

# Preparations and policies for petrocollapse and climate distortion

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Welcome to Plan B

The determination to explore and act on the impacts of peak oil and climate change is a big start toward lessening damage to countless lives and our fragile ecosystem. There are some key areas to concentrate on, notably food supply and transport. But one mustn't think this is all up to government officials. Individuals and households, and then neighborhood communities, need to take matters into their hands now to prepare for major upheaval ahead and to build a sustainable society.

Without going into the rationale for peak oil and collapse, it may be enough to assume that there is only one exit from today's gross overdependence on petroleum and the supply crisis about to hit: "demand-destruction."

It is too late for minor reforms that have paradoxically ended up adding to growth in consumption because of the effects of efficiencies broadly applied. Most peak oil analysts worth their salt hope that the "technofix" is getting to be a less and less populated refuge for those who think about what might replace petroleum.

If petroleum is the opiate of the people, as Karl Marx said about religion, what will replace the current opiate? Perhaps nothing but raw nature. Another way of putting it is that the "religion" of science and technology, along with modern society itself, may become history. If that is true, there is no point imagining a high-tech tomorrow where modern living becomes somehow refined by new ways of exploiting resources. Rather, it is time to deal with the here and now before the present becomes no more than a past serving as a stone around our necks. And why not start building better lives now?

Land use and community gardening

Pollution-free zones in urban areas need to be identified and created for the purpose of readying land to support a de-petrolized public with local food and drinkable water. Readily available land includes vacant lots, parks and school yards. None of those areas produce food, and may not even be maximized for assimilating rain water. Storm water run off is not only a waste, but is a system-problem that uses resources.

More parks need to be created. Instead of leaving it to the bureaucrats, who are loyal not to people but to institutions including militarized police, citizens need to converge to address a need. Then, after a park is created, it must be defended until the local culture has sufficiently changed. People's Park in Berkeley was created in 1969 by protesters objecting to the paving of a park. After a victory by the people, the local university as owner of the land put up a fence to keep people out and to consolidate plans for development such as sports facilities. Citizens had to convene again to tear down the fence. Twenty years later another attempt was made by the university to exclude people and build, and demonstrators had to get busy again and protect their park.

Today People's Park is almost a model for any U.S. city: food is grown, there is a diversity of plant species as well as a diversity of people some of whom live there (in the middle of the night the sleepers stay on the sidewalk where the police do not disturb them). This July Fourth I planted corn and beans there with friends, and noted the healthy state of fruit trees, berry bushes, vegetables, and herbs.

In the near future, municipal running water may be rare, so creeks currently under pavement need to be daylighted and water used for growing food. Unfortunately, the prime designer for urban creek daylighting and eco-city rezoning, Richard "The Depaving Guru" Register, has made little headway building consensus in Berkeley despite years of solid efforts, so he moved to Oakland.

Towns with hot real estate have few vacant lots. Due to university-student rental-income pressures in places such as Berkeley, yards are rather small. Very few single-family dwellings here have front yards large enough for more than one or two small fruit trees. A more advanced model of urban food farming is Havana, Cuba, where thousands of urban gardens and farms provide the two million population with one third of their food -- with very little petroleum for fuels and chemicals. Yet, the U.S. still demonizes Cuba and outlaws visiting there without certain permits.

Depaving is a vast opportunity to free up land. There is more paved land in the U.S than officially designated wilderness. There is unused pavement even with the vast numbers of unnecessary motor vehicles today. Driveways and parking lots are easiest to remove. Tearing up roads is harder because of the deeper and harder road bed. However, trees can still be planted in roads and former roads. Fruit and nut bearing trees should be planted everywhere possible, without removing many non-food trees.

In suburbia the many large lawns -- and golf courses -- present an opportunity for food production. Applying lawn chemicals made by the petroleum industry should stop right away. Hatred for the non-uniformity of yellow dandelion

flowers, for example, on the idealized green patch of biological pavement, must give way to appreciating eating the nutritious dandelion leaves and the medicinal roots. Running water will be possibly rare in the post-petroleum world, so rain catchment must be done to get through dry growing season.

### Water management

Roofs are like pavement: impervious for the purpose of permeable land needed for rain to soak in and recharge water tables. So, rooftop gardens are advisable if water is available. Harvesting rainwater is important, but it should not be done with asphalt-shingle roofing or with plastic tanks and pipe.

