Cole, Doug

From:	Vrinda Manglik <vrinda.manglik@sierraclub.org>
Sent:	Monday, October 05, 2015 3:27 PM
To:	Cole, Doug; DL - City Council; Office of the Mayor; Cappio, Claudia; Monetta, John; BParker@oaklandcityattorney.org
Cc:	Jess Dervin-Ackerman
Subject:	No Coal in Oakland, written comments

My name is Vrinda Manglik, I am an Oakland resident and staff member with the Sierra Club's International Climate campaign. I am writing to submit my written comments opposing the proposed coal export terminal in Oakland.

First, I want to address the myth that coal is needed to solve energy poverty abroad. It's true that energy poverty is a very serious problem that needs to be solved. Around the world, 1.3 billion people lack access to electricity, which severely limits education and economic opportunities. This is a serious problem.

But the truth is, coal is increasingly expensive and often the wrong tool for the job. Prices for solar are now at the same level or lower than coal in many places and still falling.

Of all the people without access to electricity globally, 84% live in rural areas.[1] These rural areas are often beyond the reach of the centralized grid. Even if a coal plant is built, the grid lines and accompanying infrastructure often take decades to build, and therefore, all too often these projects don't reach those in need.

The second point I want to make is that there is no guaranteed customer for this coal. The proposed facility would cost a lot of taxpayer money, and there is no guarantee that there's even going to be a market for it.

Coal is an entire industry in decline, not just in the United States but around the world. Global coal prices are plummeting because of oversupply and falling demand for coal.[2]

Take China for example. The Chinese government has said it wants to hit peak coal by 2020, and will make best efforts to peak earlier. Well, China may have already hit peak coal.[3] As of July 2015, China's coal imports were 44 percent lower than the same time in the previous year.[4] China's use of coal and demand for coal are both falling. Meanwhile, the Indian government wants to end coal imports this decade.

This is an industry in decline, and we shouldn't waste taxpayer dollars to subsidize it.

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[1] http://www.carbontracker.org/report/energyaccess/

[2] http://cleantechnica.com/2015/07/24/coal-industry-suffering-from-lack-of-demand/

[3] http://thinkprogress.org/climate/2015/05/27/3662681/chinas-coal-use-peaked/

[4] http://ieefa.org/global-coal-markets-when-does-a-seasonal-trend-become-a-structural-decline/

OAK 2720

REC'D SEP 29 2015

Subject: FW: Critiquing HDR
Attachments: Ostro comments on HDR Engineerin report for the CCIG-ljf.docx

From: lora jo foo [mailto:ljfoo70@gmail.com]
Sent: Tuesday, September 29, 2015 1:31 PM
To: Bart Ostro; Cappio, Claudia
Cc: Ted Franklin; Margaret Rossoff margaretmft@gmail.com
Subject: Re: Critiquing HDR

Bart,
Thanks for the great job on your critique. I made minor changes in track changes. Caught some typos, etc. Can you wait until Ted returns Thursday to review before sending off? I asked Margaret Rossoff to review also. She's with our No Coal in Oakland coalition. When you are ready to send to the city, please email to Doug Cole at **dcole@oaklandnet.com**
"Cappio, Claudia" <ccappio@oaklandnet.com>
and copy the city council members. I'll get you their email addresses.
lora jo
P.S. Claudio Cappio who is the Assistant City Administrator sent out a list of questions to help her write her recommendation to the city council regarding whether there are health and safety impacts to coal. I'll forward to you in case you are not on her list and you want to answer any of her questions.

lora jo foo
510-282-9454

On Mon, Sep 28, 2015 at 4:15 PM, <bostro@pacbell.net> wrote:
Here's my critique for the admin record. Please acknowledge receipt and let me know of any comments/corrections you might have.

Thanks, Bart

From: lora jo foo <ljfoo70@gmail.com>
To: Bart Ostro <bostro@pacbell.net>
Cc: Ted Franklin <ted@tedfranklin.net>
Sent: Friday, September 25, 2015 12:16 PM
Subject: Critiquing HDR

HI Bart;
Our allies on the City Council asked for critiques of the developer's Health and Safety Assessment, attached. Wondering if you can draft a critique to include in the administrative record? And we will forward it to the counselpersons asking for more critique.
lora j

lora jo foo
510-282-9454

OAK 1868

REC'D SEP 29 2015

Comments of Dr. Bart Ostro. Former Chief of the Air Pollution Epidemiology Section, California Environmental Protection Agency (retired). Dr. Ostro was responsible for helping to develop the air pollution standards for fine particles (PM2.5) for California, the U.S. EPA and the World Health Organization and is the author of over 100 peer reviewed publications on the health effects of air pollution and heat waves.

RE: Comments on: Oakland Bulk and Oversized Terminal Air Quality & Human Health and Safety Assessment of Potential Coal Dust Emissions, prepared for: California Capital and Investment Group, HDR Engineering, September 2015

1. Page 5 the consultants state there will be little erosion of coal. However, their citation refers to field testing of dust from coal piles **NOT** from moving trains which will likely produce a distinctly different level of emissions. In addition, the erosion potential will be impacted at the West Oakland location due to the winds that are often experienced there. For example, wind analysis from the Bay Area Air Quality Management District shows that 100% of the winds in the summertime, when people spend the greatest amount of time outdoors, are from the West. This means that dust from the rail operations, including the train hauling itself, will blow directly into Oakland residential areas, particularly West Oakland. In the winter time, still about 70% of the time, the wind is from the West. In addition, the data indicate that many days have wind speed above 10 mph. (Eric Fujita and Campbell, West Oakland Monitoring Report, DRI, 2010). Furthermore, actual empirical evidence of fine particle concentrations at the delivery site (NOT at the mines where the contractors state is the only place that will be impacted by erosion) shows **significant increase in concentrations due to coal trains**. This issue is discussed in point 5d below.

2. Page 5. CCIG consultants state: "moving rail cars would emit negligible quantities of coal dust in the Oakland area because of load profiling and topping measures." To support this statement they refer to the lack of erosion (again suggesting incorrectly that all erosion will occur near the mines), discussed above, and to tests that shows an 85% reduction in coal dust from the control strategies undertaken. Several points here: (1) The 85% reduction is based on field tests and trials conducted by BNSF and Union Pacific in limited circumstances. It is not based on real world practices or data; (2) the surface sprays used to cover the coal tend to degrade over time

OAK 1869

and for the new marine terminal at the former Oakland Army Base ~~port~~ we are talking about a 800 mile trip from Utah. In the Powder River coal transport to the West Coast, the train company needed to add an additional surface spray facility along the route from Montana. It is not clear if an added facility is planned in this case and it is not mentioned in the consultant report ; (3) there is no mandate for this control and compliance, especially over time, is questionable; and (4) even after an 85% reduction, there would still be significant increases in fine particulate air pollution for Oakland residents. Representatives from BNSF indicated that there would be an average erosion of 1.6 lbs of coal dust per car per mile. Using simple assumptions, a daily train of 115 cars for a year, for the 12 miles that the train would pass through Oakland would relate to a deposition of

Comment [ljf1]: It's not the Port of Oakland but former Oakland Army Base where the marine terminal will be build.

1.6 lbs/car-mile* 365 days * 115 cars *12 miles *ton/2000 lbs = 400 tons a year of coal dust deposited in Oakland

and 100 tons a year in West Oakland. Even with 85% control, if it actually occurs, this would still leave 60 tons of coal dust a year in Oakland and approximately 15 tons per year in West Oakland. **Hardly a "negligible" amount.**

3. Page 6. The consultants add, almost as an aside, that the trains will also be covered. However, there is no detail on this and to our knowledge no existing practice where this is currently employed, and certainly no regulatory mandate for it. Again, **compliance is an issue** since this would add costs to the train operation and is currently not ~~an~~ actively used. We contacted two companies that are now developing prototypes of covered cars. They have only been tested on a limited basis and are still engaged in development. It is unclear when, if ever, these would be available commercially.

4. Page 11. The CCIG consultants make a statement in section IV that the transport operations will not harm public health. They state that "Coal and coal dust in itself is not specifically regulated or defined as a hazardous material by USEPA." While this is true, the coat dust is a fine particulate and is subject to federal and state outdoor air pollution standards which is discussed below.

5a. **WHY are fine particles important**? Airborne fine particles (often called PM2.5 ~~since~~ are particles that are 2.5 microns or less in diameter. By contrast, a human hair is approximately 70 microns). PM2.5 from coal dust -are important since they can be inhaled in the deep lung. Studies from epidemiologists and cardiologists have demonstrated in peer reviewed journals that there is **a clear causal relationship between both very short (a day or multiple days) and longer-term (several months to years) exposure to PM 2.5 and a wide range of adverse health outcomes** (Brook et al 2010). Studies from around the world and from California demonstrate that PM2.5 is associated with respiratory symptoms, school and work loss, asthma exacerbation, emergency room visits, non-fatal heart attacks, adverse birth outcomes (premature births, low birth weight), hospital admissions, and **death from cardiovascular disease**. The populations at greatest particular risk (though other groups are susceptible) include children, asthmatics and older individuals with pre-existing cardiovascular or respiratory disease. In California, these peer reviewed studies showing some of these health effects include those by Ostro et al. 2006, 2009; Malig and Ostro (2009), Green et al. (2009) and Malig et al. (2013).

Comment [lj2]: Do you mean exposure to PM2.5?

5b. PM2.5 has been determined by The World Health Organization (WHO) to have the greatest worldwide impacts of any environmental exposure with an **estimated 3 million deaths per year**. (Lim et al, 2012). ARB estimates for California range from 10 to 30 thousand per year depending on the assumptions in the analysis and the air standard used.

5c. While specific outdoor air standards have been established for PM2.5, institutions including California EPA, USEPA and WHO, have specified **there is no clear cut safe level** for these effects. This means that every exposure adds to the likelihood of an adverse health outcome. Thus, even in areas where the standard is being attained, additional exposure to coal dust is likely to impact health, especially in a susceptible population.

