

From Molecules to Movements



Public Health and the Green Economy

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Contents

Introduction.....	3
True Cost of Pollution: Health.....	5
Jobs vs. the Environment? Health is the Link.....	9
What is a Green Job Anyway?.....	9
Food and the Need for Green Jobs.....	11
Where We Live and the Need for Green Jobs	15
Policy Solutions: Green Chemistry and Green Jobs	18
Recommendations	22

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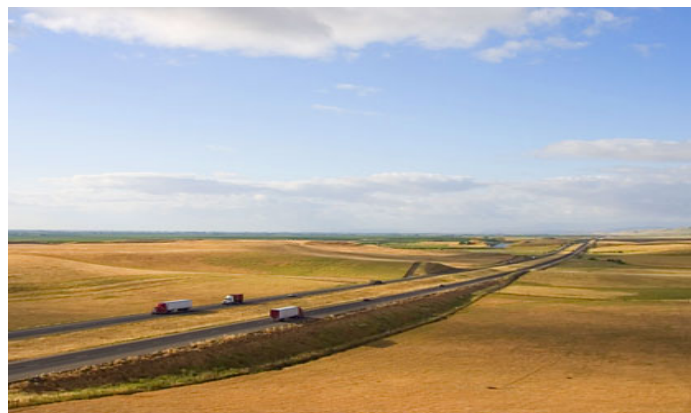
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Introduction



The Pico-Union neighborhood of Los Angeles is emblematic of many low-income communities of color throughout Los Angeles. Families here live in multi-unit dwellings that are often not up to building code, and as a result are infested with pests such as cockroaches. Not left with enough options, building owners or tenants “control” pests with highly neurotoxic pesticides that can affect the developing bodies of toddlers, and exacerbate asthma in children and adults alike.

California’s Central Valley is the fruit basket of our nation, but also shows us the constant inequities that exist within our current system of agriculture. The rates of children born with autism near farm fields are so high that a mother’s exposure to a certain type of pesticide called organochlorines in the womb is suspected to play a role.¹ While attempts to mitigate pesticide drift through buffer zones or other measures have had some success, communities or farmers still cannot control where these highly toxic chemicals end up.



In Pico-Union, parents often work two or three jobs. In the Central Valley, parents piece together long hours on multiple farms. None of these jobs are likely to have safe working conditions, offer health insurance, sick leave or any other benefits. Neither community has access to affordable, healthy food. Similarly, availability of less toxic products, such as BPA-free baby bottles or flame retardant-free nursing pillows, is minimal or nonexistent. Lacking information about health and safety, or lacking resources to buy less hazardous but more expensive products, keeps those safer items out of reach.

What do these stories have to do with the new green economy? Can the new green economy help families living in the Pico-Union neighborhood? Can it help the families living in the Central Valley?

¹Roberts et al. 2007. Environmental Health Perspectives. “Maternal Residence Near Agricultural Pesticide Applications and Autism Spectrum Disorders among Children in the California Central Valley.”
http://ehp03.niehs.nih.gov/article_fetchArticle.action?articleURI=info:doi/10.1289/ehp.10168.

Physicians for Social Responsibility-Los Angeles (PSR-LA) is a physician and health advocate membership organization that works at the intersections of health, the environment and social justice.

With a unique capacity to build relationships across seemingly disparate issues and groups, we find meaningful connections that help build a more robust environmental health movement. In our mission to protect health, we have been inspired and challenged to think about how policy change can connect to green jobs development and the reduction of toxic exposures in communities and workplaces.

In this concept paper, we set out to explore the question: **How can the new green economy reduce toxic exposures, improve access to safer alternatives, while offering more Californians a way out of poverty?**

***Other Key Questions
Guiding Development of
This Concept Paper:***

- 1. What are the barriers to low-income families benefitting from sustainable economic development?*
- 2. What type of state and federal policies can better address the health, economic and environmental needs of low-income communities and communities of color?*
- 3. What type of support is needed to ensure these policies are passed and then implemented?*

We interviewed experts in sustainable economic development and toxic use reduction, policymakers, and green business owners. This paper depicts innovative programs and businesses that have successfully brought low risk products to underserved communities, reduced exposure to toxic chemicals and increased jobs. Highlighting these innovators underscores the need to expand the current vision for the green economy. Expanding our vision for the green economy creates space for new voices to engage in the movement and policy dialogue.

We explore the interconnectedness within the green jobs, public health and toxic use reduction movements and identify policies that prevent harm to human health from toxic substances, while also promoting the new green economy.

The needs we identify, case studies we highlight, and recommendations we set forth, are meant to inspire advocates and policymakers to think more broadly about what a green job, or the new economy, mean. We hope that bringing together these concepts and stories will ensure that the new green economy offers non-toxic pathways out of poverty for more Californians.

True Cost of Pollution: Health

California has often been on the forefront of developing environmental policies that seek to address pollution of the water, air, soil and our neighborhoods. Despite the success of many of these policies and programs, many individuals and communities continue to suffer as a result of toxic chemical exposure in our daily lives.