Water is almost synonymous with energy when the two apparently different sectors are dependent on one another. David Pimentel, professor at College of Agriculture and Life Sciences in Cornell University, sent Culture Change his and his colleagues' October 2004 study "Water Resources: Agricultural and Environmental Issues":

"The increasing demands placed on the global water supply threaten biodiversity and the supply of water for food production and other vital human needs. Water shortages already exist in many regions, with more than one billion people without adequate drinking water. In addition, 90% of the infectious diseases in developing countries are transmitted from polluted water. Agriculture consumes about 70% of fresh water worldwide; for example, approximately 1000 liters (L) of water are required to produce 1 kilogram (kg) of cereal grain, and 43,000 L to produce 1 kg of beef. New water supplies are likely to result from conservation, recycling, and improved water-use efficiency rather than from large development projects." (the Summary)

Massive diet change is necessary. Will the last attempts at governing the disappearing petro-economy be draconian, so as to ban beef consumption, for example, to save water and energy? Cows produce great quantities of methane gas that is changing the climate, so perhaps a new policy will be to consume the herds toward a minimum population.

Sewage can be biologically treated so as to use less chlorine and to create wildlife habitat, as the Arcata, California treatment system does. The site on Humboldt Bay is a former landfill, made into a huge recreation area frequented by tourists and joggers. It is a place for people to camp but they are relentlessly ejected even if they have no home and are car-less. Nevertheless, the town's motto is "Flush with pride" because of the success of the biological sewage treatment and the associated marsh bird sanctuary since the 1970s. However, compostable material and greywater down the toilet is not sustainable or sane when local food production is most important. Additionally, other materials put down drains and toilets may be consumer products that the future will see little of.

Stormwater, with much runoff from vehicle drippings and lawn chemicals, is not treated at the Arcata system. The bay's contamination discourages some folk to forego eating the famous oysters and crabs of the bay. The bay is heavily silted, and therefore dredged with petroleum for the sake of neighboring Eureka's port, because of clearcutting of ancient and second-growth forests and logging-roads' erosion. Thus, sailing ships of yore with deep drafts can no longer come to Arcata or sail up Humboldt County's rivers that once ran deep and clear with salmon so numerous the rivers appeared solid.

As for landfills, they will not be added to in future as much as scavenged and mined for usable material. Methane should be captured at landfills and used for energy because methane is a greenhouse gas far more powerful than carbon dioxide.

[For more on water issues, please see Culture Change Letter #101, Petrocollapse: Can you live without indoor running water?]

### Plan B package

Among general policies for a "Plan B" package for solidarity and survival, traffic calming is one of those measures that takes care of more than one critical problem. When we think of slowing down traffic, some interpret that as a way to waste less fuel and make streets safer. But the other reason we need to make it a priority immediately is to reinforce the notion of taking valuable space back that was lost to oil-wasting car culture.

As many yards are too small for serious food production, road space will be seen as necessary even if many driveways and lawns become food production zones. Only a few people today realize the need, although many remember Victory Gardens of World War II. One method to create vast gardening space is an ingenious plan to move whole blocks of houses outward into the streets so that the foundations are on the useless but mostly flat and semi-strong pavement. The houses would have to be anchored to the new foundation, or the new foundation anchored to the pavement. The empty land left uncovered would be gardening area. First, any contamination such as lead or pesticide would need to be removed to non-food/water supply locations. Houses with basements need not be moved.

The house-moving depaving concept is the brainchild of Jason Meggs, transportation activist and planner in Berkeley, California. The Plan B Project is his greater context for such post-petroleum design and survival. Veteran bicycling advocate Meggs manages the Berkeley Bike Station in downtown Berkeley in a subway station.

Cities and counties have many laws and codes that prevent sustainable-living systems, such as grey-water collection (shower and sink drainage) and composting toilets. Parking is heretofore provided and in fact mandated just as an actual sacred cow is allowed space. Remodeling houses for lowered energy consumption must not be stymied by city codes in future, so we may as well prepare now a set of "Plan B" alterations in laws and zoning. Meggs explains, "The Patriot Act was prepared in advance and adopted instantly when the opportunity and timing suddenly came. Given the resistance to adopting sustainable policies at all levels of government, a comprehensive package of recommendations, ready for adoption, should be prepared as a resource to those motivated by the crises to come." [To learn more and become involved, contact Mr. Meggs through Culture Change or his website link below.]