5d. In **one of the few actual studies** conducted on this issue, scientists at the University of Washington examined the contribution to PM2.5 from coal versus freight trains, close to the destination site (i.e., **NOT close to the mines**) (Jaffe et al., 2014; 2015). In their peer reviewed publication, they reported that the average peak in near-by concentrations of PM2.5 of coal trains were twice that of freight, specifically 21 versus 11 micrograms per cubic meter. In addition, they reported several events with concentrations greater than 75 micrograms with concentrations

up to 230 micrograms. **Thus, one would logically expect very high peaks of PM2.5 from coal dust, at concentrations that could cause health effects.**

6. Page 11, Section A. The CCIG consultants report the results of a coal dust study conducted by the Surface Transportation Board (STB) regarding a proposed rail line in Montana (also known as the Tongue River Rail Project). Based on a modeling exercise they report that incremental concentrations of airborne coal dust from train cars are expected to be below the standards set in the NAAQS and the Montana Ambient Air Quality Standards (Montana AAQS) to protect human health. I believe they wish the reader to infer that therefore, the proposed project in Oakland will also not impact public health. However, there are **major differences** between these two sites. Based on the latest available information, the two major towns in rural Montana, Colstrip and Ashland that are impacted by the railroad have populations of 2200 and 400, respectively. There is obviously very little urban residential activity to produce pollution in this area such as traffic, restaurant cooking, and biomass burning. In fact, based on a letter from the governor of Montana, the annual average concentrations of fine particles in Rosebud and Powder River Counties, the two counties immediately impacted by the railroad are 5.5 and 6.7 micrograms per cubic meter (the latter is the standard method for measuring fine particles concentrations). (Letter from Steve Bullock, Governor to Shaun McGrath, Regional Administrator, USEPA, "Montana 2012 Revised Annual PM2.5 NAAQS Initial Designation, Dec 2, 2013). This is a very low concentration, but not unexpected for this very rural area. In addition, the STB report says nothing about impacted communities at the final delivery point.

Comment [lJf3]: What is NAAQS?

In contrast, obviously Oakland is part of a major metropolitan area with multiple sources of fine particulate pollution. Air pollution measurements have been taken in West Oakland by the Desert Research Institute, a firm known internationally for its work on measuring exposures. Their analysis indicates that, based on sampling conducted at several residential sites in the West Oakland community, the annual averages of PM2.5 were above 11 micrograms per cubic meter (Fujita and Campbell, West Oakland Monitoring Report to the BAAQMD, DRI, 2010. Another monitoring study showed concentrations in West Oakland of 15 to 40 micrograms per cubic meter (Bui et al. Ground Level Monitoring of Particulate Matter in West Oakland). **Thus, the current levels of PM2.5 in West Oakland are roughly twice that of the Montana train site**

used by the consultants. As such, the expected contribution of coal dust would most likely put them in **violation of both the state and federal averages** of 12 micrograms per cubic meter. In addition, as explained earlier, there is a possibility that they would exceed the 24-hour standard for PM2.5. It is also important to note that West Oakland is heavily impacted by diesel particles, which are very small particles. Several studies have shown that these particles (which are similar to the coal dust particles) are up to 10 times more toxic than generic PM2.5 (Ostro et al., 2014).

Conclusion Based on the above information, coupled with the lack of a recognized safe level for exposure to PM2.5, it is naive and reckless to state that the public health will not be impacted by the coal-bearing trains. Further it is inappropriate to use the study in Montana to infer the consequences of coal transport in the Oakland corridor. Finally, comments from the Environmental Impact Statement for the Montana project suggest that only 30 percent of shippers comply with the rule to properly spray and control dust. 2 (Online Public Meeting for the Draft EIS for the Proposed Tongue River Railroad, June 17, 2015). Based on all available information, empirical data from Washington state, and a common sense approach to the issue, it is very likely that the proposed coal trains would significantly impact the health of residents of West Oakalnd and Oakland, in general.

References

Brook et al. (2010) Circulation 121:2331-78

Green et al. (2009) Environmental Health Perspectives 117: 1939-44.

Jaffe et al. (2014) Atmospheric Pollution Research 5:344-351.

Lim et al. (2012) Lancet 380: 2224–2260.

Malig and Ostro (2009) Occupational and Environmental Medicine **66**:832-839.

Malig et al. (2013) American Journal of Epidemiology 178:58-69.

Ostro et al. (2006) Environmental Health Perspectives 114: 29–33.

Ostro et al. (2009) Environmental Health Perspectives 117:475-480.

Ostro et al. (2014) Occupational and Environmental Medicine 72:123-9.

No Coal In Oakland

1773 10TH Street
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510-282-9454

September 18, 2015

Via Electronic Mail
Mayor Libby Schaaf (officeofthemayor@oaklandnet.com)
Councilmember District 1 Dan Kalb (dkalb@oaklandnet.com)
Councilmember District 2 Abel Guillén (aguillen@oaklandnet.com)
Councilmember District 3 Lynnette Gibson McElhaney (lmcelhaney@oaklandnet.com)
Councilmember District 4 Annie Campbell Washington (acampbellwashington@oaklandnet.com)
Councilmember District 5 Noel Gallo (ngallo@oaklandnet.com)
Councilmember District 6 Desley Brooks (dbrooks@oaklandnet.com)
Councilmember District 7 Larry Reid (lreid@oaklandnet.com)
Councilmember At-Large Rebecca Kaplan (rkaplan@oaklandnet.com)
Oakland City Hall
1 Frank Ogawa Plaza
Oakland, CA 94612

Hon. Mayor Libby Schaaf and Councilmembers:

No Coal in Oakland submits this comment on behalf of itself and Sunflower Alliance, 350 Bay Area, System Change Not Climate Change, and West Oakland Neighbors—four community organizations with members active in No Coal in Oakland. No Coal in Oakland includes environmental, labor, business, community, and faith-based activists who oppose the use of the City of Oakland's new maritime trade facility to ship coal overseas.

The overwhelming majority of the Oakland community strongly opposes the transport, storage, and loading of millions of tons of coal along its waterfront due to concerns for public health and safety. There is a growing and well-informed consensus among scientists, public officials, and the public at large that expanding the use of coal poses great dangers to ourselves and generations to come. On August

29, 2012, the California Legislature passed a resolution opposing the export of coal from the United States to countries with weaker environmental regulations.[1] On February 27, 2014, citing "environmental impacts, climate change, public-health hazards, economic pitfalls, and public opposition," the Oakland Port Commission unanimously rejected an 8.3 million-ton-per-year coal export project at the Port's Howard Terminal.[2] On June 17, 2014, the Oakland City Council passed a resolution opposing the transport of fossil fuels by rail through the city and, in particular, opposing transport of coal for export.[3] Berkeley, Richmond, Emeryville and Albany have all passed resolutions opposing coal, petroleum coke, and oil running through their cities and into Oakland by rail.[4]

What may once have been the isolated resistance of a small number of environmentalists to export of fossil fuels is now the mainstream view of the Bay Area public and most of our elected officials. California and the Bay Area in particular have been leading the way on climate and clean energy policies. Only weeks ago, the Legislature adopted SB185, which would divest our largest public pension systems from coal investments. In April, Governor Jerry Brown, our former mayor, signed an executive order strengthening AB32, California's groundbreaking Global Warming Solutions Act, by requiring a reduction in California's carbon pollution to 40 percent below 1990 levels by 2030. The Governor also called for expanding our clean energy economy by requiring that half of our state's energy come from clean resources by 2030. In a recent trip to the Vatican, Governor Brown declared that unless we leave 90% of our coal in the ground, we will face climate disaster.[5]

But these fine resolutions and executive proclamations will mean nothing if the progressive city of Oakland builds new infrastructure specifically dedicated to the

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[1] Assembly Joint Resolution No. 35—Relating to the Exploitation of Coal (2012); *available at* http://www.leginfo.ca.gov/pub/11-12/bill/asm/ab_0001-0050/ajr_35_bill_20120918_chaptered.pdf

[2] Port of Oakland, *Supplemental Agenda Report* (Feb. 27, 2014) at 110-112; available at http://www.portofoakland.com/pdf/about/meetings/2014/boar_shee_140227.pdf.

[3] City of Oakland, Resolution No. 85054 C.M.S. (June 17, 2014) (Resolution opposing the transportation of hazardous fossil fuel materials, including crude oil, coal, and petroleum coke, through the City of Oakland); *available at* https://oakland.legistar.com/LegislationDetail.aspx?ID=1747455&GUID=D41B7760-10B0-455E-B1F5-88894FBAD097.

[4] Loni Hancock, Rob Bonta, Tony Thurmond, *Let's Keep Coal Out of Oakland Port*, S.F. Chronicle (July 20, 2015); *available at* http://www.oaklandelects.com/keepcoaloutofoaklandport.html.

[5] David R. Baker, *As California pumps out oil, Gov. Brown says world must cut back*, S.F. Chronicle (July 21, 2015); *available at* http://www.sfgate.com/business/article/As-CA-keeps-pumping-oil-Gov-Brown-says-world-6397560.php ("We are going to have to set a clear goal," Brown told a crowd of mayors and public officials from around the world. "And that goal is almost unimaginable. One-third of the oil that we know exists as reserves can never be taken out of the ground. Fifty percent of the gas can never be used and over 90 percent of the coal. Now, that is a revolution.")

export of millions of tons of coal each year for many decades to come.[6] Everyone who has studied the problem of climate change now understands that we must drastically cut our consumption of fossil fuels in the coming decades and, most significantly, we must rapidly decrease the use of coal, the dirtiest and biggest contributor to climate change of all fossil fuels.

For years, the developer of the Oakland Global Trade and Logistics Center ("Oakland Global") gave repeated assurances that coal would be no part of the mix of commodities that would be shipped through Oakland's newest export facility, the Oakland Bulk and Oversized Terminal ("OBOT"). Yet a major long-term commitment to coal exports—a dubious business plan given the rapidity with which the world is turning away from coal—is now being passed off as the only way development at the former Oakland Army Base can succeed.