The burden of disease suffered by children in California would be significantly less if we were to reduce toxins from our environments. In California, 240,000 cases of preventable childhood diseases, attributable to exposure to environmental chemicals, occurred in 2004. This has cost the state and the families of these children \$1.2 billion in direct and indirect costs.²

The tremendous rise in developmental disabilities such as autism rates in California may be a sign of early, chronic exposure to environmental toxins. The incidence of autism by age six in California has increased from fewer than nine in 10,000 for children born in 1990 to more than 44 in 10,000 for children born in 2000. That is a seven- to eight-fold increase in the number children born in California with autism since 1990.³

Another disease linked with exposure to environmental toxins is cancer.⁴ Last year alone over 140,000 Californians were diagnosed with some form of cancer. Children are the hardest hit – cancer kills more children from birth to age 14 than any other disease. Communities of color also suffer disproportionately from cancer. One example is the African American community: African American males have the highest overall cancer incidence and mortality rates, and African American women are more likely to die of cancer than women of any other ethnicity.⁵

Declining reproductive health offers yet an additional sign of continued exposure to environmental toxins. The vast majority of those affected by fertility problems, miscarriages, preterm births, and birth defects are low-income communities of color. Many of these communities are located in neighborhoods where polluting facilities and transportation corridors are in close proximity to schools, housing and other sensitive sites.

Everyday Chemicals

Nearly 90 percent of the 10,500 chemicals used in personal care products, including nail and hair care products, have not been assessed for safety.¹

²Green Chemistry-Cornerstone to a Sustainable California. 2009. Wilson, et. al. The Centers for Occupational and Environmental Health, University of California. <http://coeh.berkeley.edu/greenchemistry/briefing>.

³Scientific American. Bhu "New Study: Autism Linked to Environment." January 9, 2009. Accessed on July 28, 2010. <http://www.scientificamerican.com/article.cfm?id=autism-rise-driven-by-environment>.

⁴President's Cancer Panel. 2008 http://deainfo.nci.nih.gov/advisory/pcp/pcp08-09rpt/PCP_Report_08-09_508.pdf.

⁵ California, Cancer Facts and Figures, 2009. American Cancer Society and California Cancer Registry, California Department of Public Health. Accessed on January 23, 2009. <http://www.ccrca.org/PDF/ACS2009.pdf>.



Low birth weight is an example of how environmental pollution impacts reproductive health in a negative manner. Studies have begun to reveal connections between poor birth weight and environmental toxins. The number of babies born with low birth weight increased almost 1% from 1994-2004. Low and very low birth weight are rising among all racial and ethnic groups, but are rising faster and remain significantly higher among African Americans. African American women have the highest rate of premature births and are more likely to have infants with low and very low birth weight.⁶ The number of miscarriages and stillbirths has also increased significantly jumping above 16 per 1,000 pregnancies in the 1990s and 2000s, compared to 14 per 1,000 during the 1980s.

Along with birth weight and miscarriages, learning disabilities are also on the rise. Researchers and health professional are beginning to take a closer look at the relationship between exposure to chemicals in the womb and during childhood and their effect on children's health. The percent of students treated for a learning disability has increased from 8% in 1976 to close to 14% in 2005. Children of color suffer disproportionately from learning disabilities. In California's Salinas Valley exposure to organophosphate pesticides among the largely Latino farmworker population has been clearly linked to developmental problems such as attention deficient disorder.⁷

Declining worker health may be the most significant sign of a hazardous environment. In 2004, more than 200,000 California workers were diagnosed with diseases attributable to chemical exposures in the workplace. These diseases resulted in \$1.4 billion in both direct medical costs and indirect costs including lost wages and benefits.⁸ Migrant and seasonal farmworkers in California and throughout the United States are often the workers most exposed to toxic chemicals. Farmworkers are subjected to low levels of occupational exposure to chemicals in pesticides via direct spray, drift or the residue left by pesticides. Agricultural workers, who are largely Latino, suffer from the highest rates of chemically related illnesses of any worker group.⁹ According to a NIOSH study, the pesticide poisoning

⁶Rushing, Reece. July 2009. *Reproductive Roulette, Declining Reproductive Health, dangerous chemicals, and a New Way Forward*. Center for American Progress. Accessed on October 13, 2010.

⁷ Marks, AR; Harley, K; Bradman, A; Kogut, K; Barr, DB; Johnson, C; Calderon, N; Eskenazi, B. Organophosphate Pesticide Exposure and Attention in Young Mexican-American Children. *Environ Health Perspect*. Online: 19 August 2010

⁸*Green Chemistry-Cornerstone to a Sustainable California*. 2009. Wilson, et. al. The Centers for Occupational and Environmental Health, University of California. <http://coeh.berkeley.edu/greenchemistry/briefing>.

⁹U.S. Bureau of Labor statistics, 52 Fed. Reg. 16,050, 16,059 (1987)

incidence rate among U.S. agricultural workers is 39 times higher than the incidence rate found in all other industries combined.¹⁰

Nail salon workers are another worker group facing significant exposure to hazardous chemicals in their workplace. Nail salon workers are predominately Asian immigrants and are routinely exposed to nail care products containing chemicals that are toxic and potentially hazardous. Three chemicals often found in nail products have been identified as chemicals of high concern- toluene, formaldehyde and dibutyl phthalate. These “toxic trio” of chemicals have been linked to cancer, nervous system disorders and reproductive health problems.^{11,12, 13}

Hair salon workers face similar health concerns to the workers in the nail industry. The African American community is at particular risk of becoming exposed to hazardous chemicals in hair care products. Several studies have found higher rates of different types of cancer in hair salon workers. Hormone containing hair products have been linked to early puberty in African-American children. Hair dyes used by women of color contain known carcinogens, and have been associated with increased risks of bladder cancer in hair stylists. Hair dyes for home use may also increase risk of bladder cancer, and the same dyes may cause an increase in risk for pancreatic, lung and cervical cancer.¹⁴

One can see the health of Californians suffers from exposure to hazardous toxins found in the environment. Our health demands that we do a better “job” of promoting and making available safer alternatives to all communities-alternatives that reduce exposure to hazardous chemicals while also creating sustainable jobs.

