one simple, effective project we can implement together over the next six months to get to know each other better and help each other through hard times. Our core organizing group of seven neighbors will each volunteer ten hours per month, then after six months we will plan the next phase of our effort.

Grounding yourselves with a solid, common understanding of what your group is about will help guide your next steps of setting visions and goals.

Step 2: Describe Your Vision

Envision the future reality you would like to see. For example, Olympic athletes visualize their bodies swimming a world-record race or perfecting a beautiful spin in the air. Envisioning the reality you want to achieve is a powerful step toward making it happen.

Vision statements describe this reality you'd like to create in the future. Feel free to think ambitiously and creatively – it's fine to describe big changes that may not happen for many years, and that your group does not intend to accomplish on its own. The idea is to have a picture in your heads of where you'd like to move towards. Remember that big change does indeed happen, and in fact we need it to happen. Your group probably already started thinking about elements of your vision in Parts 1 and 2, which should give you some ideas to build on.

Example 1.

The County Economic Development Task Force envisions a county-wide economy in 2020 that 1) offers meaningful economic opportunities that can support all county residents and their families, 2) conserves and makes best use of regional natural resources, 3) uses 80% less fossil fuels, and 4) adequately supports local government services through a strong tax base.

Example 2.

The Spaulding Street Block Group envisions a block in which all residents know and support each other and can provide for our basic needs together in the case of any emergency.

You could collaborate on a common vision statement, or have each group participant come up with her or his own vision and then identify common threads.

Step 3: Analyze What You've Learned About Your Community

Before you decide on specific actions to work toward your vision, take a moment to summarize what you've learned about your community in the previous section. In which areas did your community rate highly for resilience, and which areas need improvement?

An easy way to summarize this information is to do a SWOT analysis with your group. SWOT stands for "Strengths, Weaknesses, Opportunities, and Threats." Strengths and weaknesses generally refer to conditions within your community, as identified in your resilience ratings. Opportunities and threats generally refer to influences from outside the community, although they can occur from within the community as well.

SWOT Analysis

Pull out your notes from the previous sections and use them to identify:

Strengths: Refer to your notes from the resilience ratings in Part 2. Identify assets and factors that made your community rate highly (3-4). Add other important strengths not yet covered.

Weaknesses: Again, refer to your notes from the resilience ratings in Part 2. Identify factors that made your community rate poorly (0-2). Add other important weaknesses not yet covered.

Opportunities: Refer to notes from the action menus in Part 2. Opportunities could include federal, state, and local legislation and programs you would like to take advantage of, campaigns you'd like to get involved in, model programs and policies you'd like to replicate, your allies' momentum in promoting an idea, and trends you'd like to hook into.

Threats: Refer to notes from your discussion in Part 1 about how climate change, peak oil, and economic instability may affect your community specifically. Also add other threats that are of concern to your community.

Here's an example of a SWOT analysis from a theoretical Bay Area city:

	Helpful	Harmful
<p>Mostly Internal</p>	<p>Strengths:</p> <ul style="list-style-type: none"> • Many diversified local farms in region. • Responsive local public water utility. • Well-organized neighborhood associations. • Good local community college starting green jobs training. • Maybe potential for micro wind turbines? 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • Not enough community gardens to meet demand. • Poor public transit system. • High costs of housing, many workers commute from afar. • Economic dependence on local auto mall, which is going bankrupt • City cutting budget due to loss of tax revenue.
<p>Mostly External</p>	<p>Opportunities:</p> <ul style="list-style-type: none"> • City beginning climate action planning process. • SB 375 could provide incentives for affordable housing development. • Safe Routes to Schools program looks like a potential good funding source. • Interested in exploring cohousing model. 	<p>Threats:</p> <ul style="list-style-type: none"> • Residents next to Bay may need to relocate with sea-level rise. • Large low-income population vulnerable to inflation, especially food and housing prices. • Large portion of children with asthma vulnerable to poor air quality during heat waves.

Once you've filled in your SWOT analysis grid, put a star by the items you listed that seem most important, urgent, or useful. Then sit back and consider your grid together. What themes do you see? What does it tell you about priorities for your community and your group?

Step 4: Set Goals

The next step is to identify goals your group wants to work toward. Think a moment about both your vision for the future and how your SWOT analysis describes your community's present. What will it take to lead your community from its present to the future you want to see?

There are many ways to work toward a vision, and at some point your group will probably run into the creative tension between having many potential goals and objectives, and realistically not having the capacity to address all of them. You will need to decide how to prioritize which ones you will work on. The facilitation notes offer tips on how to do this.

There are a variety of styles of writing goals, objectives, and strategies, which can get confusing. We offer one interpretation of these terms here, but feel free to use any your group prefers. Be consistent, and apply the "SMART" criteria to get specific at some point (see explanation in Step 6).

Goals describe future outcomes your group plans to create. They have a general focus on ends rather than means, and provide programmatic direction.

Example 1.

County Economic Development Task Force Goal 1: The County hosts a vibrant remanufacturing sector offering living wage jobs to residents.

Example 2.

Spaulding Street Block Group Goal 1: Neighbors on our block know each other and share extra backyard garden produce with each other.

You may need only one goal, or several. Try to keep the number of goals small, so your group doesn't feel overwhelmed when trying to implement them. Accomplishing one goal can create a sense of momentum, a cohesive group, and strong outcomes, while working on too many goals can lead to not being able to complete them. You can set some goals aside and agree revisit them later when your group has more capacity. Research whether other groups in your area are already working toward your goals, or similar ones. This will allow you to avoid duplicating efforts, or join forces with others to achieve common or mutually supportive aims.

Backcasting, Setting Priorities, and Decision Making

Developing goals can be a messy and time-consuming process, but it is also an investment in your future success. Allow plenty of time for discussion and decision making, and keep the tone positive.

First, lead your group through a **backcasting** exercise to think through what it will take to lead your community from its present to the future you envision. Facilitate this as a group brainstorming exercise while a note taker records ideas where everyone can see them.

Start with a point in the future when your vision is realized. What year do you think it might be? What were some of the last steps that lead to your vision being realized? What steps came before that? Keep thinking back through the steps needed to achieve your vision until the present. Each of the steps identified in your backcasting exercise could be a potential goal for your group.

The process of deciding on goals will probably require prioritization of all your possibilities and choosing some while rejecting others. A smaller group could simply refer to your backcasting notes and shape and discuss potential goals until you come to agreement. For a more facilitated process, try a combination of the following ideas.