Oaklanders recently learned that, contrary to the developer's repeated assurances, there have been secret negotiations with four counties in Utah to export up to 9 million tons of Utah coal per year from the new terminal. Domestic demand for coal is flagging as the United States, led by the State of California, turns away from use of our most toxic fossil fuel. Predictably, the coal mining industry is looking for ways to survive and expand. Utah's leading coal counties have offered to contribute $53 million in order to secure a shipping route to send their coal overseas.

We know what will happen if this plan comes to fruition. Mile-long trains bringing Utah coal to Oakland will elevate pollution of vulnerable communities along the tracks, endanger the health and safety of the project's neighbors and workers, and tarnish Oakland's reputation as a forward-looking city on the issue of climate change. The bulk export terminal that was presented a few years ago as a progressive win-win for Oakland's neighborhoods, workers, and our local economy will become a symbol of the failure of our political process.

The City Council has the power to prevent this wrong turn for Oakland. Under its agreement with the developer, the City reserved the right to adopt regulations to protect public health and safety. As outcry over the plan to ship coal through Oakland has grown, rumors and misinformation have been spread that turning down the $53 million will kill the whole $1.2 billion dollar development of Oakland Global causing the loss of thousands of jobs. The truth is that tying the long-term future of

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[6] See Steven Leahy, *A Hard Deadline: We Must Stop Building New Carbon Infrastructure by 2018*, The Leap (July 2, 2015) (*available at* http://theleap.thischangeseverything.org/a-hard-deadline-we-must-stop-building-new-carbon-infrastructure-by-2018/ explains that, at the present pace of business as usual and given the long lifespan of many capital investments, we will have built sufficient carbon infrastructure to blow through the carbon budget for a 2 degrees Celsius temperature rise unless facilities are shuttered before their end of their intended life cycles.

Oakland's new maritime facility to shipping coal to Asia is sheer folly that could easily leave Oakland with a giant White Elephant sitting next to the gateway to our city where the Bay Bridge touches land. The false portrayal of coal exports as Oakland's pathway to abundant jobs is a fairy tale that the developer would not have dared present a few years ago when he asked this City to entrust him with development of the City's largest undeveloped waterfront property.

In this comment, we will address both the health and safety impacts of coal exports and the erroneous legal and economic arguments presented by coal proponents to dissuade the City Council from taking appropriate action.

I. Background

In 2012, when the City Council awarded development rights at the former Oakland Army Base to developer Phil Tagami, head of the California Capital and Investment Group ("CCIG"), Tagami assured City Councilmember Dan Kalb that coal wouldn't be shipped through Oakland's new terminals.[7] On October 23, 2012, Oakland entered into a master development and leasing agreement, the Lease Disposition and Development Agreement ("LDDA"), with a joint venture between Tagami's CCIG and CCIG's partner Prologis, the world's largest industrial property and logistics company.[8]

Tagami reiterated his commitment to a coal-free development in the December 2013 Oakland Global newsletter. "It has come to my attention," he wrote, "that there are community concerns about a purported plan to develop a coal plant or coal distribution facility as part of the Oakland Global project. This is simply untrue…. CCIG is publicly on record as having no interest or involvement in the pursuit of coal-related operations at the former Oakland Army Base." [9]

Despite these assurances, Tagami soon took a different course in secret. In April 2015, the Deseret News, Utah second-largest newspaper, broke the story that four

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[7] Mike Blasky, *Oakland City Council to have public hearing on exporting coal*, Oakland Tribune (Jul. 7, 2015) ("He [Phil Tagami] said it to my face," Kalb said. "He said, 'Dan, climate change is the premier issue of the day. I care very much about my children and I would never let coal go through any of my property or terminal.'"); *available at* http://www.insidebayarea.com/breaking-news/ci_28499049/oakland-city-council-have-public-hearing-exporting-coal.

[8] Peter Slatin, *ProLogis Becomes World's Biggest Industrial Property Company—Now What?*, Forbes (June 20, 2011); *available at* http://www.forbes.com/sites/peterslatin/2011/06/20/prologis-becomes-worlds-biggest-industrial-property-company-now-what/.

[9] Phil Tagami, Oakland Global Newsletter (Dec. 2013). Tagami's statements in the 2013 newsletter have been removed from public view on the website of Oakland Global. However, copies of the original emailed newsletter were retained by the Sierra Club and others, and are available from No Coal in Oakland upon request.

counties in Utah—Carbon, Sevier, Sanpete, and Emery—were offering $53 million to ensure that approximately half of OBOT's facilities would be dedicated to exports of Utah coal.[10] Reportedly, Tagami's company initially lobbied Utah coal interests to invest in the bulk cargo facility. Tagami then cut a deal to turn over the operation to a newly formed company, Terminal Logistics Solutions (TLS), for a lease to operate OBOT after it is built by CCIG.[11] TLS is run by Jerry Bridges and Omar Benjamin, both former executive directors of the Port of Oakland.

City officials, West Oakland neighbors, local environmental activists, and the larger Oakland community were taken by surprise by Tagami's bold moves. Acceptance of Utah's investment will commit OBOT to handling massive shipments of coal, somewhere between 4 and 10 million tons per year,[12] a use for OBOT that was never disclosed to the public or studied in the environmental review of redevelopment plans for the Oakland Army Base. The 2012 Initial Study/Addendum to the Oakland Army Base EIR does not mention coal, and simply states that the facility will handle "non-containerized bulk goods," and "oversized or overweight cargo."[13] The key development and leasing agreements relating to the city-owned land on which OBOT will be built contain no mention of shipping coal through the facility.

The developer who assured all comers that coal was no part of the plan now asserts that he is entitled lease the space to a private company to export anything except "nuclear waste, illegal immigrants, weapons and drugs," leaving concerned citizens and community with seemingly no recourse. [14] However, according to section 3.4.2 of the Development Agreement, the City retains the right to enact new regulations for the protection of public health and safety provided the "City determines based on substantial evidence and after a public hearing that a failure to do so would place existing or future occupants or users of the Project [or] adjacent neighbors … in a condition substantially dangerous to their health and safety." (See D.A. 3.4.2.)

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[10] Amy O'Donaghue, *Utah invests 53 million in California port for coal, other exports*, Deseret News (April 27, 2015); *available at* http://www.deseretnews.com/article/865627254/Utah-invests-53-million-in-California-port-for-coal-exports.html?pg=all.

[11] More recently, Phil Tagami has explained the relationship with TLS in the following terms: "As to OBOT in the West Gateway portion of Oakland Global, CCIG has entered into an exclusive Option Agreement with Terminal Logistics Strategies (TLS) for the potential operation of OBOT. CCIG is the developer of OBOT, but will not be its operator." Matier & Ross, *Opponents of Oakland Coal Shipping Target Governor's Pal*, S.F. Chronicle (July 25, 2015); *available at* http://www.sfchronicle.com/bayarea/article/Opponents-of-Oakland-coal-shipping-target-6405576.php/.

[12] The scale of the potential shipments is not known for certain. Press reports vary and no information can be found at the developer's website. *See* http://www.oaklandglobal.com/.

[13] Oakland Army Base 2012 Initial Study/Addendum, at 30.

[14] Doug Oakley, *Unlikely partners: Utah investing $53 million to export coal through Oakland port* , Contra Costa Times (April 24, 2015); *available at* http://www.contracostatimes.com/breaking-news/ci_27981684/unlikely-partners-utah-investing-53-million-export-coal.

As we will discuss further in section V of this comment, this provision in the Development Agreement provides a fully adequate legal basis for the City to ban coal exports from the City's land.

II. Coal Exports Pose a Substantial Danger to the Health and Safety of Oakland Global's Neighbors and Workforce

Coal export poses unique and substantial danger to the health and safety of citizens in adjacent neighborhoods, workers at the site, and to the Oakland community as a whole.

- Coal dust poses serious health concerns for a neighborhood already burdened with a history of environmental injustices and ill-equipped to cope with additional stresses.
- Confined and/or covered coal transportation and terminal operations would shift the burden of toxic pollution to workers at the site while also exacerbating risks of fire during transport, storage, and loading.
- Coal dust and leachates can pollute waterways, often with long-lasting impacts.
- Exporting coal will drive global climate change at great cost to Oakland families and businesses. Oakland and its citizens are extremely vulnerable to sea level rise, extreme heat and associated diseases, sewer overflow during storm surges, and increased fire risk.

A. Coal dust is particulate matter that poses serious health and safety concerns

The transport, unloading, and reloading of raw coal will result in a certain proportion of that coal fracturing into dust and becoming airborne. During the journey from coal mines to their destinations, coal trains lose part of their load as "fugitive" dust. Coal dust can become airborne in particle sizes smaller than 500 microns, with particles smaller than 10 microns (PM_{10}) being particularly significant, as particles of that size or smaller can be inhaled into the respiratory alveoli.