As health advocates we believe policymakers can and should be thinking more broadly about what a green, sustainable job or economy means and how it can begin addressing the above health disparities.



¹⁰ Calvert, GM, J Karnik, L Mehler, J Beckman, B Morrissey, J Sievert, R Barrett, M Lackovic, L Mabee, A Schwartz, Y Mitchell, and S Moraga-McHaley. 2008. Acute Pesticide Poisoning Among Agricultural Workers in the United States, 1998–2005. *Am J NDUST MED*: 51:883–898.

¹¹HESIS (2005) “Toluene Fact Sheet.” Hazard Evaluation System and Information Service. California Department of Health Services. Available at: www.dhs.ca.gov/ohb/HESIS/toluene.htm.

¹² . OSHA (2002) “Formaldehyde Fact Sheet”. Occupational Safety and Health Administration. Available at: www.osha.gov/OshDoc/data_General_Facts/formaldehyde-factsheet.pdf.

¹³Kwapniewski R. et. al. (2008) Occupational exposure to dibutyl phthalate among manicurists. *Journal of Occupational and Environmental Medicine*, June 2008: 50 (6): 705-11.

¹⁴Environmental Finance Center. *African American Healthy Hair Care Report*. Accessed on October 13, 2010.

<http://www.efc9.org/projects/index.htm>



Name: Pestec, a pest control company

Problems Addressed:

- Toxic pesticide use in urban settings ineffective, costly, and dangerous for health of workers and community
- Lack of governmental and other support for start-up green businesses, particularly those led by and based in communities of color

Pestec, a pest control company, underscores the vision of a sustainable economy that has room for new voices and greener, healthier approaches. It is an award winning company that employs integrated pest management strategies (IPM)¹ to control pests in residential, commercial and municipal buildings throughout the San Francisco Bay Area.

Pestec was started by Luis Agurto in the mid-1980s after Agurto became frustrated by the pest control approaches used by the company he was working for. These approaches relied primarily on toxic pesticide application to manage pests in buildings, and were not only ineffective, but also costly. Agurto founded Pestec because he wanted to put his experience and knowledge of safer, less toxic, pest control gained in his native Nicaragua to use. Pestec practices IPM methods in all of their contracts.

“We went to IPM because we saw it as an opportunity to remain effective but also to reduce liability,” states Luis Agurto, Sr. founder of Pestec. With IPM’s use of pest behavior, monitoring and trapping practices, it reduces exposure to toxic pesticides for building tenants and for pest control operators.

The city and county of San Francisco’s backing of IPM, particularly in its start up phase in the late 1980s, was integral to the success and growth of IPM services in the bay area. The green purchasing consumer voices in San Francisco passed a city ordinance requiring IPM services in all city buildings and parks, which promoted and drove innovation of green pest control services. Pestec began servicing city buildings and utilized this income stream to grow their business.

San Francisco’s Department of the Environment became a champion of IPM services which assisted area businesses in becoming leaders in this field.

Right: Luis Agurto Sr. and sons.



Jobs vs. the Environment? Health is the Link

Too often, policy discussions are consumed by arguments that pit jobs vs. the environment. Unfortunately, this way of thinking will not solve the complex problems our communities and economy face today.

We strongly believe that if we expand our vision for what a green job is – to not only encompass the energy sector, but manufacturing, agriculture, and other sectors – we can increase the number of jobs while reducing exposure to toxic chemicals. The green chemistry approach, along with smarter economic policies, can help take us to this healthier and more successful green economy.

In looking for these solutions, we find a common link: health. What do individuals require to be healthy, and how do we define health? One must consider the economic means to support oneself and family, including healthcare needs – a good job. One must also consider the ability to live free of toxic exposures that may lead to acute or chronic disease – a clean home, work, and school environment, including access to safe products. As described, solving the complex health and environmental problems of our day are inextricably linked to strengthening local economies.

California’s people and natural resources – both diverse and enormously productive – are hobbled by the current materials economy that relies on unsustainable extraction, production and disposal practices. Maximizing our human and natural resources will be critical if California is going to be a leader in developing sustainable solutions. Human, environmental and economic development can and should go hand-in-hand. We cannot afford to pit these against each other.

What is a Green Job Anyway?

To date, the energy sector has been the priority focus of the green jobs movement. There is no single reason for this emphasis on the energy sector. The climate change crisis surely plays a role as our need to transition to cleaner energy sources heightens every day. Funding might be another primary impetus for the linkage of green jobs to the energy sector. Much of the local, state or federal funding for green jobs is dedicated to training

What if...

- 1. Government leveled the playing field for businesses who want to make safer products and protect their workers and neighbors?*
- 2. Businesses committed to promote innovation that leads to accessible safer alternatives and good jobs for their workers, and a cleaner environment?*
- 3. Communities, as individuals and as organized public interest groups, engaged in a new green economy by supporting local policies, educational opportunities, and businesses who are doing the right thing?*

workers to participate in energy-related jobs. Work in the green construction and solar energy fields are two examples of high-growth, high demand energy-related opportunities.