In a mid-sized or larger group, try a modified **open space** technique. First explain the process to the group. Place a stack of paper and markers in front of the group, and invite participants to come up and write in large letters a couple of words describing a goal they would like to develop. These participants become leaders for discussion groups on these topics, and stand in front with the piece of paper so everyone can see them.

When all potential discussion leaders are in front of the group, ask each to choose and announce a place where her or his group will meet. Other participants choose a group to join. Participants are free to switch groups as often as they wish. If no one joins a discussion leader, encourage her to consider developing her idea on her own. Groups are welcome to merge if the two leaders agree to do so. Each group chooses a note taker, and if this person would like to switch to another group, she first finds a replacement for herself. The purpose of each small group is to refine one goal statement to present to the group. After a given amount of time, call the group back together and ask each discussion group to present its goal.

Next, do a **reality check on your capacity**. Remind yourselves how much time or resources you are willing to invest, and decide how to limit the goals you will take on. You can always set some goals aside and agree to revisit them when you have more capacity.

Now you need to prioritize. One way to see where a group's interests and passions lie is a sticky dot exercise. Post each goal on a large piece of paper on the wall around the room. Give each participant the same number of stickers of green, yellow, and red dots (limit the number of red dots). Ask participants to stroll around the room and place their dots according to their interest and support for each proposed goal. Green indicates support, yellow indicates questions or reservations, and red indicates strong concerns or a veto. Emphasize that the red dots should only be used if the participant feels strongly that the group should not work on a given goal.

When participants have finished allocating all the dots they wish to use, call the group back together. Discuss the results of the exercise. Does it help your group identify goals that would garner enthusiasm, or create divisions? Would the proposed goals move you effectively toward your vision? Respect and create a safe space for the voices of those who have raised reservations or issued a veto, especially on popular proposals. Encourage the group to work to understand their underlying concerns.

Another approach is a **grid analysis**. Identify decision making criteria, and assign each a weight according to its importance to your group. Create a grid and list the goals you are considering across the top row, and the criteria down the farthest left column. Ask each participant to rate the proposals based on the criteria, and add the weighted results in each square. Then calculate the final tally for each proposal.

Be careful about using either of these approaches as your final decision making method, as you can end up with results that many group members may be unhappy with. We recommend using them to inform your discussion rather than to make final decisions.

Your final decision process depends on the culture of your group. To ensure all members of the group feel ownership over the decision and commitment to carrying it out, consider using a consensus process. Do some reading on consensus decision making before trying it out for the first time. Wikipedia, an organization that uses consensus decision making, describes the process as:

Discussion of the item: The item is discussed with the goal of identifying opinions and information on the topic at hand. The general direction of the group and potential proposals for action are often identified during the discussion.

Formation of a proposal: Based on the discussion a formal decision proposal on the issue is presented to the group.

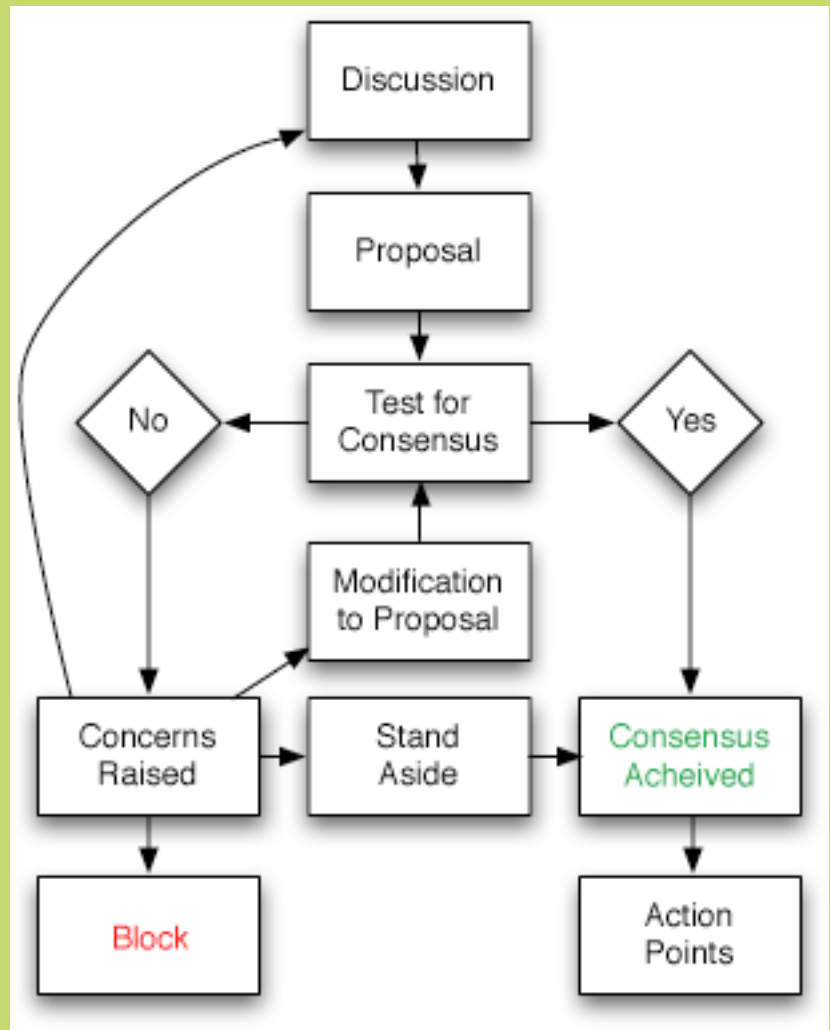
Call for consensus: The facilitator of the decision-making body calls for consensus on the proposal. Each member of the group usually must actively state their agreement with the proposal. Group members either agree, stand aside, or block the decision. In larger groups positions can be indicated by holding up color coded cards. Or a group member could request further discussion before a decision is made.

Identification and addressing of concerns:

If consensus is not achieved, each dissenter presents his or her concerns on the proposal, potentially starting another round of discussion to address or clarify the concern.

Modification of the proposal:

The proposal is amended or re-phrased in an attempt to address the concerns of the decision makers. The process then returns to the call for consensus and the cycle is repeated until a satisfactory decision is made.



Flow chart of consensus decision-making process. Source: Wikipedia.



Carla Perez shares her opinion during a workshop. Photo: Kirsten Schwind.

Step 5: Analyze How to Achieve Your Goals

Before you develop more specific objectives and strategies to implement your goals, take a moment to think strategically about how to work with the forces already impacting the change you want to create. If your goal is simple and straightforward – for example, the Spaulding Street backyard produce exchange – you can skip this step. For more complex goals, however, this analysis can help you plan the easiest path to implementation by identifying and recruiting important allies while neutralizing any roadblocks or opposition.