The American Lung Association considers all such particulate matter, specifically including coal dust, dangerous to breathe.[15] The United States Environmental Pro-

[15] American Lung Association, http://www.epa.gov/pm/health.html www.lung.org/healthy-air/outdoor/resources/coarse-particle-fact-sheet.pdf

tection Agency (EPA) cites numerous scientific studies that link particulate matter of any origin with a series of significant health problems, including:

- premature death in people with lung or heart disease,
- nonfatal heart attacks,
- irregular heartbeat,
- aggravated asthma,
- decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing.[16]

Particulate matter less than 2.5 microns ($PM_{2.5}$) is regularly spewed from coal trains and poses serious health risks beginning at low levels of exposure. In his September 16, 2015 comment to the City Council Dr. Bart Ostro, former Chief of the Air Pollution Epidemiology Section, California Environmental Protection Agency, cites recent studies showing the average peak in nearby concentrations of particles less than 2.5 microns or $PM_{2.5}$ from coal trains were twice that from freight trains.[17] $PM_{2.5}$ has been determined by The World Health Organization (WHO) to have the greatest worldwide impacts of any environmental exposure with an estimated 3 million deaths per year.[18] Estimates for California range from 10,000 to 30,000 per year.[19] Studies from around the world and from California demonstrate important associations between daily exposure to PM2.5 and a wide range of health impacts including respiratory symptoms, school and work loss, asthma exacerbation, emergency room visits, non-fatal heart attacks, adverse birth outcomes, hospital admissions, and death from cardiovascular disease. [20] The populations at greatest particulate risk (though other groups are susceptible) include children, asthmatics and older individuals with pre-existing cardiovascular or respiratory disease.[21] The California EPA and WHO, have specified there is no clear cut safe level for exposure to $PM_{2.5}$. Dr. Ostro concludes that "This indicates that every exposure adds to the likelihood of an adverse health outcome."[22] If the City Council allows coal exports, West Oakland community's local exposure to $PM_{2.5}$ from coal trains will be almost double that of freight trains.[23]

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[16] Environmental Protection Agency, *Integrated Science Assessment for Particulate Matter* (2009); *available at* http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.
[17] Comment of Dr. Bart Ostro (Sept. 16, 2015), attached hereto as Attachment A.
[18] *Id.*
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *Id.*
[23] *Id.*

The health impacts of respirable coal dust on underground coal miners, exposed to high levels of coal dust for extended periods, are well known and incontrovertible. [24] However, some of the extreme adverse health effects noted in studies of coal miners have been shown to occur with much lower exposures to coal dust. A recent study by researchers from the University of West Virginia examined a population of relatively young miners who developed the most severe form of CWP even though their exposure was limited to currently legal and well-regulated levels of coal dust.[25]

Animal studies have identified a mechanism that explains how smaller exposures can nonetheless have extreme consequences. Using a rat model, researchers examined the pulmonary burden throughout a wide range of coal dust exposures and found that pulmonary clearance mechanisms tend to sequester the dust in lymphatic tissue and the interstitial space between alveoli.[26] This sequestration renders the further clearance mechanisms of the lung inoperable and facilitates an inflammatory cascade, similar to the pathogenesis of silicosis. Studies such as this cast doubt on the simplistic "threshold" model of health risks from coal dust exposure, as pulmonary inflammation and the resultant fibrosis were found over the entire range of exposures. In addition, the synergy of respirable coal dust with other pollutants, such as diesel particular matter, may accelerate lung tissue damage beyond what would be predicted by simply extrapolating from the epidemiological mine data.[27]

The epidemiological effects of respirable coal dust in lower concentrations, or exposure for shorter periods, as can occur for persons living close to transport lines have not been investigated to the same degree as effects on miners. The exposure may be less but cumulatively may be quite significant. A 1993 study on a West Virginia

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[24] G.J. Hathaway et al., Proctor and Hughes' chemical hazards of the workplace, 3d Edition. (1991) New York, NY: Van Nostrand Reinhold; W.M. Marine et al., *Clinically important respiratory effects of dust exposure and smoking in British coal miners*. Am. Rev. Resp. Dis. (1988) 137:106-112

[25] W.A. Wade et al., *Severe occupational pneumoconiosis among West Virginia coal miners: 138 cases of progressive massive fibrosis compensated between 2000-2009.* Chest 139(6): 15458-1463 (2010). One of the questions raised by the City Administrator's notice of hearing dated August 28, 2015 was whether "Existing Federal, State, Regional and/or Local Regulations Adequately Protect Health and Safety." If the existing regulations are inadequate to protect miners whose health issues have been widely known for decades, it seems improbable that adequate regulations exist to protect workers or communities.

[26] J.H. Vincent et al., *Accumulation of inhaled mineral dust in the lungs and associated lymph nodes: implications for exposure and dose in occupational settings.* Annals of Occupational Hygiene 31(3): 375-393 (1987).

[27] M.T. Karagiane, *The effect of inhaled diesel emissions and coal dust in rats. American Industrial Hygiene Journal*. Volume 42(5):382-391 (1981). Because of the acute sensitivity of lung tissue to airborne contaminants, it has been known for a while that there is no safe lower limit for smoking tobacco products. See, e.g., J. Lee Westmaas, *Light Smoking Risky As a Pack a Day?*, American Cancer Society (2013), at http://www.cancer.org/cancer/news/expertvoices/post/2013/01/02/light-smoking-as-risky-as-a-pack-a-day.aspx.

rail line, transporting bituminous coal similar to the coal from Utah, showed loss of coal dust of up to a pound of coal per mile per car.[28] The Burlington Northern Santa Fe (BNSF) Railroad has performed studies of fugitive dust emissions along their own rail lines, but these data have not been made public.[29]

Further, as dust spews from rail cars, it also carries with it harmful substances like mercury, lead, cadmium, arsenic, manganese, beryllium, and chromium.[30] These heavy metal contaminants are known to have many adverse health impacts. The specific risks depend on how much coal dust escapes, the exposure of individuals, and any particular vulnerabilities they may have. Substantial evidence exists that those most likely to be affected by particle pollution are the elderly, children, and people with heart or lung disease.[31] In one study of a coal terminal in Liverpool, England, researchers found that, even after correcting for economic and environmental factors at home, children exposed to coal dust from the nearby docks were more likely to miss school because of respiratory problems, including wheezing and coughing.[32]

In Norfolk, Virginia, home of the Lamberts Point Coal Terminal, soil samples have been found to contain up to 20 percent coal by weight at a site less than 1 kilometer from the docks, 3 percent coal at a site 5 kilometers away, and 1 percent coal as far as 12 kilometers away. High coal levels in soil along railroad tracks suggest that trains are a pathway for contamination. Researchers in Norfolk also found arsenic levels were five times higher than background soil concentrations nearby, and hy-

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[28] Simpson Weather Associates, *Norfolk southern rail emission study: consulting report prepared for Norfolk Southern Corporation*. Charlottesville, VA (1993).

[29] Queensland Government Environmental Protection Agency, *Environmental evaluations of fugitive coal dust emissions from coal trains Goonyella, Blackwater, and Moura coal rail systems, Queensland rail limited*. Connell Hatch and Co. (2008). Final report (not publicly released).

[30] Paul R. Epstein et al., *Full Cost Accounting for the Life Cycle of Coal*, 1219 Annals N.Y. Acad. Sci. 73, 74-75 (2011), *available at* http://www.chgeharvard.org/sites/default/files/epstein_full%20cost%20of%20coal.pdf; *see also* Sharma, PK, Singh G. 1991. *Distribution of suspended particulate matter with trade element composition and apportionment with possible sources in Raniganj coalfield India*. Environmental Monitoring and Assessment 22:237-244; Adebowale Adenui, U.S. Envtl. Prot. Agency, Bioremediation of Arsenic, Chromium, Lead, and Mercury 14, 20, 26, 34 (2004), *available at* nepis.epa.gov/EPA/html/DLwait.htm?url=/Exe/ZyPDF.cgi?Dockey=900Z0C00.pdf

[31] U.S. Envt'l Prot. Agency, *Health Effects of Particulate Matter*, OAQPS Fact Sheet (July 17, 1997, last updated on Aug. 28, 2015); *available at* http://www.epa.gov/region07/air/quality/pmhealth.htm/.

[32] Bernard Brabin et al., *Respiratory morbidity in Merseyside schoolchildren exposed to coal dust and air pollution*, Archives of Disease in Childhood, 1994; 70: 305-312, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1029784/.

pothesize that the coal export terminal is at least partially responsible for the difference because coal often contains arsenic. [33]

Surrounded by four freeways and adjacent to the Port where truck track converges from throughout Northern California, the West Oakland community already is overburdened by air pollution. According to the California Department of Public Health, West Oakland residents experience an alarmingly high rate of emergency room visits due to asthma: 184 visits per 10,000 residents. [34] Other parts of Oakland see rates as low as 38 emergency room visits per 10,000 residents.[35] The state average is 50 ER visits per 10,000 residents.[36] Any additional respiratory burden that would result from coal trains passing through Oakland would be taxing communities whose health has already been compromised.[37]

The developer and TLS's response to these issues is that coal exports through Oakland will not pose a health or safety threat because the mitigation measures they will adopt will eliminate any substantial risk. The next sections of this comment will address these alleged solutions.

B. No measures exist that will prevent exposure of the coal terminal's neighbors to toxic coal dust from passing trains

Although coal dust contains toxic elements that are regularly spewed into ecosystems and communities along the railways, it is currently unregulated.[38] There is no law that requires coal train cars to be covered. Nor have covered rail coal cars been proven to be commercially viable or effective in controlling dust. This is because there are no covered coal cars in use anywhere in the United States.

Despite this, TLS claims the coal will arrive in newly designed covered railcars from point of origin to its new terminal and back that will eliminate fugitive coal dust from blowing off the trains.

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[33] William J. Bounds and Karen H. Johannesson, *Arsenic Addition to Soils from Airborne Coal Dust Originating at a Major Coal Shipping Terminal*, Water, Air, & Soil Pollution, June 21, 2007, 185, 195-207, http://www.springerlink.com/content/98146r 11160021j13/; and Joe Lawlor, *Coal Dust, Piles an Issue for Southeast Newport News*, July 16, 2011, http://articles.dailypress.com/2011-07-16/news/dp-nws-cp-nn-coal-dust-20110716_1_coal-dust-coal-piles-coal-terminals.

[34] Cal. Dept. of Pub. Health, *Asthma Hospitalization and Emergency Room Visits Query Results*; *available at* http://www.ehib.org/page.jsp?page_key=125&year=2012&pmn=EVENT%3DASHO_TYPE%3DR10K_RACE%3DTOTL_AGE%3DTOTL_SEX%3DTOTL_MODEL%3DCONV&agezip=TOTL&geog=ZIP

[35] *Ibid.*

[36] *Ibid.*

[37] *See* Comment of Paul B. English (Sept. 14, 2015), attached hereto as Attachment B.