## Transportation

For transportation, we distinguish between what we have today compared to what we may have tomorrow. Today we have vast over-travel, often for trivial purposes that also involve terrible inefficiencies. One person per car is as polluting as the worst form of motorized travel, the jet -- depending on the kind of car and how many people in the jet. We also see millions of people living far from jobs. Of less consideration is the kind of car used. An electric car fleet would actually generate more carbon dioxide than the current internal combustion fleet, due to fossil fueling the electric grid and the loss of energy over transmission lines. [Source: Environmental Forecasting Institute, Heidelberg, Germany]

Essential freight can be accomplished without today's massive truck fleet, with bike trailers or bike carts as Pedal Power Produce demonstrated for seven years in Humboldt County, California. The project showed that no fossil fuel was required, and offered promise of future potential for an age when large roads may no longer be maintained for heavy trucks relying on refrigeration.

It is too late to attempt a more efficient train and bus system, for the lead time and the non-renewable energy required. And, once petrocollapse hits -- leveling the economy, thereby creating a permanent shortage -- there will not be the energy and other resources to build large new transportation systems. There may not be energy and other resources to build even smaller-scale power systems of any kind. The future is unknown, but an honest picture is being attempted from the signs people are seeing regarding energy availability and the ability of large populations to be sustained when the costs of petroleum dependence are finally paid.

So much has been squandered: rail uses one-eighth the energy that trucks use, and generate about the same ratio of global-warming pollution. Now we may find it is too late to change the whole transportation system, especially with the corruption of government by entrenched interests. Past essays and past years of work fighting road construction can be accessed in this Culture Change website's Archive.

Individually and on the small community level, the picture looks far better. Not only will walking still work, but there are many bicycles that aren't even being used. Minor repairs and scavenging are already an art form to keep many low income people rolling -- as they deprive the oil companies and the global corporate economy of blood money. Cars will be scavenged and a relative few will be running on biofuels. Other forms of transport will be some trains converted to steam, horses, sailboats, and hand/rope/animal powered river barges. Airplanes will pretty much be out of fuel.

Sail Transport Network is a concept designed to establish truly renewable-energy trade and transportation for coastal and island communities. Quality rather than quantity would rule, as we picture non-polluting voyages and ferrying for cultural exchange as well as trade items. Coffee from Hawaii can be exchanged for some value-added product of the mainland. In addition to sailboats, canoes and kayaks would be in service in the post petroleum world. Better to start now and save some tall trees for masts instead of for building urban sprawl.

If this all sounds bleak or full of doom and gloom, remember that modern war will no longer be possible in a low-energy world. Fewer expeditions to other countries to invade and kill will take place due to lack of energy. Jets dropping bombs from on high kill civilians much more than ground forces, at least in the 20th century and today.

## Householding

Living without a refrigerator is not only possible but convenient. Tips on how to do so and to enjoy good food while saving energy, or in future getting by with no available energy, should be shared through community service groups and local media. Sprouting grains, seeds and beans are an excellent practice for non-cooking of meals in a no-fuel/, no-electricity situation.

As food supply has been a major concern when petroleum supply vulnerability is considered, encouraging plant and tree growth is essential. Apart from planting and somehow watering, plants need to be fed compost and other fertilizer. Just

because people live in an apartment and have no garden does not mean they should waste vegetable material good for compost.

It is clear to the City of San Francisco's Department of Environment that compost is too valuable to have plastic trash in it. An ordinance to collect a modest bag-fee at the supermarket check-out level has been readied for adoption. Not only is plastic not part of viable soil-building biomass, and does not break down (except into smaller pieces), plastic -- being almost entirely petroleum -- and its additives are toxic. So, bag-fee ordinances will be adopted by other cities bound to emulate San Francisco and various nations that have bag fees, as a baby step toward dealing with petroleum wastes and improving compost quality. (Please contact Culture Change regarding bag-fee activism.)

One important step toward neighborhood/community self reliance for food is to individually save urine for collection for fertilizer for local food gardens -- even if someone does not have an outdoor,composting toilet. Unsanitary? Well, this situation may not be desirable but people have known the need to deal with a land-use/energy crisis was coming, especially since the 1960s.

Honey bees need to be appreciated even when their hives are near homes. Part of Plan B and any notion of sustainable living is to encourage pollinators as climate change takes its toll. The taking of honey and wax may also be essential for a struggling human community. In this light, landlords and others need to be disempowered in removing hives near buildings.