The linkage of energy sector jobs to the green jobs movement has helped create opportunities for many communities and individuals who often are left out of or have a difficult time accessing mainstream job development and training. Social, educational or economic barriers often keep many workers stuck in low paying, no-benefit jobs. Linking energy sector jobs with green development has been successful in creating “pathways out of poverty” programs in low-income communities and communities of color. The Los Angeles Apollo Alliance’s successful Green Retrofit Program is an excellent example of combining job creation with effective, results-based job training.¹⁵ In 2009, the LA Apollo Alliance secured passage of a green retrofit ordinance in the city of Los Angeles. The ordinance unites the goals of saving energy through retrofitting city buildings with economic development, creating good jobs, and revitalizing hard hit communities the Apollo Alliance is now working to implement this innovative City ordinance.

Building upon the current success of the energy sector and its green job development, we need to expand the concept of what it means to develop, create or work in a green job. How about a business making all natural, vegan cosmetics? Can a business developing safer, home cleaning products be considered green? What about a farmer growing sustainable, pesticide-free vegetables? The answer is yes- all of these jobs can also be considered green. Though, to date many of these job sectors have been overlooked in our discussion of the new green economy.

We can move beyond the traditional silos of environment, public health and the economy. Economic development must be seen as vessels for creating healthier and sustainable individuals and communities.

Green Energy Jobs

In 2009, the California Energy Commission provided \$75 million to train workers for the new clean energy economy in California. Funding for this program combined money from several state and federal sources including American Recovery and Reinvestment Act funds (stimulus money).¹



¹⁵Strategic Concepts in Organizing and Policy Education. <http://www.scopela.org/article.php?list=type&type=35> accessed on August 10, 2010.

Food and the Need for Green Jobs

Let's take a more in-depth look at the agricultural sector in order to highlight missed opportunities as well as possible growth areas for green jobs development. First, we should identify the connections between agriculture, public health and sustainable economic development.

In California and across the U.S., obesity and diet-related chronic disease rates, such as diabetes, are on the rise. At the same time the public's health is further threatened by chemicals contaminating our food, air, soil and water; declining natural resources and climate change. Environmental degradation, higher rates of chronic disease, and climate change are all related to our food system. The U.S. industrial food system produces vast amounts of food at cheap prices, but unfortunately, a majority of it is unhealthy. The food system itself is unsustainable due to its reliance on large amounts of pesticides and fertilizers; industrial food animal production; fossil fuels; intensive irrigation; and antibiotics among other flawed practices.¹⁶

Fortunately, healthier and more sustainable production and consumption alternatives are becoming more readily available in California and elsewhere in the U.S.¹⁷ Later in our brief we highlight several businesses that are utilizing greener and more sustainable agricultural practices as well as creating green jobs.

To further define the connection between the agricultural sector, green jobs and public health let's develop a concrete definition of what a green agricultural job is or could be.

Sustainable Food

The American Public Health Association defines a sustainable food system as one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities.



¹⁶American Public Health Association Policy Statement. *Toward a Healthy and Sustainable Food System*. November 7, 2007. Accessed on November 2, 2010. <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1361>

¹⁷AMERICAN PUBLIC HEALTH ASSOCIATION defines a sustainable food system as one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come with minimal negative impact to the environment. A sustainable food system also encourages local production and distribution infrastructures and makes nutritious food available, accessible, and affordable to all. Further, it is humane and just, protecting farmers and other workers, consumers, and communities.

Green agricultural jobs are those that:

- Protect and enhance the natural resources upon which agriculture, other economic activities, and healthy communities depend;
- Realize the potential of agricultural production to address climate change;
- Reduce energy costs of production;
- Promote consumption of locally and sustainably produced California food products among all Californians;
- Support regional year-round employment on-farm, in food processing and distribution, food service and food retail; and
- Serve to help establish sustainable farming as the foundation for food and agricultural production systems across California.

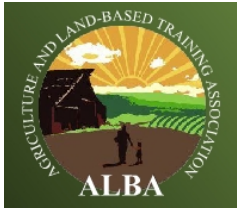
Getting back to our analysis of the agricultural sector in California we determined that the majority of farms in California are small. In 1999, there were a total of approximately 85,000 farms in the state with 75% of these farms generating less than \$100,000 of sales. By 2008 the number of total farms had fallen to about 81,500 with a 10% reduction in farms generating less than \$100,000 in sales. Today there are approximately 367,000 individuals who work in the agricultural sector in California. A large percentage of these farms operate within the traditional U.S. food industrial system mentioned above.

The U.S. Bureau of Labor Statistics (BLS) groups organic agricultural jobs into the sector called Natural Resources Conservation which is defined as products and services that conserve natural resources. Included in this group are products and services related to organic agriculture and sustainable forestry, land management, soil, water, or wildlife conservation, and storm-water management. These consist of approximately 20% of the total number of BLS categories for industries where green goods and services are classified. According to the publication *All Business*, the category called construction and professional/business service sectors compose 75 percent of the green jobs identified by the BLS, while the natural resources sector only consists of approximately 4 percent. The agricultural sector remains far behind other sectors in terms of development and creation of green jobs.

Within California, the Centers of Excellence, Economic and Workforce Development for California Community Colleges (COE), developed a study in 2009 which predicted that within the agricultural sector, the Bio-fuels Production & Farming area would receive the most funding from the federal green jobs stimulus package. This area includes Bio-fuels production, organic farming practices, bio-methane production (Energy from animal waste; Energy from landfills) and sustainable fisheries.