[38] Tovah R. Trimming, *Derailing Powder River Basin Coal Exports: Legal Mechanisms to Regulate Fugitive Coal Dust From Rail Transportation*, 6 Golden Gate U. Envt'l L. J. 321 (2013); *available at* http://digitalcommons.law.ggu.edu/gguelj/vol6/iss2/7/.

While a half dozen companies have worked on designing rail car covers, there is no indication that any have been manufactured or that they will work satisfactorily. The coal industry states that a basic coal car cover has to meet several design requirements: (1) it must not slow down the process of loading; (2) it must not twist or turn in the wind; (3) it must not freeze up or malfunction whenever there is snow or ice or rain; (4) it must not deform or fly off at maximum train speeds; (5) it must open and close in all kinds of weather without delaying the dumping process; (6) it must provide a safe and secure retrofit to a rail car; and (7) it must not cost so much that no one would ever buy it.[39]

Since there are currently no covered coal cars in operation in the U.S., it is impossible to test any of the designs to determine if they meet these seven requirements that would make them commercially viable and actually do what they purport to do, i.e., prevent the escape of fugitive coal dust. It is a bedrock principle of California environmental law that government cannot rely on future mitigation of adverse impacts by methods and technologies that do not yet exist.[40] And as discussed below in the section on coal storage, we know that coal and coal dust can combust in enclosed spaces. The fact that covered train cars will not allow heat to escape exacerbates the risk of fire during transport.[41] However, because there are no covered coal cars in operation, we have no way of knowing at this point whether covered coal cars might burst into flames, and Oakland should not be the laboratory for this research.

Moreover, TLS's promise of covered coal cars is illusory in other ways. In the United States, with limited exceptions, the rails are regulated by the federal government and direct regulation by state and local governments is preempted. Private rail companies may adopt rules for transport of particular goods to protect their own interests.[42] But such self-regulation by the industry can be changed by the industry and does not represent any guarantee that coal trains coming through Oakland will be covered now or in the future. Under section 3.4.2 of the Development Agreement, the City can legally ban coal exports if it determines that coal exports from

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[39] Dave Gambrel, *Coal Dust Control in the Pacific Northwest*, Coal Age (May 29, 2013); *available at* http://www.coalage.com/departments/transportation-tips/2736-coal-dust-control-in-the-pacific-northwest.html.

[40] Mitigation measures must be "fully enforceable" through permit conditions, agreements, or other legally binding instruments. Pub. Res. Code § 21081.6(b); CEQA Guidelines § 15126.4(a)(2).

[41] Multnomah Cty. Health Dept., *The Human Health Effects of Rail Transport of Coal Through Multnomah County, Oregon, A Health Analysis and Recommendation for Further Action* (Feb. 2013); *available at* https://multco.us/file/9977/download/.

[42] See, for example, BNSF's rules for loading coal cars which it explicitly ties to efforts to prevent damage to its tracks and the track bed. Notably, BNSF does not require covered coal cars.

Oakland pose an unacceptable risk to public health and safety, but federal preemption of rail transportation regulations means the City cannot stop uncovered coal trains passing through the City of Oakland and require them to be covered. TLS has proposed no way to make any such condition binding on shippers who would export coal through Oakland under the Utah agreement.[43] Under these circumstances, the City must assume that the thousands of trains coming to Oakland as a result of OBOT's dedication to coal will be whatever the shippers can legally get away with under existing law: i.e., uncovered coal cars.

Other attempts to control fugitive coal dust, such as the use of surfactants, also are problematic. The BNSF railway, in order to decrease fugitive coal dust that accumulate on rail track ballasts and prevent proper drainage, thereby leading to train derailments, has required that all coal cars be sprayed with a surfactant, a dust suppression topper agent. According to BNSF railway, even these sprays only reduce coal dust by 85 percent compared to untreated train cars.[44] However, this requirement still allows up to fifteen percent of coal dust to be lost. But more importantly, there is no evidence of independent verification that fugitive coal dust is reduced by 85% by the use of surfactants. In a series of cases before the federal Surface Transportation Board, utility companies that are required to follow BNSF Railway's rules for shipping coal have argued that there is insufficient evidence for the effectiveness of these substances.[45]

Moreover, according to the EPA, dust suppression topper agents may have adverse environmental and health impacts, including soil contamination and air pollution.[46] "Potential environmental impacts include surface and groundwater quality deterioration, soil contamination; toxicity to soil and water biota, toxicity to humans dur-

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[43] TLS disingenuously asserts that "the Terminal we are designing and plan to operate will meet or exceed ALL California Environmental Quality Act (CEQA) requirements." See Letter from Jerry A. Bridges to Mayor Libby Schaaf, dated July 15, 2015 (Agenda Report, Attachment C) at 2. CEQA does not contain substantive environmental standards, much less requirements that can be "exceed[ed]." CEQA is a procedural law that requires an environmental review process, but the developer and TLS maintain that the coal export plan revealed this year requires no CEQA review.

[44] BNSF, *Coal Dust Frequently Asked Questions*; *available at* http://www.bnsf.com/customers/what-can-i-ship/coal/coal-dust.html (accessed Sept. 14, 2015).

[45] The Human Health Effects of Rail Transport of Coal Through Multnomah County, Oregon, A Health Analysis and Recommendation for Further Action (Feb. 2013); *available at* https://multco.us/file/9977/download.

[46] Thomas Piechota et al. eds., *Potential Environmental Impact of Dust Suppressants: "Avoid Another Times Beach," an Expert Panel Summary*, U.S. Envtl. Prot. Agency (2002), at v; *available at* www.epa.gov/esd/cmb/pdf/dust.pdf/.

ing and after application, air pollution, accumulation in soils, changes in hydrologic characteristics of the soils, and impacts on native flora and fauna populations."[47]

The jury is still out on whether surfactants or covered cars will decrease the diffusion of coal dust. Given this uncertainty, the only conclusion the City Council can reach is that coal dust from passing trains will endanger communities closest to the rail lines, including those who are resident in the neighborhoods adjacent to Oakland Global.

C. Enclosed storage and transfer of coal at OBOT pose additional threats to health and safety

To control fugitive dust, TLS claims that CCIG and TLS will build a domed storage system and encapsulated conveyors to move the coal from storage to waiting ships. It has provided the City with photographs of a completely enclosed warehouse and dome storage structures.

But the developer has publicly asserted that CCIG is entitled to build whatever coal export facility it wants on land next to the Bay Bridge toll plaza and the Gateway Park without further environmental review. Taking this claim at face value, the City cannot assume that he will follow through with his assurances that he will build covered facilities to store coal between its arrival by rail and its loading onto ships. He might well decide that storing coal in huge piles outside, as is often done at other coal export facilities, will make the Oakland Global project more economically viable and the City would be powerless to insist on a covered facility.[48]

The reason that this is an attractive, if highly polluting, choice relates to specific risks related to storing coal in enclosed structures. Coal is flammable and susceptible to spontaneous combustion.[49] Spontaneous combustion of coal arises from the process of self-heating, resulting eventually in its ignition without the application of external heat. Coal exposed to air absorbs oxygen at the uncovered surface. Some of the exposed coal substance absorbs oxygen faster and the different rates of oxidation result in the formation of gases, mainly carbon monoxide, carbon dioxide, and water vapor along with the generation of heat during the oxidation process. If the rate of dissipation of heat is slow with respect to the generation of heat by oxidation

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[47] *Ibid.*

[48] *See* CBS SF Bay Area, *Billion Dollar Project Will Bring Millions of Tons of Coal to Area Next to Bay Bridge Toll Plaza* (July 1, 2015) (quoting Jerry Bridges as stating, "The CEQA entitlement gives us every right to build and transport what we need to transport in order to be a viable and feasible project."); *available at* http://sanfrancisco.cbslocal.com/2015/07/01/billion-dollar-rail-terminal-for-coal-set-for-area-next-to-bay-bridge-toll-plaza/.

[49] IEA Clean Coal Centre, *Propensity of Coal to Self-Heat*¸ Profiles (Dec. 2010); *available at* http://www.iea-coal.org/documents/82476/7685/Propensity-of-coal-to-self-heat-(CCC/172/.

there is a gradual buildup of heat, and temperature can reach the ignition point of the coal. This causes fires.[50]

Although at ambient temperature, the reaction can be so slow that it is unnoticed, when heat accumulates the temperature rises and the reaction rate increases.[51] Because of coal's propensity to heat spontaneously, ignition sources are almost impossible to eliminate in coal storage and handling.[52]

Where oxidizing coal accumulates and when there is a sufficient supply of oxygen, coal can spontaneously combust. As explained by the authors of the "Operation Spontaneous Combustion Management Plan" for Newcastle Coal, an Australian export terminal, the ignition of accumulated coal can occur in and around the rail infrastructure corridor and train unloading station, conveyors and transfer points, stockpile and ship loading facility.[53]

Spontaneous combustion of coal is a well-known phenomenon, especially with Powder River Basin coal. Like some of the coal mined in Utah, this is highly volatile sub-bituminous coal.[54] Such coal will not only smolder and catch fire while in storage piles at power plants and coal terminals, but also has been known to be delivered to a power plant with the rail car or barge partially on fire.[55]

Many of the studies on spontaneous combustion involve coal from the Powder River Basin. However, Utah coal is also spontaneously combustible. One documented occurrence was at the U.S. Department of Energy's Piñon Pine demonstration project located in the Reno, Nevada. The goals of the Piñon Pine project were to utilize advanced technologies to produce clean, low-cost power from coal and to establish their commercial feasibility beyond the proof-of-concept stage. Unfortunately, the project was aborted in 2001 because of design and equipment flaws. However, for the purposes of these comments, it is instructive that the coal this project used was from the SUFCO mine in Utah. The coal was stored in a dome with a capacity of

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[50] S. Deepak Kumar, *Prevention and Control Module for Spontaneous Combustion of Coal at Coal Yards*, energybiz (Nov. 8, 2011); *available at* http://www.energybiz.com/article/11/11/prevention-and-control-module-spontaneous-combustion-coal-coal-yards/.