Force field analysis is a method for listing, discussing, and evaluating the various forces for and against a proposed change. Forces that help you achieve the change are called “driving forces.” Forces that work against the change are called “restraining forces.” See the diagram and facilitation notes on how to conduct this analysis.

Use the force field analysis to help you identify your decision makers: the people with the power to make different aspects of your goal a reality. It could be just your group, but often it will include outside actors as well.

Here are examples of decision makers who would play a role in achieving the following goals:

Building a neighborhood community garden

Decision makers: owner of vacant lot, city zoning department, city department of public works, local water utility, city council, local residents (potential gardeners)

Safe Routes to Schools program to install more bike lanes

Decision makers: mayor, city council, public works department, Department of Transportation (gives grants), school district, school parents, students

Blocking a proposed gas-fired power plant in your community

Decision makers: California Energy Commissioners, energy corporation building the plant, Bay Area Air Quality Management District, city council, mayor, local community groups

Your decision makers may be potential allies, opposition, or somewhere in between. Generally, it’s easier to engage with them in the long term if you make them into allies, though when fundamental interests diverge this may not be possible.

Whatever your relationship with your decision makers, you will need to convince them to take the action you want them to take. To accomplish this, analyze what motivates their actions, and how to work with these motivations.

Force Field Analysis

Prepare a large force field diagram that all participants can see. Explain the purpose of the activity to participants, and fill in the force field diagram together. Repeat the activity for each of your goals as needed.

1. Brainstorm a list of driving and restraining forces affecting your goal, and record them on the chart in the appropriate column.
2. Assign a score to each force, from 1 (weak) to 5 (strong). The score is based on (a) the strength of the force and (b) the degree to which it is possible to influence this force.
3. Tally the scores on each side.
4. Decide if the goal is achievable and realistic for your group.
5. If so, brainstorm how to:
 - Strengthen positive forces
 - Neutralize negative forces

Forces to consider:

Decision makers' motivations	Costs
Vested interests	Available resources
Regulations	Present or past practices
Organizational structures	Institutional policies or norms
Relationships	Social or organizational trends



Relationships with media can be driving forces. Here Maya Donelson of Graze the Roof speak with New York Times reporter Marion Burros. Photo: Kirsten Schwind.

Sample Force Field Analysis

Goal: The County hosts a vibrant remanufacturing sector offering living wage jobs to residents.

Key decision makers: Businesses, city zoning boards, industrial building owners, financiers.

Driving Forces	Strength (1-5)	Strength (1-5)	Restraining Forces
Local development banks interested in financing	3 →	← 5	Difficult for start-up businesses to get financing
Potential financing interest from major investors	4 →	← 5	Local banks have limited capital
Support from city councils, mayors, and chambers of commerce	3 →	← 1	Opposition from big box retailers (competition)
Small Business Administration and Network of Worker Owned Cooperatives will partner in business development	2 →	← 2	New sector, few viable businesses to recruit
Good political connections on zoning boards	2 →	← 3	Difficult to find industrially zoned space, expensive
Totals:	14	15	

Conclusions: While the “restraining forces” total is slightly higher, there are still significant “driving forces.” The Task Force would probably have decided that this is an achievable and realistic goal for the county to take on.

Step 6: Set Objectives

Now that you have a clearer sense of what it will take to reach your goal, develop more specific objectives.

Objectives tell how to meet a goal. They are clear, realistic, specific, measurable, and time-limited statements of action which move you toward your goal.

Use the “SMART” formula when writing your objectives:

- S** = Specific
- M** = Measurable
- A** = Achievable
- R** = Realistic
- T** = Time framed

Our planners at the county or on Spaulding Street might write the following objectives to support their goals above:

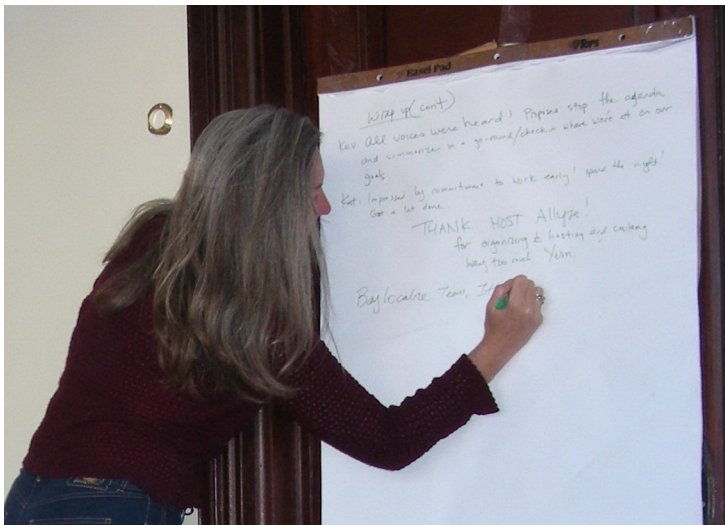
Example 1.

County Economic Development Task Force Objective 1: The County attracts ten new remanufacturing companies providing 500 new jobs by 2015.

Example 2.

Spaulding Street Block Group Objective 1: Within one month organize a series of eight backyard BBQs and produce exchanges rotating between different neighbors' houses. At least 90% of neighbors attend at least one BBQ.

Writing SMART objectives should make it easy to measure your success toward meeting your goal. They can also communicate your own confidence in your project, which is helpful in recruiting more participants and building up other assets.



Kat Steele facilitates a planning process. Photo: Kirsten Schwind.

Step 7: Identify Assets

At this point you should be getting a clear picture of what assets would be useful in achieving your objectives. Refer back to the handout in Part 1 on assets, and brainstorm a list of specific assets in your community you would like to approach.

Our planners at the county or on Spaulding Street might identify the following assets:

Example 1.

County Economic Development Task Force Assets:

- Local community development banks
- Small Business Administration
- Network of Bay Area Worker Owned Cooperatives
- Contacts within the Remanufacturing Industry Council
- Contacts with major investors
- Community colleges
- Possible access to industrially zoned land at the decommissioned Navy base
- Ability to offer financial incentives
- Eligibility to apply for state and federal programs

Example 2.

The Spaulding Street Block Group Assets:

- Many neighbors have extra backyard produce to share
- Maria developed a contact list of all neighbors on the block
- The project can be launched at the annual 4th of July Block Party
- Judy's teenagers can babysit smaller children at gatherings

Step 8: Start Developing Strategies

Strategies describe the steps you'll take to use your assets to meet your objectives. Examples could be "meet with mayor to ask for support," or "write op-ed in local paper." Your strategies will evolve as new information, opportunities, and challenges arise. Develop as many strategies as you need for each of your objectives.