So what do these numbers and statistics mean for agricultural jobs and connection to the green economy? It appears that there has been some federal funding for organic and/or green agricultural farming and practices. However, it is uncertain how effective this funding has been in developing best practices and in reaching smaller, locally-based farmers and farm-workers. It is also unclear whether this funding can be used for essential start-up costs such as training, land-acquisition, and production needs.

Innovative Green Jobs Case Study



Name: The Agriculture and Land-Based Training Association (ALBA)

Problems Addressed:

- Lack of training and funding support for small farmers from public or private entities.
- Lack of socially equitable and ecological land management for aspiring farmers

ALBA provides educational and business opportunities for farm workers and aspiring farmers to grow and sell crops grown on two organic farms in Monterey County, California. They work to create opportunities for family farms while providing education and demonstration on conservation, habitat restoration, marketing and whole farm planning.

It was apparent after speaking with ALBA members that the current support structure in California is inadequate for small farmers. One example of the inadequate support is the lack of training for farmers on key issues such as business acumen, marketing and communications skills, English language proficiency, computer literacy and academic preparedness. There is also a lack of access to appropriate training and incubator programs, small farm-land opportunities and appropriate financing. To meet this need ALBA is developing a small farmer education curriculum but this will not meet the educational needs and demands of small farmers and farm-workers. Government programs and funding is key to any future success.

Another key to small farmers' future success is their engagement and involvement in the political process. ALBA strongly believes that at the state level government needs to engage farmers and invite them to participate in town hall meetings. Furthermore, there needs to be a lot of organization at the political level to focus on integration rather than fragmentation. Farmers need to receive invitations in order to participate in politics.

The interest in organic farming is present. ALBA sees a high level interest from their members but they need organization and structure in order to thrive. Currently, ALBA has been successful in growing the number of farmer markets by supporting them and assisting them in their growth. Almost all of the new markets are in low-income communities and ALBA farmers are looking into getting into these markets and are willing to wait despite the long waiting lists. Since ALBA sources directly from the farms, a higher portion of the money goes directly to the farmer. However, these markets are hardly viable for a small farmer to be there every week. More governmental support is needed as they seek to increase the number of these farmers markets and provide an avenue for small farmers to sell their products.



Innovative Green Jobs Case Study



Name: Mission Pie

Problems Addressed:

- Lack of investment in a green jobs support structure for farmers.
- Lack of locally accessible healthy food for urban communities.

Mission Pie is a corner café, bakery, and neighborhood gathering place in the Mission District of San Francisco. They offer Fair Trade/organic tea and coffee and pie, and they collaborate with local youth advocacy organizations to provide a positive work environment to San Francisco youth. Their seasonally shifting menu of pies, baked goods and light savory fare (prepared in an energy-efficient kitchen) focuses on the produce of nearby farms that employ organic and sustainable methods.

Mission Pie highlights the need for increased investment in a green jobs support structure for farmers. Mission Pie directly sources from local farms and as a result works closely with farmers and farm-workers.

According to Karen, co-owner of Mission Pie, the transition period for farmers to organic farming takes an average of 3 years. Transition includes investing equipment and adapting new methods which may have a significant learning curve. If there is no government support structure during this transition, the farmer is forced to undertake all the risk, and may suffer greatly. While there are clear to benefits to selling organic produce, farmers incur significant costs during their transition to organic farming.



Also according to Karen, the current process of obtaining a green business certification through the city of San Francisco is very rigorous and bureaucratic heavy. The only reason her organization pursued the certification was due to guidance they received from an individual who had already gone through the process from opening up her own green cafe.

Ultimately, businesses need incentives and a strong government support structure in order to minimize the amount of work with obtaining green certifications and they cannot rely solely on philanthropic support to sustain themselves.

Photo: Mission Pie bakery.



Where We Live and the Need for Green Jobs

The city of Commerce is located six miles east of downtown Los Angeles. It is home to freeways, rail-yards, chemical and pesticide manufacturing and trash-to-energy, to name a few of the toxic polluting facilities. Univar, the leading distributor of chemicals in the U.S. calls Commerce home. Univar provides chemicals to the energy, food, personal care, pharmaceutical, waste management and treatment, and pest control industries.

Close to 3,400 families reside in Commerce, a majority of which are of Latino descent. Unfortunately, these residents suffer disproportionately from poor health outcomes. Commerce families living in neighborhoods near rail-yards are 40 to 70 percent more likely to develop cancer than people living elsewhere in Los Angeles.¹⁸ Along with health disparities, these same residents are economically disadvantaged. Fifteen percent of households in Commerce live below the poverty line.¹⁹ So what does the city of Commerce's current industry profile and public health and poverty statistics have to do with the new green economy or green jobs? Because Commerce is surrounded by polluting rail-yards and freeways as well as filled with toxic-industries such as chemical manufacturing its residents' health suffers. The focus of the green jobs movement on the energy sector leaves many hazardous industries to continue operating as is near homes, schools and other health-sensitive sites.

Looking outside the energy sector allows us to build a stronger movement for a green and healthier economy– a movement that can include a more diverse set of businesses including small business owners and a larger population of workers. Workers who might lack the job experience or educational opportunities necessary to access green energy jobs can develop the skills necessary to own a small green cleaning business or become a sustainable farmer.

A Good Job Is...