[51] *Id.*

[52] William Atkinson, *Combustible Coal Dust: An Explosion Waiting to Happen*, Public Power (June 2009); *available at* http://www.publicpower.org/Media/magazine/ArticleDetail.cfm?ItemNumber=24695.

[53] Phil Reid, Newcastle Coal Infrastructure Group, Operation Spontaneous Combustion Management Procedure; *available at* http://www.ncig.com.au/Portals/2/files/Environment/HSEC_08.09%20Operation%20Spontaneous%20Combustion%20Management%20Procedure.pdf/.

[54] Utah Mining Association, Types of Coal *available at* http://www.utahmining.org/coaltypes2.html (accessed Sept. 18, 2015).

[55] Eric de Place, *Coal's Spontaneous Combustion Problem; Coal Fires Are a Given, But What Are the Risks?*, *available at* http://daily.sightline.org/2012/04/11/coals-spontaneous-combustion-problem/.

16,400 tons, approximately a 20-day supply. Because of the low consumption of the coal due to startup problems, the coal spontaneously combusted. The DOE's solution was to store the coal outside.[56]

The Piñon Pine experience demonstrates the fallacy of TLS's current claim that it will prevent any fugitive coal dust by stockpiling coal in covered domes. As the DOE found, indoor stockpiling of coal increases the risk of fires. If TLS reaches a similar conclusion, the City will be unable to enforce TLS's promises of a covered facility.

Other mitigating measures create their own problems. Water can be constantly sprayed on coal piles to prevent spontaneous combustion but then toxins are leached into the soil and water drainage.[57] Extensive use of water is, of course, also problematic during the current drought.

TLS may claim that it will have mitigation strategies in place. If TLS does produce such plans, there may be no way to evaluate their effectiveness at this point, when the developer asserts that it needs no further approvals or environmental review. Nor is there an enforcement mechanism to ensure TLS will follow through with what they present outside of an approval process.

D. Coal dust combustion threatens the health and safety of workers and adjacent neighborhoods

Coal dust also is highly combustible and an explosion hazard. According to Francisco Castano, president of Geometrica Inc., a manufacturer of domes for storing coal, if a coal dust cloud is generated inside an enclosed space, and an ignition source is present, an explosion can ensue.[58]

According to the U.S. Occupational Safety and Health Administration, there are five elements required for a dust explosion. The first three complete the fire triangle: combustible dust (fuel), an ignition source (heat) and oxygen in the air (oxidizer). The two additional elements needed for a combustible dust explosion are dispersion of dust particles in sufficient quantity and concentration, and confinement of the dust cloud.[59] The addition of these latter two elements to the fire triangle creates what is known as the explosion pentagon. If a dust cloud (diffused fuel) is ignited within a confined or semi-confined vessel, area or building, it burns very

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[56] U.S. Dept. of Energy, Piñon Pine IGCC Power Project: A DOE Assessment (Dec. 2000) 12, 16; *available at* https://www.netl.doe.gov/File%20Library/Research/Coal/major%20demonstrations/cctdp/Round4/PinonPineR2.pdf.
[57] Nick Gier, *Coal Problem: Coal Trains Threaten Our Health and Our environment,* Idaho State U., Dec. 2, 2012; *available at* 2012 WLNR 25595680.
[58] Atkinson, *Combustible Coal Dust: An Explosion Waiting to Happen*, *supra*.
[59] *Id.*

rapidly and may explode. The safety of employees is threatened by the ensuing fires, additional explosions, flying debris and collapsing building components.[60]

The dust is notoriously difficult to control.[61] In structures where large amounts of dust are allowed to settle in various places, impacts or vibrations could dislodge the dust, creating a combustible atmosphere.[62] Dust clouds may generate wherever loose coal dust accumulates, such as on structural ledges of domes if there is a nearby impact or vibration due to wind, earthquake, or even maintenance operations can create a combustible atmosphere.[63] Dust can be generated at the terminal site, if bulldozers shift and rotate the coal to lessen the risk of fire.[64] Constant turnover may be required to both keep the coal in one area and prevent spontaneous combustion.[65] Any enclosed area where loose dust accumulates is at great risk. Further, even a small conflagration can result in a catastrophic "secondary" explosion if the small event releases a much larger dust cloud.[66]

To prevent coal dust from spewing all over the West Oakland neighborhood, CCIG wants to build a covered coal terminal. But as explained above, covered terminals are susceptible to explosions and pose their own health and safety risks for workers in these terminals and to West Oakland residents.

Mitigation efforts do not make covered coal terminals any safer and bring with them other problems. To prevent fires, TLS must find ways to limit the amount of accumulated dust. This could involve frequent wash-downs, which cannot be safely done around electrical equipment, due to risk of ignition.[67]

The World Health Organization (WHO) cites coal dust, along with silica and asbestos, as responsible for most occupational lung diseases due to airborne particulates.[68] Coal transport, warehousing, and loading operations will increase worker exposure to coal dust due to inherent jostling of the commodity. Covering and confining the coal export terminal and its operations will only exacerbate these prob-

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[60] *Id.*
[61] Erik Olson, *Westside provides glimpse of Longview's potential future with coal*, The Daily News (Feb. 12, 2011); *available at* http://tdn.com/news/local/article_35ad9c0c-3634-11e0-8eea-001cc4c03286.html/.
[62] Atkinson, *Combustible Coal Dust: An Explosion Waiting to Happen*, *supra*.
[63] *Id.*
[64] Coal Train Facts; *available at* http://www.coaltrainfacts.org/key-facts.
[65] *Id.*
[66] Atkinson, *Combustible Coal Dust: An Explosion Waiting to Happen*, *supra*.
[67] Atkinson, *Combustible Coal Dust*, *supra*.
[68] Tim Driscoll et al, *Occupational airborne particulates: Assessing the environmental burden of disease at national and local levels*, Environmental Burden of Disease Series, No. 7, World Health Organization, Protection of the Human Environment, Geneva 2004; *available at* http://www.who.int/quantifying_ehimpacts/publications/en/ebd7.pdf.

lems because dust will be more concentrated within the workspace. And as stated above, covered coal operations raise significant safety concerns for workers related to the increased likelihood of coal combustion when it is confined.

E. Coal dust and leachates pollute waterways, often with long-lasting impacts

Coal and coal dust can contaminate water. As explained above, coal leachates can enter the soil and water during the frequent spraying of water on coal piles to prevent spontaneous combustion.

Leachates from coal are harmful to the environment when they are absorbed into the soil or a nearby body of water. Coal leachates have high concentrations of sulfate, iron, and aluminum, and have an acidic pH.[69]

Ship accidents are another way coal can contaminate water. For example, in 2012 a coal ship crashed into the dock at the Westshore Terminal in Vancouver and spilled coal into the water.[70] "Very fine material, if it stays suspended especially, could impact filter feeders and small invertebrates. Things like oysters and clams – it could get into their system and it's not soluble, so it would just stay in there clogging their insides" [71] "larger chunks of coal have the potential to smother benthic organisms—bottom-feeding fish and other marine plants and animals." [72]

Even one coal-related accident, such as a spill or leakage, can have repercussions for over a century. Studies on a coal ship that sank in 1891 near British Columbia found in 2012 that the coal is still a source of polycyclic aromatic hydrocarbons (PAHs) and other pollutants in the surrounding water.[73]

It is unlikely that train cars and storage facilities will be completely water-tight, which would be necessary to prevent leaching into the Estuary.

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[69] G.S. Ghuman et al, *Biogeochemistry of Trace Elements in Coal and Coal Combustion Byproducts, Impact of Coal Pile Leachate and Fly Ash on Soil and Groundwater* (1999); *available at* http://link.springer.com/chapter/10.1007/978-1-4615-4155-4_14#page-1

[70] Gordon Hamilton, Tiffany Crawford, *Ship crashes into dock at Westshore Terminals, spilling coal into water*, Vancouver Sun (Dec. 9, 2012); *available at* http://www.vancouversun.com/news/Ship+crashes+into+dock+Westshore+Terminals+spilling+coal+into+water+with+video/7667184/story.html#ixzz3lf5EMdGH

[71] *Id.*

[72] *Id.*

[73] Mark B. Yunker et al., *Source apportionment of elevated PAH concentrations in sediments near deep marine outfalls in Esquimalt and Victoria, BC, Canada: Is coal from an 1891 shipwreck the source?*, Journal of Organic Geochemistry (2012); *available at* http://cat.inist.fr/?aModele=afficheN&cpsidt=25821441

III. Coal exports will drive climate change resulting in substantial danger to the health and safety of Oakland residents

A. Coal exports from Oakland will result in substantial contribution to climate change

As science has made increasingly clear, time is running out on our ability to make new commitments to fossil-fuel infrastructure and still indulge the illusion that we can leave a world to our children and grandchildren similar to the one in which we grew up. The public policy issue confronting elected leaders is not merely our behavior in consuming fuels in the future, but the commitments we are making today to burn those fuels.

