

March 13, 2006

Policy Committee, Commission on the Environment

Agenda Item: Discussion on Peak Oil, Cal Broomhead

- 1 "Peak Oil" refers to the Hubbert peak theory that concerns the long-term rate of conventional petroleum and other fossil fuel extraction and depletion. The theory was accurate in predicting the 1971 peak of domestic oil supply.
- 2 Global Peak Oil is now predicted for the near future and will have an unknown but significant impact on San Francisco.
- 3 Strategies for reducing the impact of Peak Oil overlap extensively with strategies in CCSF's Climate Action Plan, Electricity Resource Plan and Sustainability Plan.
- 4 Some proposed strategies for Peak Oil are not currently included in those plans, yet would compliment their activities.
- 5 Some strategies for Peak Oil are not currently managed by any CCSF department, i.e., re-localization of food and other resources?

Sustainability Plan Objectives

Energy, Climate Change and Ozone Depletion

- Every building is a renewable energy provider (that is, it is equipped with domestic hot water and photovoltaic, solar system).
- The energy supply system is reliable even in times of natural or economic disaster.
- Photovoltaic, wind and other alternative fuels for back up of electrical systems have been installed in critical buildings.
- There is local democratic control of energy policy, where appropriate.

Food and Agriculture

- Many cities in developing countries still continue to produce significant quantities of their own food within a 25-mile circle of the city center.
- The city cannot live without food.
- Access and resources are provided to all San Francisco residents to grow food, to purchase regionally, sustainable grown food, and to participate in food policy development.
- 100% of San Francisco schools include a sustainable food/agricultural curriculum component at every grade level.
- To ensure access by all people at all times to enough nutritious, affordable, safe and culturally diverse food for an active, healthy life.
- All corner stores carry a wide variety of nutritious, affordable and safe food.
- Produce purchased by government, institutions, schools, restaurants, and all food related establishments is all organically grown: 50% regionally produced, and at least 45% from other California sources.
- All new publicly funded construction has rooftop and/or ground level gardening space.
- All new private multi-unit residential construction has gardening space.
- Home food production, including small-animal husbandry, has quadrupled.

- City orchards and backyard fruit trees produce a significant proportion of fruit for the City's consumption.
- City beehives produce 5% of the honey consumed in San Francisco.
- All vacant land has become utilized for appropriate ecological purposes, including food production, wildlife and native plant habitat, or Christmas-tree or other forestry products farms,

Human Health

- San Francisco parks and recreational facilities are safe and attractive.

Parks, Open Spaces and Streetscapes

- A neighborhood park or open space is within a ten-minute walk of every home.
- Existing pedestrian, bike and public transportation linkage to and within city-wide parks have been improved to increase accessibility to under-served areas.

Solid Waste

- *Per-capita* waste generation has been reduced by 100%.
- *All San Francisco businesses and institutions have eliminated solid waste generation.*
- *The number, use, and awareness of repair facilities has increased.*

Transportation

- 100% of trips into and within the City are accommodated by means other than single-occupancy vehicles.
- All transit vehicles operating within the City are powered by renewable energy.
- All goods are delivered by renewable energy vehicles.
- All regional transit connections are safe, comfortable, convenient and timely.
- All trips in the City can be made by walking, bicycling and transit; the city is so beautiful and clean that such trips are a joy.
- The pleasure of the walking experience between origins, destinations, and transit stops has improved.

Water and Wastewater

- 100% of the City's wastewater is recycled for reuse.
- To restore and enhance groundwater supply and improve the water quality of San Francisco aquifers.
- To achieve long-term enhancement and restoration of local marine and freshwater habitats.

Economy and Economic Development

- The use of full-cost pricing (an analysis of the costs involved in the full cycle of a product's existence, from the pollution caused in production to the cost of disposal) in policy, production, and consumer decision-making.
- Local business employs San Francisco residents as a priority.

- Neighborhood-level services are available to support sustainable economic community and neighborhood development throughout the City. Labor and capital for these services are provided by local residents where possible.
- Community-based planning *is used in every neighborhood of the City (with overview for the Planning Commission).*
- A post-disaster earthquake land-use and redevelopment plan is in effect that specifies appropriate reuse for devastated areas and contains an effective implementing mechanism for controlling rebuilding.
- To distribute sustainable economic activity and housing throughout San Francisco's neighborhoods.
- To provide the public with the skills and knowledge necessary for creating and maintaining a sustainable economy.
- *Sustainability resource centers* have been established in each neighborhood.