Again, think about the needs and interests that motivate your decision makers, and strategize about how to work with these. For example, candidates in a local election are interested in access to voters, so you might organize a candidates' forum on your issues in front of a large audience. Or a corporation citing a polluting power plant in your neighborhood needs to make a profit for its investors. You could convince the corporation that the cost of running a plant in your neighborhood is not worth it, or that it could make a higher return by investing in a clean energy project instead. Down the road the same corporation could become an ally.

Example 1.

Strategies for the County Economic Development Task Force Objective 1:

- Establish a joint business development program with Small Business Administration, Network of Bay Area Worker Owned Cooperatives, community development banks, community colleges, and private investors.
- Develop a 5-year budget for the program.
- Apply for state and federal grants.
- Identify industrial space that businesses could occupy, and establish contact with appropriate commercial leasers.
- Host a breakfast briefing for area elected officials and remanufacturing entrepreneurs launching the program.
- Host a series of workshops and receptions for remanufacturing entrepreneurs thinking of establishing themselves in the area.
- Host a business plan competition focusing on the remanufacturing industry, offering seed capital as a prize.
- Collaborate with the local community college to offer courses on remanufacturing, starting new green businesses, and starting new worker cooperatives.
- Contract with a local marketing firm to market the program.
- Convene a stakeholders' process including the business community and labor to develop county local hire and living wage policies.

Example 2.

Strategies for the Spaulding Street Block Group Objective 1:

- Maria and Jim organize annual 4th of July Block Party to launch project.
- Tom signs up neighbors to host backyard BBQ potlucks every other Sunday for the rest of the summer and fall.
- Diego's kids design and distribute fliers with the summer BBQ schedule to all houses on block, and invite neighbors in person when possible.
- Shawna and Jordan host the first BBQ potluck and produce exchange two Sundays after 4th of July.
- Judy's teenagers will watch smaller kids at BBQs.



Alicia Schwartz and Ingrid Severson discuss chayotes. Photo: Kirsten Schwind.

Step 9: Plan to Measure Your Impact

To track your success, gather the data you need to measure the impact of your actions as you go. It helps to start with SMART objectives, as they are written to be measurable. Relatively simple ways to start gathering some data include:

- Count the number of participants at meetings.
- Ask participants to fill out simple evaluation cards at the close of workshops or meetings.
- If you set up a website, measure the traffic it generates.
- Conduct random phone surveys with participants after an activity to see if they think the activity had the desired impact.
- If your project deals with material goods, for example backyard produce, keep track of how many pounds are distributed.
- If your project involves saving money, water, energy, or something else, track how much is being saved.
- If you are trying to get an idea into the public discourse, track the number of media stories you generate and the estimated audience of each media outlet.

There are many ways to gather data to track your impact, so think creatively.

Tracking your impact allows you to tell others about your success in concrete terms, and recruit more assets to help you in the future. If your data indicates you are not having the impact you wanted to, that is also valuable information to reassess your objectives and strategies.

Example 1.

Evaluation Plan for the County Economic Development Task Force:

- Track number of participants at project workshops and receptions.
- Track number of remanufacturing businesses established in county through review of new business licenses.
- Track quantity of total investment capital raised through joint program (consult with banks and investors on how to do this while maintaining confidentiality).
- Contract with local community college professor to design a study to track local jobs and economic activity created by new remanufacturing companies.

Example 2.

Evaluation Plan for Spaulding Street Block Group:

- Betty and George volunteer to weigh produce exchanged at BBQs and track the number of neighbors participating.
- Larry's Café will donate a \$50.00 gift certificate to the household that gives away the most produce over the course of the summer.
- Rosa will write a story for the local paper at Thanksgiving reporting on the results.

Step 10: Secure Commitments and Next Steps

Great, you've got a plan! Now take a moment to:

1. Review your plan and see if there are any actions or steps that haven't been clearly assigned to someone yet. Decide who will take responsibility for them.
2. Decide on what your next steps are. Set the next meeting date and assign yourselves tasks to be done by that date. Consider establishing a regular meeting time and date that group members can put on their calendars.
3. Discuss how you will support and keep each other accountable in carrying out your plan. One method is to take notes at each meeting indicating your commitments and timeline for finishing them, and review them at the next meeting. Keep the tone of your meetings positive and friendly – the main reason volunteers stay involved may be because they enjoy the social element. Take time to get to know each other, offer praise for good work, celebrate progress, and enjoy each others' company.



Bay Localize building the movement at an annual Holiday Party for friends and allies.

Closing Thoughts for Your Workshop

Thank you so much for dedicating this time to grapple with big questions and what to do about them. We recommend you finish your workshop with an evaluation and closing exercise – see the facilitation notes for tips. Please share the results of your evaluation with Bay Localize, as we are looking for ways to improve this toolkit in future editions. We look forward to hearing your comments and suggestions at toolkit@baylocalize.org.

To close, consider this poem of unknown authorship, printed on the cover of the constitution of the American Miners' Association in 1864:

*Step by step the longest march
Can be won, can be won.
Many stones do form an arch,
Singly none, singly none.
And by union what we will
Can be accomplished still.
Drops of water turn a mill,
Singly none, singly none.*

We look forward to creating change together.

Closing Your Workshop

Before you close, make sure to do an evaluation of your workshop. Please share the results with us to help us improve future editions of this toolkit.

Consider posting a piece of butcher paper at the back of the room for participants to note feedback on throughout the workshop. Encourage them to record any final thoughts before they leave.

We recommend you also ask participants to take a moment to fill out the evaluation form provided – or a customized form you developed – before leaving.

Consider closing with an activity that will inspire participants to stay involved. Here are two ideas:

Generational Perspectives

Ask participants to divide into groups of four. One participant takes a minute to describe an action this workshop inspired her or him to do. The participant sitting to her right plays the role of the voice of the “devil’s advocate” in present day, taking one minute to critique her idea. The participant sitting across from her plays the role of her ancestors, and takes one minute to offer support for her idea from this point of view. The participant sitting on her left plays the role of the voice of her descendents, and takes one minute to offer support for her idea from this point of view. The participants then rotate roles until all have shared her or his idea or action.

Workshop Reflection

Put on some relaxing music and have every one join a circle. Welcome participants to share one at a time one thing about the workshop that inspired them.

Thank the participants for their interest, time, and energy, and share a closing thought.

Workshop Evaluation Form

Thank you for taking the time to be a part of this workshop. Please let us know what you thought of it.