In August 2014, Steve Davis of the University of California and Robert Socolow of Princeton University published a groundbreaking paper in *Environmental Research Letters* entitled "Commitment accounting of CO_2 emissions." In their paper, Davis and Socolow presented a profound new way to envision what is at stake when decisions are made about making new commitments to fossil-fuel infrastructure. When commitments are made in the present that will last for decades into the future, we must account for them now. As author Stephen Leahy explains, "A new coal plant will emit CO_2 emissions throughout its 40- to 60-year lifespan. That's called a carbon commitment."[74]

Based on Davis and Socolow's analysis, Leahy has added up the sum of our current carbon commitments and the pace at which we are adding to them and comes to a startling conclusion:

> In only three years there will be enough fossil fuel-burning stuff—cars, homes, factories, power plants, etc.—built to blow through our carbon budget for a 2 degrees Celsius temperature rise. Never mind staying below a safer, saner 1.5ºC of global warming. The relentless laws of physics have given us a hard, non-negotiable deadline, making G7 statements about a fossil fuel-phase out by 2100 or a weak deal at the UN climate talks in Paris irrelevant.[75]

Building an export terminal designed to send up to 10 million tons per year of coal to Asian export markets for the next 66 years is a massive carbon commitment. Indeed, the magnitude of this carbon commitment is staggering. As a matter of sim-

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[74] Stephen Leahy, *A Hard Deadline: We Must Stop Building New Carbon Infrastructure by 2018*, The Leap (July 2, 2015) at http://theleap.thischangeseverything.org/author/stephen-leahy/.
[75] Leahy, *supra*; see also Bobby Magil, *Coal Plants Lock in 300 Billion Tons of CO_2 Emissions*, Climate Central (Aug. 28, 2014); *available at* http://www.climatecentral.org/news/coal-plants-lock-in-300-billion-tons-of-co2-emissions-17950.

ple arithmetic, dedication of OBOT facility to coal exports could result in the burning of two-thirds of a billion tons of coal during the 66-year term of the developer's lease—a quantity of coal sufficient to produce over 1.5 billion tons of CO_2.[76]

The City Council is now considering the health and safety impacts of facilitating the release of over a billion tons of CO_2 into the atmosphere. We are not talking about a *de minimis* addition of carbon to the atmosphere, but a substantial amount. The incremental amounts of atmospheric carbon that will drive climate change are measured in billions of tons. *A billion tons matters*. For example, in one of the most famous *Rolling Stone* articles of all time, climate activist Bill McKibben explained that we have a "budget" of 565 billion tons of carbon dioxide that we can release into the atmosphere and still have a reasonable chance of staying within a 2ºC limit on global warming.[77] Although scientists now suspect a 1.5ºC limit may be needed, a 2ºC limit gives us some chance of avoiding catastrophic climate change, ocean acidification, sea level rise, and biodiversity loss.

Two important facts about that budget: (1) the budget must be shared by the entire human race and (2) the budget is over the next few centuries because, once CO_2 levels in the atmosphere rise, they take millennia to recede and the climate impacts are "baked in."[78] Thus, a commitment by the City of Oakland to build a coal export terminal could result in the consumption of over one-tenth of one percent of humanity's entire remaining budget of fossil fuel emissions. That may sound small, but all it takes is 1,000 similar commitments and our species can say goodbye to any hope of passing on to succeeding generations a climate similar to the one in which our civilization has operated. We Oaklanders are not one out of a thousand but only one out of every 17,500 people alive today. There are 7 billion people on Earth, only 400,000 of whom are lucky enough to live in Oakland. This, of course, raises a question of equity. This one project will use up 17½ times our fair share of the global carbon budget.

But there is another factor to consider. We are must evaluate the dangers of coal exports in the context of what the world's premier climate scientist, James Hansen,

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[76] The addition of two oxygen atoms to coal's carbon atoms when coal burns results in more than two tons of CO_2 emissions from each ton of coal burnt. B.D. Hong & E.R. Slatik, Energy Information Administration, *Quarterly Coal Report, January-April 1994*, DOE/EIA-0121(94/Q1) (Washington, DC, Aug. 1994), *available at* http://www.eia.gov/coal/production/quarterly/co2_article/co2.html.

[77] Bill McKibben, *Global Warming's Terrifying New Math*, Rolling Stone (July 9, 2012); *available at* http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719. Scientists have validated McKibben's general approach while debating the limit. *See* Fred Pearce, *What Is the Carbon Limit? That Depends Who You Ask*, Yale Environment 360 (Nov. 6, 2014); *available at* http://e360.yale.edu/feature/what_is_the_carbon_limit_that_depends_who_you_ask/2825/.

[78] U.S. Envt'l Prot. Agency, Future Climate Change, *available at* http://www3.epa.gov/climatechange/science/future.html (accessed Sept. 18, 2015).

has referred to as a "planetary emergency."[79] The point of irreversible climate change is usually thought of as a 2°C (3.6°F) increase in global average temperature, which has been described as equivalent at the planetary level to the "cutting down of the last palm tree" on Easter Island.[80] An increase of 2°C in global average temperature coincides roughly with *cumulative* carbon emissions of around one trillion metric tons. Based on past emissions trends it is predicted by climate scientists at Oxford University that we will hit the one trillion metric ton mark in 2043, or thirty-one years from now. We could avoid emitting the trillionth metric ton if we were to reduce our carbon emissions beginning immediately by an annual rate of 2.4 percent a year.[81]

But, despite the commitment of governments throughout the world in 2009 to a 2°C limit on global warming, our global carbon emissions have been increasing not decreasing at the requisite 2.4 percent per year. Under such circumstances, every claim of a vested right to build new fossil-fuel infrastructure without rigorous environmental review must be viewed with extreme skepticism. The evolution of our scientific understanding of the severity of climate impacts has outpaced the evolution of our legal system's ability to protect us from unprecedented threats to our health, safety, and well-being.

The objection has been raised that, because the effects of greenhouse gas emissions are global, the local impact is not enough to require local action. But when we are talking (almost literally) about a plan to pour additional fuel on a raging fire, the need to respond to the planetary emergency requires a change in perspective. If the police power cannot protect us from such foolishness—if we cannot think globally

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[79] Mariano Andrade, phys.org (Sept. 20, 2012), *Planetary emergency due to Arctic melt, experts warn*, at http://phys.org/news/2012-09-planetary-emergency-due-arctic-experts.html.

[80] See John Bellamy Foster, *Occupy Denialism: Toward Ecological and Social Revolution*, MRZine (Nov. 11, 2011); *available at* http://mrzine.monthlyreview.org/2011/foster111111.html.

[81] Allen Myles et al., "The Exit Strategy," *Nature Reports Climate Change,* April 30, 2009, 56–58, and "Warming Caused by Cumulative Carbon Emissions Towards the Trillionth Tonne," *Nature* 458 (April 20, 2009): 1163–66; Malte Meinshausen et al., "Greenhouse-Gas Emission Targets for Limiting Global Warming to 2°C," *Nature* 458 (April 30, 2009)1158–62; *available at* *https://www1.ethz.ch/iac/people/knuttir/papers/meinshausen09nat.pdf*; TrillionthTonne.org; Catherine Brahic, Humanity's Carbon Budget Set at One Trillion Tons, *New Scientist* (Apr. 29, 2009); *available at* http://www.newscientist.com/article/dn17051-humanitys-carbon-budget-set-at-one-trillion-tonnes.html; Katherine Richardson, Will Steffen, and Diana Liberman, *Climate Change*: *Global Risks, Challenges, and Decisions* (Cambridge: Cambridge University Press, 2011), 212. An increase in global average temperature of 2°C is equivalent to a carbon dioxide concentration in the atmosphere of 450 parts per million (ppm). This would be too much for long-term stabilization of the climate, which requires no more than 350 ppm. However, keeping below the trillionth metric ton in emission is regarded as a prior constraint, since it constitutes a point of no return in terms of the possibility for effective human action with regard to these processes. If carbon emissions could be stopped below a trillion metric tons, it would be possible to get back down over time to 350 ppm. See http://trillionthtonne.org/questions.html#5.

and act locally along with many others around the world—then our narrow definition of what is dangerous to our health and safety will become a suicide pact.

B. Climate change will result in substantial danger to the health and safety of Oakland Global's neighbors

There are many ways that climate change—exacerbated by the proposed coal exports—will impact the residents of Oakland and, in particular, Oakland Global's neighbors in West Oakland.

In 2002, the Oakland City Council formally recognized the danger that global warming could cause the sea levels to rise, putting the City's groundwater aquifers at risk of saltwater contamination and threatening to flood the airport and sewer systems.[82] The link between fossil fuel consumption and rising sea levels is well-established. One study indicated that Oakland's flatlands could be flooded with as much as nineteen inches of sea level rise by 2050.[83] Oakland's sewer and drainage systems have already had problems with overflow during past storm surges.[84] A study of the impact of sea level rise on airports across the country indicated serious consequences for Oakland, which will have the second-most severe effects of U.S. airports, after the most at-risk airport in San Francisco.[85] Rising sea levels will also result in increased risks of earthquakes and tsunamis.[86]

The impact of extreme heat was documented in a 2012 risk assessment which found that Oakland area was the most vulnerable place in the Bay Area to extreme heat. Extreme heat is associated with pre-term births, deaths from heart conditions, and heat stress.[87] African Americans were noted as especially vulnerable to climate health impacts. Lower income populations often have less access to resources that can offset heat and its related illnesses, including being able to afford air condition-

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[82] Katherine Q. Seelye, *2 Western Cities Join Suit to Fight Global Warming,* New York Times (Dec. 24, 2002), at http://www.nytimes.com/2002/12/24/politics/24ENVI.html/.

[83] Barbara Grady, *When the sea levels rise in the Bay, where will it hurt in Oakland?* OaklandLocal (Jun. 12, 2014); *available at* http://oaklandlocal.com/2014/06/when-the-sea-levels-rise-in-the-bay-where-it-will-hurt-in-oakland/.

[84] Barbara Grady, *Sea Level Rise Threatens Oakland's Sewer System*, Climate Central (June 17, 2014); *available at* http://www.climatecentral.org/news/sea-level-rise-oakland-sewer-17567.

[85] Andrew Freedman, *U.S. Airports Face Increasing Threat From Rising Seas*, Climate Central, June 18, 2013; *available at* http://www.climatecentral.org/news/coastal-us-airports-face-increasing-threat-from-sea-level-rise-16126.

[86] James Temple, *Projecting warming's impact on Bay Area*, SFGate (Jan. 5, 2013); *available at* http://www.sfgate.com/science/article/Projecting-warming-s-impact-on-Bay-Area-4170481.php.