Some may say that getting rid of toxic industries such as those that reside in the city of Commerce will decrease productivity and place a strain on the workforce and industry.

They may also believe that any job is a good job. We believe otherwise.

A good job is one that pays a living wage, provides a safe environment for its workers, offers health insurance and other benefits, and does not pollute the surrounding communities.

¹⁸California Air Resource Board Fact Sheet on Rail-yard Health Risk Assessments. http://www.arb.ca.gov/railyard/hra/0408hra_release_fs.pdf Accessed on August 24, 2010.

¹⁹City-Data.com <http://www.city-data.com/zip/90040.html>. Accessed on August 24, 2010.

Urban agriculture is on the rise. However, it is important to note that in 1943, 20 million households (three-fifths of the population at that point) grew more than 40 percent of all the vegetables they ate. Now, city governments are catching on to the renewed interest in communities growing their own food, and are changing zoning codes to support urban agriculture. One example of innovative partnerships is the work of the Los Angeles Food Policy Task Force which has developed a “good food policy” agenda for Los Angeles. They are advocating for a local food system that promotes, health, wellbeing, and a thriving local economy.

The green jobs movement should be connecting with all types of workers and aligning itself more with communities’ needs and interests. David Levine, convener of the American Sustainable Business Council, (a network of businesses advocating for policies that support a more just and sustainable economy) talked to us about his work to create support within the business community for sustainable jobs. During our conversation he mentioned the case of bisphenol-A (BPA) as an example of how shifting to more sustainable products and services can increase opportunities for economic growth.

Recent advocacy efforts at the state and national levels to reduce the use of BPA in children’s products has increased demand for alternative products and spurred manufacturers to invest in BPA-free materials. Babies “R” Us reported a fivefold increase in sales of BPA-free bottles and other products from 2007 to 2008, including a five-fold increase in glass bottle sales. Demand for glass bottles has increased over the last few years to such a degree that Owens-Illinois resumed production of glass bottles at a plant in Michigan after a 20-year hiatus.²⁰ The resuming of manufacturing highlights the possibility of reducing hazardous chemical use and increasing access to safer alternatives while developing sustainable economic opportunities.

The city of Commerce and many cities like it in California can benefit from policies and programs that look beyond the traditional silos of environment, health and the economy to policies that interweave these concepts to develop an economy and jobs that meet all of the needs of residents and communities.

*Founded in 2009, **The American Sustainable Business Council** is a growing coalition of business networks committed to public policies that support a vibrant, just and sustainable economy. Today, the organizations that have joined in this partnership represent over 50,000 businesses and social enterprises and more than 150,000 entrepreneurs, owners, executives, investors and business professionals and other individuals.*

To date, Council members have been involved in numerous policy arenas including financial reform, chemicals policy, as well as climate policy.

²⁰ Investor Environmental Health Network. *Materials Issues*. “Polycarbonate Bottle Market Meltdown.” June 2008. <http://www.iehn.org/publications.newsletters.php?nlid=10>

Innovative Green Jobs Case Study



Name: Valana Minerals

Problems Addressed:

- Lack of access to safer, less toxic products and services in low income, communities of color and other underserved communities.
- Lack of safety information on products for businesses.

Valana Minerals is a small business that develops cosmetics for women of color. Valerie Reed, owner and founder of Valana Minerals, started her natural, vegan, cosmetics line when she had difficulty finding makeup that worked with her skin color. She had also developed a reaction to selenium which she attributed partially to the chemicals being used in her personal care products. As a result she began paying more attention to the ingredients in her skin care products.



Most of Valana's customers purchase products online. The company has garnered a large presence on the Internet via social media outlets such as blogs and Facebook. Valerie strongly believes in the power of Internet access for small businesses, specifically businesses working in low-income, communities of color.

"You can't limit yourself to on the ground stores we need to look at Internet access in vulnerable communities," says Valerie Reed.

As a small business Valana Minerals has been able to develop relationships with its customers, relationships which have allowed the company to grow and expand. Small businesses have the opportunity and ability to personalize their customers' shopping experience.

You often won't find this type of relationship or community-building experience at larger chain or big box stores.



Policy Solutions: Green Chemistry and Green Jobs

How can public policy reduce exposure to toxic chemicals and drive innovation at the same time? This question is integral to moving the discussion about green jobs and public health forward. Numerous reports discuss and analyze the problems with our current chemical regulatory system.²¹ The Toxic Substances Control Act (TSCA) of 1976 has been ineffective in regulating chemicals or reducing exposure to toxic substances. For example, the Environmental Protection Agency (EPA) has failed to regulate many chemicals with this TSCA, including asbestos, dioxin, and bisphenol-A, just to name a few. The current regulatory system also lacks the capacity to drive innovation and development of safer alternatives to hazardous chemicals currently on the market and in use.

In order to more fully analyze the question of whether policy approaches can truly drive green innovation and reduce exposure to toxins we interviewed Peter Sinsheimer, Executive Director of the UCLA Law and Environmental Health Sustainable Technology & Policy Program.²² Dr. Sinsheimer believes alternative analysis²³ may offer one policy tool to reducing toxic exposures while also pushing industry and others to create healthier, safer processes and products.

Dr. Sinsheimer is an expert in toxics reduction and promotion of greener alternatives in the marketplace. In speaking with Dr. Sinsheimer, he expressed frustration with the current system of environmental regulation in California and the U.S. These laws are stuck in a model that focuses solely on the problem chemical and does not offer incentives or mandates for industry to develop safer products from the

Safest Alternative Available?