Please check one box per row below indicating how useful you found each part of this workshop:

Part of Workshop	Very useful	Useful	Neutral	Not useful	Not relevant
Introduction to Assets					
History of Change in Community					
Peak Oil and Climate Change					
Defining Resilience					
Sectoral Resilience Ratings					
Sectoral Fact Sheets					
Sectoral Action Menus					
Developing Your Plan					

What parts of the workshop did you like best? _____

In what ways would you recommend changing this workshop?

Thank you for your honest input.

Appendices

End Notes

Section One: Getting Ready

¹ The definition of basic human needs used throughout this toolkit is based on the United Nations Universal Declaration of Human Rights, <http://www.un.org/en/documents/udhr/>.

² Bruneau et al, 2003. “A Framework to Quantitatively Assess and Enhance the Seismic Resilience of Communities.” *Earthquake Spectra*, Volume 19, No. 4, pages 733–752, November 2003.

³ United Nations, 1948. Universal Declaration of Human Rights. Accessed on 6/10/08 at <http://www.un.org/Overview/rights.html>.

⁴ Robert O Self, *American Babylon: Race and the Struggle for Postwar Oakland*, Princeton University Press, 2003. Recommended reading for any resident of the East Bay.

⁵ Matt Beyers, et al. *Life and Death from Unnatural Causes: Health and Social Inequity in Alameda County*. 2008. http://www.acphd.org/AXBYCZ/Admin/DataReports/05_executive_summary.pdf

⁶ Rachel Morello Frosch, Manuel Pastor, Jim Sadd, and Seth Shonkoff, 2009. “The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap,” <http://college.usc.edu/geography/ESPE/perepub.html>.

⁷ Rachel Morello Frosch, Manuel Pastor, Jim Sadd, and Seth Shonkoff, 2009. “The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap,” <http://college.usc.edu/geography/ESPE/perepub.html>.

⁸ Ibid.

⁹ Rachel Morello Frosch, Manuel Pastor, Jim Sadd, and Seth Shonkoff, 2009. “The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap,” <http://college.usc.edu/geography/ESPE/perepub.html>.

¹⁰ Ibid.

¹¹ J. Andrew Hoerner and Nia Robinson, *A Climate of Change: African Americans, Global Warming, and a Just Climate Policy in the U.S. Redefining Progress*, 2008. Accessed 7/16/09 at <http://www.rprogress.org/publications/2008/climateofchange.pdf>.

Section Two: Evaluating Your Community

¹ This idea of basic human needs is based loosely on The United Nations Universal Declaration of Human Rights, signed in San Francisco in 1948. Article 25 states: “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.” See <http://www.un.org/en/documents/udhr/>.

² The United States Conference of Mayors Hunger and Homelessness Survey, 2008. Accessed at: http://usmayors.org/pressreleases/documents/hungerhomelessnessreport_121208.pdf

³ UCLA Center for Health Policy Research, 2007. “Food Security Among California’s Low-Income Adults Improves, But Most Severely Affected Do Not Share in Improvement” Health Policy Research Brief, June 2007.

⁴ Keith Bradsher, 2008. “A Drought in Australia, a Global Shortage of Rice” in New York Times, April 17, 2008. <http://www.nytimes.com/2008/04/17/business/worldbusiness/17warm.html?ref=todayspaper>

⁵ Jerry Hirsch and P.J. Huffstutter, 2008. “Midwest flood may cover nation in higher food prices.” LA Times, June 17, 2008, <http://articles.latimes.com/2008/jun/17/business/fi-floodecon17>.

⁶ George Raine, 2008. “Global rice squeeze hitting U.S. consumers.” San Francisco Chronicle, Friday, April 25, 2008, <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/04/24/BUUR10AOLH.DTL#ixzz0QeMpmKle>

⁷ Seth Borenstein, 2008. “Food scientists say stop biofuels to fight world hunger” in The San Francisco Chronicle, April 28th, 2008.

⁸ GRAIN, 2008. “Making a Killing off Hunger”, accessed 6/17/08 at <http://www.grain.org/articles/?id=39>

⁹ A watershed is an extent of land where water from rain or snow melt drains downhill into a body of water, such as a river, lake, reservoir, estuary, wetland, sea or ocean. The drainage basin includes both the streams and rivers that convey the water as well as the land surfaces from which water drains into those channels, separated from adjacent basins by a drainage divide. Source: www.wikipedia.org.

¹⁰ <http://www.energy.ca.gov/pier/iaw/industry/water.html>

¹¹ California Public Utilities Commission, 2009. Renewables Portfolio Standard: Quarterly Report July 2009. http://www.cpuc.ca.gov/NR/rdonlyres/EBEEB616-817C-4FF6-8C07-2604CF7DDC43/0/Third_Quarter_2009_RPS_Legislative_Report_2.pdf accessed 8/11/09.

¹² The Utilities Reform Network (TURN). “Energy Efficiency Programs in California.” <http://turn.org//article.php?id=863> accessed 8/11/09. The new California Public Utilities Commission draft order on energy efficiency calls for a maximum of 10% to be spent on administration.

¹³ Ibid.

¹⁴ United National Universal Declaration of Human Rights, <http://www.un.org/en/documents/udhr/>

¹⁵ Greenbelt Alliance, “Affordable Housing” http://www.greenbelt.org/whatwedo/issues_housing.html

¹⁶ <http://www.un.org/Overview/rights.html>

¹⁷ California Employment Development Department, Labor Market Information Division, “Industry Employment and Labor Force by Annual Average, 1983-2006.”

¹⁸ Sarah Anderson and John Cavanagh, “Top 200: The Rise of Global Corporate Power,” Institute for Policy Studies, Washington, D.C. <http://www.globalpolicy.org/socecon/tncs/top200.htm>.

¹⁹ Wikipedia, “United States Public Debt”, http://en.wikipedia.org/wiki/United_States_public_debt#cite_note-9 accessed 8/26/09.

²⁰ US GAO, 2007. Uncertainty about Future Oil Supply Makes It Important to Develop a Strategy for Addressing a Peak and Decline in Oil Production, <http://www.gao.gov/new.items/d07283.pdf> accessed 8/27/09.

²¹ Civic Economics, The San Francisco Retail Diversity Study, 2007, http://www.civiceconomics.com/SF/SFRDS_May07.pdf accessed 8/24/09.

²² Raquel Pinderhughes, 2007, “Green Collar Jobs: An Analysis of the Capacity of Green Businesses to Provide High Quality Jobs for Men and Women with Barriers to Employment,” <http://bss.sfsu.edu/raquelrp/documents/v13FullReport.pdf> accessed 8/24/09.