These kinds of solutions for survival in solidarity should now be before your local government. It is not true that public funds don't exist for dealing with the realities of peak oil and climate change. One source of funds is to take road building funds and stop spending on projects that only aggravate oil shortage. Also, the U.S. military budget could be lessened for creating funds for petrocollapse preparation. Sort of like the Citizen Petroleum Councils need to get started everywhere people are vulnerable to petrocollapse.

#### Getting in shape personally

Obesity is a threat to anyone's survival, not because obese people will appear mouthwatering to starving people, but because one needs to be "lean 'n mean" to cut the mustard as petrocollapse hit. There are able bodied adults by the millions who can't walk far or even use a bicycle because their bodies go downhill.

Although one may not be obese, one's poor physical condition is manifest in not being able to walk or bicycle more than a few city blocks. Therefore, a car is relied upon as a necessity, as it is for disabled people who are not wheel-chair bound. However, the dependence on the car is often the reason people got in poor condition in the first place, creating the cyclical evil of damaging health and creating car dependence.

To improve health, yoga, exercise, meditation, organic food, exclusion of plastic contamination, fasting, and lessening one's stress from machines are all advisable. These generate a psychological lift and lessen medical costs, allowing us to deal with the formidable adventure of Petrocollapse ahead.

To get through the transition to a new age, one must rethink the idea of having money or other material wealth to take care of all problems. This is true on the individual and societal levels. Not only may wealth be appropriated and property reapportioned after petrocollapse, if the particular form of wealth's value still remains, but money has made people soft. The softness has not been of the heart as in compassion, but as in decadence and poor muscle tone. The poor folks operating today on little or no money who are scraping by in the heartless privatized fortress known as the American city are tougher and better prepared than Mr. Amerika and his cherished Supermarket Dream and Liquor Store Supreme. Therefore, the moneyed classes should prepare now for petrocollapse and sustainable living by greatly increasing their charity immediately, for they may be remembered and make new friends who will matter much more than wealth.

As we contemplate the necessary changes that society faces because of the imminent disappearance of cheap, abundant energy, we see that government and corporations have become irresponsibly useless and even the main problem. So, reforms and policy change are not to be relied upon if they are slow and only incremental. Plan B should be implemented on an urgent schedule by individuals so as to push change around them. But, even if one does not wish to take part in carrying out the kinds of changes necessary due to the misguided, backward positions of the status-quo establishment, at least everyone may be able to agree that the changes ahead are going to involve individuals as part of a life-style transformation. There will be a cultural revolution as social change accelerates to deal with shortage, violence, and finally a cooperative spirit to eke out our subsistence from a degraded landscape and polluted waters around the world.

#### Housing options and lifestyles

Cooperative housing, whether a kind of commune or the co-housing model, is almost an untapped resource. It works even in the extremely costly housing market of today. Cooperative housing also protects against the bursting of the "housing bubble" whereby home values are expected to plummet. Many mortgages will be foreclosed upon when

changes in the economy prevent the astronomical monthly payments. Meanwhile, people in cooperative housing have low costs built in to their arrangements and rights that are affirmed legally.

The concept of sharing is foreign to the typical consumer trying to achieve material security. But given a choice between being homeless and living with "strangers" without the right to be entirely alone or have only preferred family members in the home, people opt for the safety of cooperation and mutual aid. However, finding the cooperative households is not easy, and there are many forms of organization. The most secure is a land trust with co-ownership of the house, although a nonprofit corporation may be the owner. The way costs for joining are kept down is that when one leaves the group one may not take advantage of higher values on the market so as to make a windfall profit.

Co-housing is a grouping of residents with their own houses or residential units that share a common space and other facilities such as a dining area. A sense of community and knowing and trusting one's immediate neighbors adds to the experience. In practice, co-housing has tended to be more expensive than typical housing due to safer materials used for construction and due to paying for the common space.

I stayed at three different kinds of cooperative houses in Berkeley in May 2005. I appreciated them all and felt hopeful of possibly finding a home with togetherness myself in such an arrangement. The much lower cost of housing and the sharing of food costs, and other benefits, made me wonder why more people were not rushing to form such arrangements so that they can afford a home long term. The answer may lie in the answer to why people would lay out tens of thousands of dollars for a new vehicle when the money could be so much better spent, or when the time to earn such money could be better utilized.