Alternatives analysis is a method for identifying viable alternatives to polluting production processes or hazardous consumer products. Alternatives analysis consists of two separate yet related components. The first component, alternatives assessment, compares the technical, health, safety, environmental, and economic attributes of a chemical or product to alternatives.

After the assessment is completed, the second component, alternatives evaluation, balances the respective attributes of the chemical or product and the alternatives with the goal of selecting the option that best fits the decision criteria guiding the evaluator.

²¹United States Government Accountability Office. CHEMICAL REGULATION Options Exist to Improve EPA's Ability to Assess Health Risks and Manage Its Chemical Review Program. 2005. Accessed on October 26, 2010. <http://www.gao.gov/new.items/d05458.pdf>

²²The UCLA program aims to clear a path for effective chemical policies and assist in the use of safer chemicals and alternative manufacturing processes in the marketplace.

²³Alternatives analysis is a method for identifying viable alternatives to polluting production processes or hazardous consumer products. Alternatives analysis consists of two separate yet related components. The first component, alternatives assessment, compares the technical, health, safety, environmental, and economic attributes of a chemical or product to alternatives. After the assessment is completed, the second component, alternatives evaluation, balances the respective attributes of the chemical or product and the alternatives with the goal of selecting the option that best fits the decision criteria guiding the evaluator.

beginning. Sinsheimer states, “...Current environmental laws have tended to discourage innovation and the diffusion of green technology. By focusing on the pollutant, our current laws do not require regulators to determine whether a safer, greener alternative exists which would eliminate the pollutant altogether.”

However, there is a potential policy opportunity in California to change this paradigm. AB 1879 – the California state law promoting the development and use of safer substitutes for hazardous consumer products – affords a chance to promote green innovation while reducing hazardous chemicals. Dr. Sinsheimer considers AB 1879 an opportunity because it includes a requirement to conduct alternative analysis on chemicals, products and processes. “This regulatory requirement has the potential to create a market for green innovation.” As Dr. Sinsheimer explains, alternatives analysis is a more transparent process, “one that can more clearly identify the tradeoffs of choosing one chemical, process



In December 2010, the CHANGE coalition (Californians for a Healthy and Green Economy) successfully halted the draft regulations to implement AB 1879. After more than two years of hard work, the Schwarzenegger administration attempted to adopt weak regulations that that did not meet the intent of AB 1879. Not a single public interest group, including AB 1879’s author, Assemblyman Mike Feuer supported promulgation of the rules. The Brown administration may now reconsider how to implement this important law.

This draft regulation failed to: Provide a mechanism for taking prompt action on chemicals known to be hazardous; require industry to develop a basic level of hazard information about their products as a condition for putting them on the market; place the burden of proof on industry to show their products are reasonably safe; and require release to the public of substantial information relating to whether products pose a threat to human health and the environment, thus allowing it to be withheld from the public and to remain secret.

or product over another.” The current regulatory approach, rooted in risk assessment, is less transparent than alternatives analysis because it substitutes scientific assessment on intrinsic hazards with a political assessment of what is an acceptable risk.

If regulators are required to phase out polluting industrial processes and consumer products when less polluting alternatives are identified (as written into AB 1879 language), then presumably industry would be driven to invent safer products and processes because there would be a clear market for their innovation, Sinsheimer strongly believes. Because AB 1879 requires generation of an alternative analysis in the context of lifecycle analysis, if done correctly, it can drive green innovation. “This legislation has the potential to offer a clear signal to manufacturers and industry that they must stop producing hazardous chemicals and products and move toward safer models.” Unfortunately, the legislation (AB 1879) also has many gaps which must be addressed via the regulatory process in order for California communities to see any definitive change in the reduction of toxins in processes and products in the near future.²⁴

What other policy tools exist? Is alternative analysis enough of a carrot or stick to drive green innovation? Until California’s AB 1879 regulatory process is fully implemented along with the rest of the state’s Green Chemistry Initiative we will have to wait and see (see previous page photo and caption on a recent AB 1879 setback.)



An interesting case study to examine the role that green chemistry and green innovation example of an alternative analysis is the topic of perchloroethylene (PCE), used in dry cleaning. As regulation of PCE²⁵ dry cleaning intensified in the 1990s, so did interest in the development of alternatives to PCE, including reformulated petroleum solvents, silicone-based solvents, liquid carbon dioxide (CO₂), and water-based alternatives. In 2000, the South Coast Air Quality Management District (SCAQMD) funded a demonstration project focused on converting a series of PCE dry cleaners to professional wet cleaning.²⁶ The Demonstration Project provided the opportunity to conduct before and after evaluations of

²⁴ For an overview of what is missing from AB 1879 legislation see: Californians for Healthy Green Economy. Letter to California Governor on AB 1879. Accessed on October 17, 2010.

http://changeocalifornia.typepad.com/files/change_gci_letter_to_gov_07-15-2010.pdf

²⁵ Effects of chronic exposure to PCE include dizziness, impaired judgment and perception, damage to the liver and kidneys, and respiratory disease. Other risks include neurotoxicity and reproductive and developmental toxicity as well as various forms of cancer.

²⁶ Wet cleaning, a process of hand-laundering delicate garments, has long been practiced by cleaners.

seven cleaners switching from PCE dry cleaning to professional wet cleaning under real world operating conditions. Dr. Sinsheimer was funded to carry out an alternative analysis of the wet cleaning demonstration project.