²³ National Center for Remanufacturing and Resource Recovery, <http://www.reman.rit.edu/timeline.aspx>, accessed 8/24/09.

²⁴ The United Nations Universal Declaration of Human Rights, <http://www.un.org/Overview/rights.html>

²⁵ www.72hours.org

Peak Oil Scenarios

A Comparison of Two Scenarios Following the Global Peak in Oil Production

Modern society is tied to petroleum more than any source of energy and materials. Peak global extraction of oil means ever diminishing supplies – with no alternative source or combination of sources capable of replacing oil at anywhere near the same net-energy balance, flow rate, or volume.

In the 1950s the well-known U.S. geologist M. King Hubbert noted that oil discoveries graphed over time tended to follow a bell-shaped curve. He supposed that the rate of oil production would follow a similar curve, now known as the “Hubbert Curve” (see figure above). Despite widespread criticism at the time, Hubbert successfully predicted that the continental United States would peak in oil production in the early 1970s – a daunting reality that has made the U.S. economy increasingly reliant on oil imports to meet growing domestic demand.

Despite growing agreement that Hubbert’s general theory is sound, considerable debate remains as to how the inevitable decline in oil supplies will play out, and what the implications will be for society at large. In this appendix, we’ve outlined two contrasting theories: (1.) author John Michael Greer’s “Catabolic Collapse” theory, which predicts that energy descent will follow a stair-step pattern of overall decline, punctuated by brief periods of economic recovery; and (2.) oil analyst Jan Lundberg’s “petrocollapse” theory, which postulates a steep, cliff-like drop-off in oil production, with dramatic consequences for our economy.

Catabolic Collapse: Stair-step Decline

*Excerpted from Frank Kaminski’s review of
John Michael Greer’s The Long Descent*

In his book *The Long Descent*, John Michael Greer foresees a period of slow deindustrialization driven by a process that he refers to as “catabolic collapse.” Greer begins with a bit of background on peak oil, the Club of Rome’s *The Limits to Growth* study, some lessons from past societal collapses and the difference between problems (which are solvable) and predicaments (which aren’t). He makes a strong case for peak oil being a predicament rather than a problem.

Drawing on the theory of catabolic collapse, Greer outlines in detail how our predicament is likely to play out during the decades and centuries ahead. His theory shows how civilizations headed for collapse tend to decline in a gradual, downward stair-step of repeated crises and recoveries. They don’t undergo the sudden, catastrophic free fall feared by many who follow peak oil.

Eventually, the developed world would assume an agrarian lifestyle built around local communities and sustainable resources. But this change would happen so slowly that no one alive today will be around to witness the end result. Thus, Greer maintains, our energies should be focused not on surviving the end of industrial civilization, but on making it through the imminent crisis period that will be but one brief interval within that larger context.

To this end, Greer lays out some strategies and technologies for weathering the coming decades of crisis. The appropriate response to the challenges we face, Greer believes, is not to set up survivalist enclaves or lifeboat communities, but to reshape our existing cities, towns and rural neighborhoods in order to better meet those challenges. On an individual level, everyone needs to sharply curtail energy usage and find low-tech ways of living our lives, in order to prepare for the inevitable shortages. We also need to position ourselves into occupational niches that meet actual human needs, since these are the jobs that are likely to stay in demand. In the face of declining public health, each person should learn to take charge of his or her own health. Lastly, we must help foster local community networking, which will be essential in preserving basic services like public safety and sanitation when the federal government proves ineffectual.

Petrocollapse: A Steep Drop-off in Oil

by Jan Lundberg, *CultureChange.org*

We face an imminent and abrupt oil-free future with dramatically lower per capita energy use. Most literate people have heard of peak oil, but many have been led to assume there will be a slow, down-slope of extracted supply past the peak. This is theoretical, based on estimates of reserves remaining in the ground, accurate or not.

What must be appreciated are the market-supply dynamics and oil industry functions such as refinery constraints. These inflexibilities will trigger not just sudden, crippling shortages but the inability of the oil industry to maintain a flow of products at a sustained, long-term level – a scenario which I call “petrocollapse.”

In 1979 my firm Lundberg Survey accurately predicted that a 9% shortfall would lead to skyrocketing prices, panic buying, and hoarding – what oil investment banker Matthew Simmons calls a “run on the energy bank.” When the next global supply crisis occurs without the oil industry or government to come to the rescue, the socioeconomic effects will be rapid and devastating. In days, grocery stores and community gardens will be stripped clean, and car commuters will not be able to get to jobs. Businesses will shut, in part due to their reliance on “just in time delivery.” There will be no floor to the crash until local food supplies can meet what the remaining population size has become.

The oil industry's only model is growth. The only large-scale economic model known is for growth, made possible in the past from petroleum supplies in ever-increasing abundance. These sources are collapsing in oil-producing countries, and demand will never be met by tar sands, heavy oils, or biofuels. As oil supply plummets, the industry will be unable to adapt. It cannot just ratchet down its refining output to follow a smooth depletion curve. Refineries must utilize their capacity at high levels to produce a balance of products (gasoline, distillates, fuel oils). This need will remain even as lower-producing wells are capped and already rusting facilities require ever-growing investments and retrofits.

The quick slackening of business and employment along with worldwide demand-destruction for oil are features of petrocollapse. We are in an early phase, with a sudden, massive supply-crunch inevitable. The hoped-for "recovery" without cheap energy and other resources for a growing population cannot happen. It is just a matter of time for the next Oil Shock and great demand-destruction for oil and other key consumer products. This will transform the modern lifestyle to post-industrial, local living.