Environmental Justice

- Both the marginalized and the power communities in San Francisco share in the responsibility for preserving San Francisco's ecological and social environment.
- Residents of lower-income communities of color have access to technology and resources to participate in sustainability programs.
- Long term strategies that integrate activities of business, city government, and community groups with the goals of social, economic and environmental sustainability have been established.

Municipal Expenditures

- A commitment of funding for long-term maintenance of facilities or structures has been incorporated in all requests for loans, grants or bond financing for capital improvements.
- A long-term budgeting policy promoting multi-year funding support and life cycle costing (full-cost accounting) for capital expenditures has been established.
- A full-cost accounting and resource efficiency procurement system, which requires an evaluation of capital, maintenance and disposal cost, has been established.

Public Information and Education

- All environmental programs and activities are coordinated through a centralized telephone number and facility, providing not only access to government programs, but facilitating networking between organizations and individuals.
- All San Francisco schools give students skills and experience related to sustainability.

Risk Management

- The general public is educated and organized for appropriate emergency response.
- EARTHQUAKES: To effectively operate infrastructure (water, gas, power, transportation, etc.) in areas that may be isolated during earthquakes.
- TOXIC RELEASES: To limit or reduce the public health danger, environmental damage, and economic impact from hazardous materials incidents. (Hazardous materials include chemical, physical [including radiological], and biological agents).

Resources:

Post Carbon Institute

<http://www.postcarbon.org>

Association for the Study of Peak Oil USA

<http://Aspo-usa.com>

Draft

San Francisco's economic vitality is intimately tied to petroleum and its related product, natural gas. These two energy sources underpin every aspect of modern life: they fuel our vehicles and electric plants and are essential for producing everything from fertilizers to pharmaceuticals. But petroleum is ceasing to be a cheap and plentiful resource. Supply lines are precarious and global production is projected to decline, with ramifications that could undermine the foundations of our well-being if we head into this transition unprepared. Given that our existence as a functional city depends on access to the remaining petroleum - access that is determined by political and geological forces outside of local control - city government urgently needs to address this issue. We propose a meeting between representatives of our citizen's group, San Francisco Oil Awareness, and members of the Board of Supervisors to explore the possibilities for action.

Petroleum and natural gas play many essential roles in the everyday functioning of San Francisco. Petroleum-derived fuels move the people that drive the city's economy, move food and consumer goods into the city, truck solid waste out of the city, and power emergency vehicles. Half of all the electricity generated in California comes from natural gas-fired plants. Virtually every item we use every day requires petroleum at some point in its manufacture or distribution. Our food is typically grown using natural gas-derived fertilizers and petroleum-derived pesticides. Plastics, used in construction, medical technology, and every other aspect of life, are made from petroleum. City infrastructure such as roads and electric equipment all require petroleum products.

A shortage or drastic price increase at any point in the petroleum or natural gas chain would result in a severely impaired urban system. The complexity of a modern city such as San Francisco requires an uninterrupted supply of energy, as the electricity shortages of 2001 made clear. Over the last half-century, San Francisco has faced several petroleum interruptions owing to politics, war, or natural disaster. That we weathered the scarcity and looked to alternative sources is testament to San Francisco's resourcefulness. But each of these events was brief, after which petroleum and its products were again freely available. Today, however, the conditions are markedly different: owing to the geology of oil fields and past patterns of discovery and exploitation, the total global supply of petroleum will soon reach a peak and enter an inexorable decline—a well-understood geological phenomenon that the US experienced after 1970 and which is now affecting 60 countries worldwide. Petroleum is a finite resource, scarcity is inevitable, and technological fixes are inadequate at best.

As a 2005 U.S. Department of Energy-sponsored study¹ indicated, we will face an absolute shortage of liquid fuels if appropriate measures are not taken years, if not decades, in advance of the global peak in oil production. These measures have not been forthcoming at a national level despite the recognition of the coming transition. It is thus incumbent on San Francisco to consider its own response, to protect its economic vitality, its citizens' wellbeing, and its historic role as a dynamic leader in progressive action. San Francisco's citizens are increasingly aware of the challenges we face, and a growing number of us have organized to consider what the city can do. We propose a meeting in early February between representatives of San Francisco Oil Awareness and members of the Board of Supervisors to initiate engagement on this issue and discuss options for action.

¹ http://www.acus.org/docs/051007-Hirsch_World_Oil_Production.pdf