The alternative analysis identified wet cleaning as a true green technology while the other alternatives had their own set of environmental and occupational problems.²⁷ Dr. Sinsheimer's analysis²⁸ laid out performance, financial and resource criteria to determine the viability of professional wet cleaning as the best alternative to PCE dry cleaning.



In December 2002, the SCAQMD ruled to phase out PCE dry cleaning based on ongoing risk and the viability of non-PCE alternatives. In May 2006, the CA Air Resources Board (CARB) voted to phase out PCE dry cleaning throughout California. Unfortunately, CARB staff left out of their policy options, the ability of cleaners to switch to professional wet cleaning. Recommending wet cleaning could have allowed CARB to eliminate PCE and other VOC (volatile organic compound)-forming and petroleum based methods as economically viable alternatives. The decision to not explicitly recommend wet cleaning as the preferred alternative was a political decision that left the door open for more dangerous technologies to stay in the market.

While the phase out of PCE dry cleaning in California created a market for environmentally benign professional garment care alternatives, sub-optimal technologies (e.g. petroleum and silicone) have begun to dominate the sector. Prior to ARB's rulemaking there were only a handful of professional wet cleaners and dry cleaners in California. By 2010, while the number of dedicated wet cleaners increased to over 150, petroleum-based dry cleaning increased to over 1,500.

As the above wet cleaning case demonstrates, alternative analysis can be used to highlight the benefits and costs of green technologies in a format that is clear and straightforward. However, having a clear analysis does not automatically translate into action on the safest available alternative. Wet cleaning was recognized as an available alternative, but so were other much less safe technologies. This teaches us that engaging many constituencies, including industry on this issue, is needed for choosing best options.

²⁷Petroleum dry clean emissions are classified as volatile organic compounds (VOCs), which are both smog-forming and are classified as a greenhouse gas. The silicone-based dry cleaning solvent (decamethylpentacyclosiloxane) has been identified as a potential carcinogen.

²⁸The final evaluation and analysis showed cleaners switching from PCE dry cleaning to professional wet cleaning as a viable alternative to traditional dry cleaning. Environmentally, professional wet cleaning proved to be an energy efficient, non-toxic technology. From a performance standpoint, the cleaners who switched to professional wet cleaning were able to maintain their level of service and customer base while increasing their profits.

Recommendations

It is clear that we must think creatively about our policy choices. Until now, arguments about economy vs. the environment have been effective in stopping legislation that seeks to protect the environment and, in turn, public health. Developing policies and programs that defy this false dichotomy are critical to creating a sustainable economy and vibrant communities. We need to drive innovation while at the same time reduce our use of toxic chemicals.

Policy approaches must also address the barriers that low-income families face in gaining access to sustainable economic development. How can local, state, or national policy more effectively address the health, economic and environmental needs of low-income communities and communities of color? Policymakers when developing green economic programs should ask these questions.

The following recommendations policymakers and other key stakeholders strong proposals in moving forward with the development of true green jobs and sustainable communities.

1. Continue to invest in California's Green Chemistry Initiative.

Implementing the state's six Green Chemistry Initiative recommendations have proved challenging because many corporate interests perpetuate the false narrative of environment and health vs. jobs. The new administration must reissue the Safer Product Regulations and ensure they are robust enough to eliminate bad actor chemicals made and sold in California. The other planks of the initiative should also receive more attention from health, business, and economic advocates. They include: 1) expanding pollution prevention; 2) developing green chemistry workforce education and training, research and development, and technology transfer; 3) creating an online product ingredient network; and 4) move toward a cradle-to-cradle economy.

2. Develop localized economic development strategies based on integrating environmentally preferable procurement policies and green chemistry innovations.

Government and private entities can directly procure greener products and thereby boost demand. This creates a market for such products, and thus can incentivize local production through strategic, simultaneous integration of green procurement, green chemistry, and "buy local approaches." Green chemistry and green procurement can be excellent drivers of economic development policy towards the creation of green jobs. The environmental health and environmental justice community needs to be specifically engaged to ensure that defining green jobs and economic development strategies incorporates an evaluation of health impacts to workers and fence-line communities.

- 3. Redefine our education system to include green chemistry and sustainability education at all levels.** California's colleges and universities need professional and vocational training programs that integrate across academic disciplines, providing much needed green chemistry and sustainability training. This education should start with an elementary level curriculum that frames the need and solutions for safer alternatives early on. These programs can also help identify opportunities to reduce community-level toxic exposures. Building on recent research conducted at the state level by the Employment Development Department, further agreement and analysis is needed in terms of the particular occupations and industries that are relevant to green chemistry.

- 4. Promote partnership between communities, green chemistry innovators, workers, and a broad range of industries to develop and implement clean production practices.** Specific strategies can use good neighbor agreements as entry points where local governments, regulatory agencies residents and companies can work toward improving community access to information, accident preparedness, pollution prevention and clean up targets for facilities. Another partnership could be between green chemistry experts and cities developing green technology incubators such as the Los Angeles Green Tech Corridor project.

- 5. Increase public funding and support for small and micro businesses that are green innovators in low-income and communities of color.** Develop funding mechanisms that support the start-up and transitions costs for companies, farmers and other entrepreneurs wanting to move to clean and sustainable production. Promote policies and programs that provide mentorship and incubators projects for green businesses. These businesses can help provide safer consumer and food choices for all communities.