Climate Change and Peak Oil Information Cards

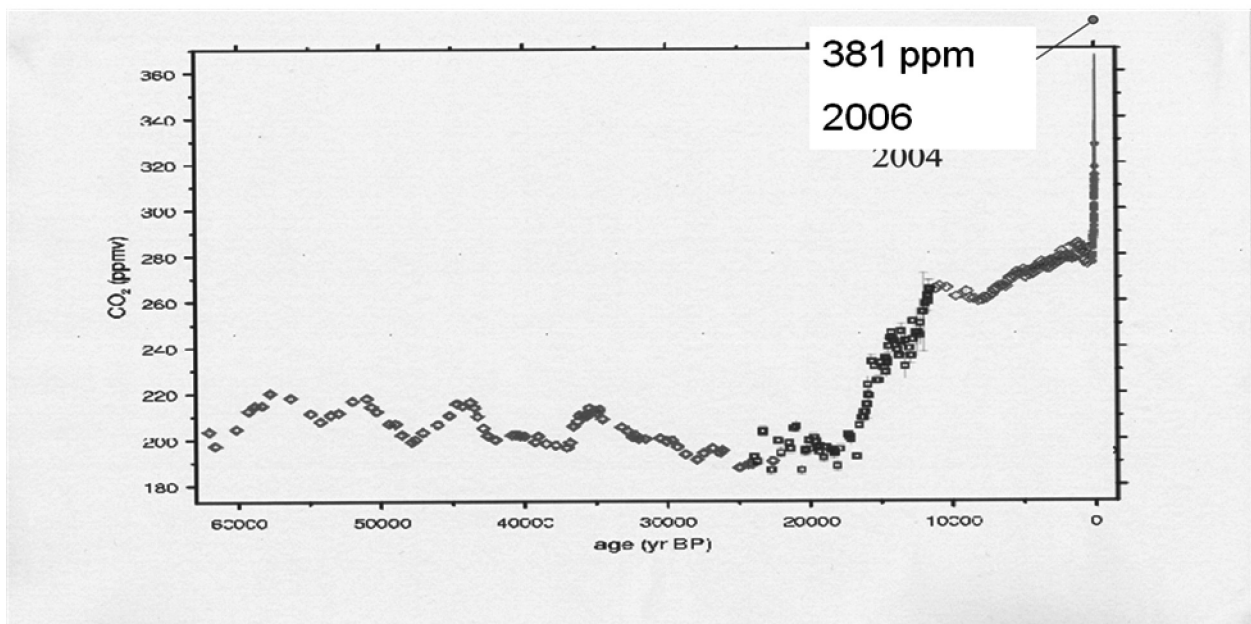
Use these cards for the activity on climate change and peak oil described in the facilitation notes in Part 1. Print or photocopy the cards, cut them along the lines, and attach the text back to back to the images to allow participants to share the images with each other while referring to the text on the back of the cards.

Climate Change



Greenhouse Gases

CO₂ levels over the past 60000 years



Climate Change

Burning fossil fuels is warming the Earth. This is changing our climate in ways that will make it more difficult for people, plants, and animals to live in many places. Scientists estimate that between 15% and 37% of all species on the planet may go extinct by 2050 due to climate change, and entire human populations in some parts of the world could become climate refugees from their homelands.

Most of the observed increase in globally averaged temperatures since the mid-20th century is due to the increase in human greenhouse gas emissions. Most scientists agree climate change is already happening and we cannot stop it -- but we need to do all we can to prevent it from getting worse. The only question is how fast we can act to create real reductions in atmospheric CO₂.

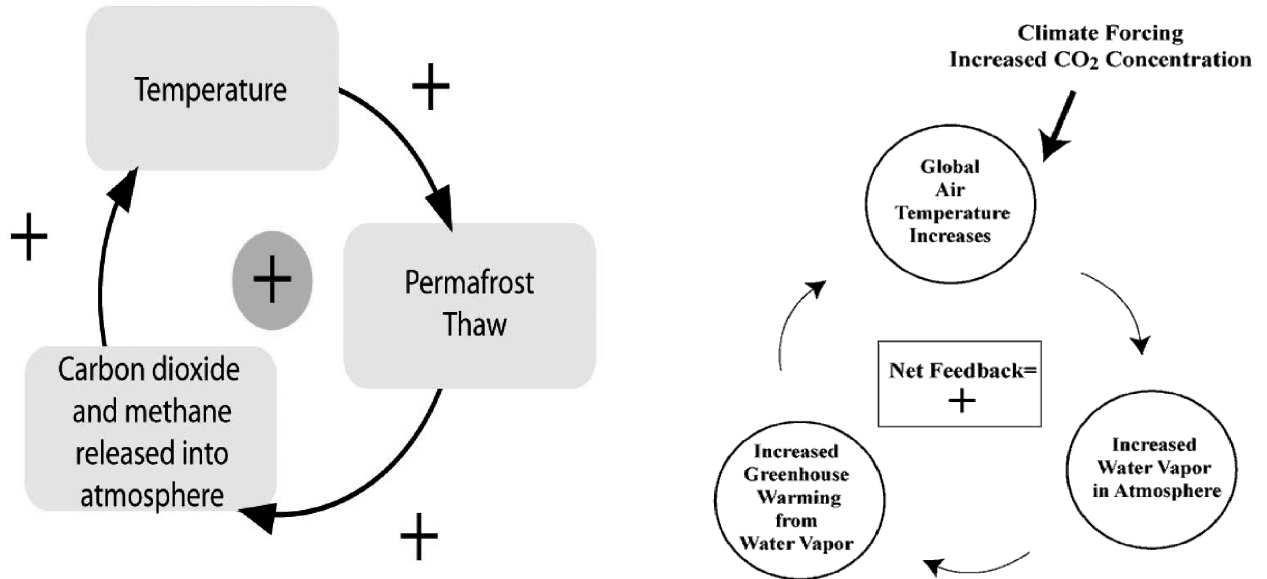
Greenhouse Gases

This graph shows atmospheric carbon dioxide (CO₂) concentrations over the last 60,000 years, as measured in ice cores. As you can see CO₂ levels have risen and fallen.

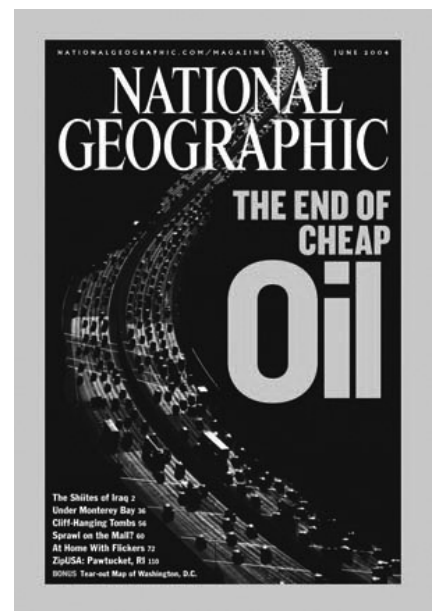
The steady increase in atmospheric CO₂ represents the point at which a new agricultural system was introduced and the subsequent increase in human population, and then the beginning of the industrial era and the burning of fossil fuels.

This graph does not show other green house gases, which include methane, nitrous oxide, and others that also contribute to climate change.

Why So Urgent?



Peak Oil



Why So Urgent?

Once global temperatures rise to certain levels, feedback loops will cause further releases of greenhouse gases, leading to runaway climate change. In other words, the effects of climate change could cause even worse climate change in the future.