If tenants, for example, are about to lose their homes for whatever reason, it may be prudent to form a self-defense pact with co-tenants and neighbors so that authorities cannot throw families out into the street. (When the USSR collapsed, its citizens were not displaced by landlords because there weren't any landlords; everyone was able to stay put.) Such a mutual defense arrangement is harder with individual houses when neighbors hardly know each other, as is so common in the U.S. On less critical issues, residents also need to stand up for themselves to support Plan B type initiatives, whether planting fruit trees on streets where cars might endure rotten fruit droppings, or honeybee hives needing to be allowed regardless of landlord or others' objections.

#### Doing new things with your neighbors

The more you know your neighbors, the more you will trust them and they you. Skills and materials are shared along with labor for essential projects. During hurricanes in Florida, radio talk show host Mike Gault experienced unprecedented cooperation to get jobs done on his street having to do with storm-felled trees, for example. People got to know each other and enjoyed it, as progress was made in solving immediate problems. However, as the crisis faded, the relationships dissolved to waving at one other when someone would drive by in a car.

When petrocollapse hits, not only will the crisis not be localized, it will be permanent. Therefore, neighborhood relationships and arrangements will tend toward becoming firm. A tribal model will form and take hold.

Along the way, people will regard land use and energy practices as having little to do with going shopping for anything needed. Sharing appliances, if any can still work, will be the future of kitchen/washing functioning. Pedal-power machines have been rigged up to power items such as blenders, washing machines, video players, and drill presses [Humboldt State University's Campus Center for Appropriate Technology, and Library Bikes, both in Arcata, California].

This survey is incomplete for its omission of indigenous traditional ways. Native knowledge and wisdom should be of prime interest to students of sustainability. The main feature of culture change will be in daily activities centering around mutual aid, working the land, and building community -- and not shopping, being passively entertained through electronics, and jetting and driving around for business and pleasure.

Sustainable living and self-reliance have been enjoying more popular interest, as folks from all walks of life notice a growing tension caused by overpopulation and polluting. However, most people also realize there are too many people to "go back to the land" and almost everyone lacks skills to survive in a rural environment without the trappings of civilization. This is being remedied by a few people who have maintained or rediscovered traditional skills and values. There is no exclusive club for the awakened. Practitioners of sustainability generally stand ready with open arms, especially for those willing to learn and help others.

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#### References and links:

Plan B Project (Jason Meggs):  
<http://www.planbproject.org/>

Citizen Petroleum Councils (Culture Change Letter #11):

<http://www.culturechange.org/e-letter-11cont.html>

David Pimentel's and his colleagues' study in BioScience: "Water Resources: Agricultural and Environmental Issues", Bioscience journal, published by American Institute of Biological Sciences, Vol. 54 No. 10 - Write to Agriculture and Life Sciences, Cornell University, Ithaca, NY 14853 USA.

Relocalization: Post Carbon Institute

From the Wilderness coverage of Petrocollapse: Can you live without indoor running water? (Culture Change Letter # 101):

[http://fromthewilderness.com/free/ww3/070105\\_world\\_stories.shtml#2](http://fromthewilderness.com/free/ww3/070105_world_stories.shtml#2)

Richard Register's How to Depave the World, From Auto-Free Times issue 10:

<http://www.culturechange.org/issue10/rregister.html>

Pedal Power Produce:

<http://www.culturechange.org/pedalpowerproduce.html>

Sail Transport Network (Culture Change project on back burner):

[http://www.culturechange.org/sail\\_transport\\_network.html](http://www.culturechange.org/sail_transport_network.html)

The Cuba Diet, by Bill McKibben: <http://harpers.org/TheCubaDiet.html>>

<http://harpers.org/TheCubaDiet.html>

Tools for Sustainability (including "Liquid Gold" article on urine as a resource, on Culture Change webpages):

<http://culturechange.org/ToolsforSust.html>

Library Bikes: Culture Change story at

<http://www.culturechange.org/library-bikes.html>

Library Bikes Arcata website:

<http://www.arcata.com/greenbikes/>

Center for Appropriate Transport:

<http://www.efn.org/~cat/>

Ecocity Builders and Richard Register, founder and artist: <http://ecocitybuilders.org/>

Food Not Lawns:

<http://www.foodnotlawns.com/>

Food Not Lawns of Arcata:

[http://www.culturechange.org/food\\_not\\_lawns.html](http://www.culturechange.org/food_not_lawns.html)

The Machine versus Food Not Lawns (Culture Change Letter #21):

<http://www.culturechange.org/e-letter-21cont.html>