If greenhouse gases make the Earth hot enough, the warmer seawater could trigger melting ice and permafrost, releasing vast deposits of methane in arctic ecosystems. Methane is even 20 times more potent than carbon dioxide as a greenhouse gas.

Climate change also produces an increase in water vapor, also considered a greenhouse gas due to the effect it has on the atmosphere. The warmer the globe becomes the greater the rate of evaporation will be, and therefore the greater the accumulation of atmospheric water vapor.

The best evidence we have to date indicates that we must keep temperature rises to less than 2 degrees Celsius in order to avoid these feedback loops. The emissions that have accumulated thus far have not yet had their full impact on global temperature. This puts us perilously close to this limit even if we dramatically reduce our output from this point forward.

Peak Oil

Our economy has become dependent on cheap energy from oil, but there is only so much easy-to-pump oil in the world. As oil production peaks (i.e., reaches its all-time historic high) and then declines, the price of oil rises. More wars may be fought to secure access to the shrinking supplies that remain. These factors have the potential to seriously undermine our economy and bring additional violence and suffering to the world - unless we can free ourselves from oil dependence in time.

One of the most challenging things about peak oil is that it's very difficult to find a replacement for oil, especially for powering transportation. Oil has been an amazingly cheap, efficient, and portable source of energy. There is certainly a future role for new clean energy technologies, but it is unrealistic to assume that the many services now provided by oil can be fully replaced. It's ironic that our society is grappling with climate change and peak oil at the same time. Peak oil endangers consumer lifestyles, and climate change endangers most living things.

Water



Food



Global Impacts - Strained Global Water Resources

Many parts of the globe depend on melting mountain snowpack and glaciers for year-round water supplies. Warming temperatures mean that more of this precipitation falls as rain, instead of snow, causing cycles of floods and droughts. This is likely to create even more competition for water between farmers, residents, and commercial uses. Already droughts in productive agricultural areas have caused food prices to rise.

As water becomes scarcer, competition for it could drive increased violence around the world.

Global Impacts - Volatile food supplies

Droughts and floods are likely to endanger crops and food supplies in various parts of the world. In addition, demand for biofuels made out of food crops (such as corn-based ethanol) drives up food prices, taking food from the hungry to power vehicles instead.

Increasing demand for biofuels results in competition for farmland between food and fuel production. A World Bank study has estimated that corn prices rose by over 60 percent from 2005 to 2007, largely because of the U.S. ethanol program combined with other market forces.

Peak oil will also take a toll on food production. The U.S. currently uses seven units of fossil fuel energy to produce just one unit of food energy.

Economic Volatility



Conflict Over Resources



Peak Oil and Global Economic Volatility

As the price of oil rises, industries that use a lot of energy (such as transportation) are likely to see their costs rise, and will pass them on to consumers. This is one reason why rising oil prices cause inflation, economic recession, and unemployment around the world.

Increased conflict over key natural resources

An unfortunate likely impact of declining availability of water, energy, and food supplies is increased conflict within and between nations for these resources. We are already familiar with the impact of oil wars in Iraq. Already global conflict in areas such as Israel and Palestine are exacerbated by competition for water.

Strained Ecosystems



Droughts and Floods

in California



Strained Ecosystems

Some plants and animals may not be able to adapt quickly enough to a changing climate, disrupting the complex web of relationships that make up ecosystems. Scientists estimate that between 15% and 37% of all species on the planet may go extinct by 2050 due to climate change.

For example, warming oceans may be a factor in the recent decrease of wild California salmon, impacting the fishing industry and our food supplies.

Bay Area Impacts - Droughts and Floods

Much of the Bay Area receives water supplies come from rivers that are fed by the snowpack in the Sierra Nevada Mountains. This means that snow that falls on the Sierras basically acts as a reservoir, slowly releasing the water into rivers throughout the spring and summer. As our state gets warmer, more of this water falls in the form of rain rather than snow in the mountains, causing intense floods in the winter and spring and droughts in the summer and fall. Lack of water for irrigation is already affecting California's farmers.

Increases in the price of water have a disproportionate impact on the poor. California households in the lowest income bracket spend three times as much of their income for water than those in the highest income bracket.

Heat Waves

In California



Wildfires

In California



Bay Area Impacts - Heat Waves

As our state heats up, even the temperate Bay Area will suffer from more extremely hot days that endanger the health of the vulnerable -- and increase demand for air-conditioning at the same time that we need to conserve energy. Hot days can also increase health risks for those with asthma or heart disease.

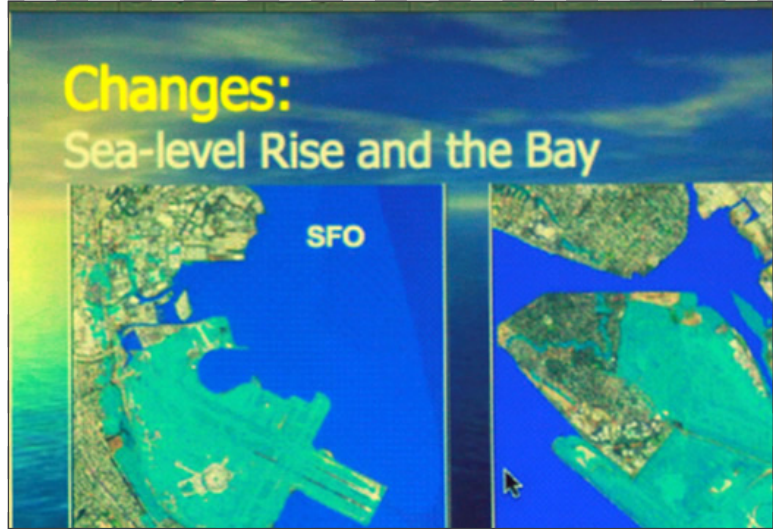
In a study on nine California counties from May through September of 1999-2003, researchers found that for every 10°F increase in temperature, there is a 2.6% increase in cardiovascular deaths. The risk for African Americans was higher

Bay Area Impacts - Wild Fires

Increased incidences of droughts and heat waves contribute to more wildfires as well, endangering habitat and homes in rural and suburban parts of the Bay Area as well as air quality for miles around. This also affects those who suffer from asthma.

Sea Level Rise

In the Bay Area



Bay Area Impacts - Sea Level Rise

Homes, roads, factories, airports, train tracks, and other infrastructure located along the bay or the ocean may be in danger of flooding. No one knows for sure how much sea levels will rise; estimates range widely from a few inches to as much as 10 feet.

However, given that some of the region's major infrastructure such as San Francisco and Oakland airports and communities such as Alviso, Foster City, and Corte Madera are very close to sea level, even relatively small increases in sea level could have major impacts on the region.