[87] Climate Change Impacts, Vulnerabilities, and Adaptation in the San Francisco Bay Area: A Synthesis of PIER Program Reports and Other Relevant Research, A White Paper from the California Energy Commission's California Climate Change Center (July 2012); *available at* http://www.energy.ca.gov/2012publications/CEC-500-2012-071/CEC-500-2012-071.pdf.

ing and electric costs. They often lack the medical coverage to receive prompt treatment for a heat-related medical condition.[88]

Climate change also aggravates other health conditions. The health dangers of local pollution from coal dust are sometimes viewed as completely separate from the health dangers of global warming. But in fact these threats overlap. Higher temperature ***by itself*** contributes to local air pollution and health problems, even if coal can be transported and unloaded absolutely cleanly. As biologist Sandra Steinberg has explained,

> the problems of toxicity [from air pollution] and temperature are not independent of each other. Higher global temperatures accelerate the creation of toxic lung pollutants, such as ozone, nitrogen dioxide, particles and carcinogens. And they accelerate the evaporation of liquid pollutants, like gasoline. By raising the heat, you raise the air's toxicity. Higher temperatures also increase levels of pollen, dust mites, and fungal spores. In all these ways, climate change is an asthma trigger.[89]

Climate change also increases fire risk. Scientists have now determined that California's ongoing drought is the worst drought in 500 years and climate change appears to be a significant factor in its causation. The recent horrific fires in Lake, Napa, Sonoma, and Butte counties are the predicted consequences of fossil fuel-induced climate change. Although we have been spared a major urban fire in Oakland for over two decades, the Oakland hills taught us that the unthinkable sometimes happens. The Oakland Hills fire of 1991 alone produced $1.5 billion in damages, killed 25, and demolished 3,810 apartment units and homes.[90]

C. Oakland cannot escape responsibility for the contribution of its coal exports to climate change, ocean acidification, and human ill health with unsubstantiated arguments that the coal will pass through other ports or will simply be replaced with some other coal

It has been argued that if the coal is not shipped through Oakland to be burned overseas, it will be shipped through another port. However, activists

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[88] *Id.*

[89] Sandra Steinberg, Raising Elijah, Boston, Da Capo Press (2011), at 160; *see also id.* at 159 ("In a 2008 study, Stanford Engineer Marc Jacobson demonstrated that upticks in the average temperature of the planet lead to significant increases in human deaths due to air pollution.... Global climate change is, thus, already contributing to the burden of child asthma."), citing M.Z. Jacobson, *On the Causal Link Between Carbon Dioxide and Air Pollution Mortality*, Geophysical Research Letters, 35 (2008); available at https://web.stanford.edu/group/efmh/jacobson/Articles/V/2007GL031101.pdf

[90] *Id.* at 23.

along the West Coast have been opposing coal exports, with notable success in the Northwest.[91] By stopping coal export wherever it is proposed, the potential use of U.S. coal overseas may be averted entirely.

It has also been argued that people overseas require coal and will be using coal in any case, whether or not they have access to U.S. coal. US coal exports would not supplant the burning of dirtier Chinese coal. Instead, North American exports would add to the volume burned in Asia. As resource economist Thomas Michael Power has explained, increased supply lowers the cost of a commodity, making it more economical to increase consumption.[92]

This result—that international competition to serve particular import markets will lower the prices that the importing countries have to pay—should not be startling. One of the major benefits of international trade is that it allows countries access to lower cost sources of supply.

In other words, U.S. coal exports will not simply displace other coal in the market. Instead, U.S. coal exports will adhere to fundamental economic principles: an increase in supply will bring down market prices and thereby increase total consumption. The extent to which increasing supply will boost demand is debatable—just like the extent to which higher prices would dampen demand—but the direction of the change is clear.

In fact, some underlying dynamics may make U.S. exports even more critical. As Power points out, lower prices may encourage China to build more coal-burning power plants than they otherwise would, an investment that would lock in elevated coal burning and pollution for decades to come.

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[91] Eric de Place, *Coal Export: A History of Failure at Western Ports*, Sightline Institute (Aug. 2012); *available at* http://www.sightline.org/research/coal-export/; Katherine Bagley, *Losing Streak Continues for U.S. Coal Export Terminals*, Inside Climate News (Jan. 12, 2015); *available at* http://insideclimatenews.org/news/20150112/losing-streak-continues-us-coal-export-terminals; Rhiannon Williams, *Port of Long Beach Receives Backlash from Environmental Groups*, CSU-Long Beach Daily 49er (Apr. 30, 2015); *available at* http://www.daily49er.com/news/2015/04/30/port-of-long-beach-receives-backlash-from-environmental-groups/.

[92] Thomas M. Power & Donovan S. Power, *The Impact of Powder River Basin Coal Exports on Greenhouse Gas Emissions*, Power Consulting Inc. (2013), *available at* http://www.powereconconsulting.com/WP/assets/GHG-Impact-PRB-Coal-Export-Power-Consulting-May-2013_Final.pdf; Thomas M Power, *The Greenhouse Gas Impact of Exporting Coal from the West Coast: An Economic Analysis*, Sightline Institute (2011); *available at* http://powerpastcoal.org/wp-content/uploads/2011/09/Coal-Power-White-Paper.pdf

IV. The City Council Has Authority to Protect the Health and Safety of Oakland Residents Who Will Be Affected by Coal Exports

A. Section 3.4.2 of the Development Agreement carves out an exception to the rule that after-enacted zoning laws cannot be applied to projects that are already underway

Despite rumored threats by the developer to sue the City of Oakland if the City Council adopts the proposed ban on coal exports, the legal grounds upon which the City Council prohibit coal exports are clearly set forth in the Development Agreement dated July 16, 2013 between the City of Oakland and the developer. Section 3.4.2 of the Development Agreement provides as follows:

> Notwithstanding any other provision of this Agreement to the contrary, City shall have the right to apply City Regulations adopted by City after the Adoption Date, if such application (a) is otherwise permissible pursuant to Laws (other than the Development Agreement Legislation), and (b) City determines based on substantial evidence and after a public hearing that a failure to do so would place existing or future occupants or users of the Project, adjacent neighbors, or any portion thereof, or all of them, in a condition substantially dangerous to their health or safety.

In California, a development agreement is a statutorily authorized agreement between a municipal government and a property owner for the development of the property.[93] One of the main components of a development agreement is a provision freezing the municipality's rules, regulations, and policies governing permitted uses of land and density of the land use, as well as standards and specifications for design, improvement, and construction.[94] This provision allows a developer to make long-term plans for development without risking future changes in the municipality's land use rules, regulations, and policies.[95]

Because Oakland is a charter city, the Government Code provisions relating to development agreements do not apply directly to the City of Oakland.[96] However, Oakland has adopted its own ordinances, paralleling the state

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[93] Gov. Code, § 65865, subd. (a).
[94] Gov. Code, § 65866.
[95] Santa Margarita Area Residents Together v. San Luis Obispo County Bd. of Supervisors (2000) 84 Cal.App.4th 221, 227 (*SMART*).
[96] Under Government Code section 65803, except as otherwise provided, the provisions of Government Code title 7, div. 1, ch. 4 (i.e., Government Code § 65800 et seq.) do not apply to a charter city, except to the extent that the same may be adopted by charter or ordinance of the city.

statutes, authorizing the City (1) to enter into development agreements with any person having a legal or equitable interest in real property[97] and (2) to establish the authority and procedure for review and approval of proposed development agreements by the City.[98] The LDDA, a complex lease agreement between the City as land owner and the developer, established the developer's interest in the real property at the former Oakland Army Base but it did not confer any protection on the developer against changes in the law that might occur in laws regulating the use of the property.

The DA, an agreement between the City acting as a municipality and the developer, was adopted seven months after the LDDA with four purposes: (1) to vest the land use policies in effect as of the July 2013 date of adoption; (2) to vest the developer's rights and the City's obligations regarding current and future approvals necessary for the Project; (3) to allocate responsibility for the cost and implementation of the mitigation monitoring and reporting program; and (4) and to memorialize certain "other agreements" between the City of Oakland and the developer with respect to the project.[99]

The exception to the developer's vested rights contained in section 3.4.2 was one of those "other agreements."

Section 3.4.2 embodies the Reserved Powers Doctrine, a well-established legal principle that limits the extent to which sovereign governments can contract away their powers to protect public health and safety. As United States Supreme Court framed the rule 135 years ago, "the legislature cannot bargain away the police power of a State."[100] Thus, a current legislative body cannot use its contract power to bind future legislatures and limit their discretion in exercising the police power.[101] If a development agreement bargains away the police power, it is void *ab initio*.[102] Accordingly, section 3.4.2 is, in some sense, merely a recognition of the principle that some subsequent regulations may apply, even to a developer whose project has already been approved and granted a development agreement, where public health and safety are at stake.

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[97] See Muni. Code § 17.102.310
[98] See Muni. Code ch. 17.138.
[99] See DA, Recital C, at 2
[100] *Stone v. Mississippi*, 101 U.S. 814, 817 (1880)
[101] *See* David A. Callies, *Development Agreements*, in Zoning and Land Use Controls ch. 9a, at 7, 10 (2000).
[102] *See United States Trust Co. v. New Jersey*, 431 U.S. 1, 23 (1977).

B. Provided the City complies with the requirements of section 3.4.2, the developer's threatened suit against the City would have little chance of success

If the City Council exercises its authority under section 3.4.2, a legal attack will have to argue that the City Council abused its discretion in enacting the ordinance prohibiting bulk export of coal from Oakland's new marine terminal. A reviewing court will not ordinarily set aside a legislative act unless it is arbitrary, capricious, or unlawful. The Development Agreement limits the right of the City to apply the ordinance to the developer only if the "City determines based on substantial evidence and after a public hearing that a failure to do so would place existing or future occupants or users of the Project [or] adjacent neighbors … in a condition substantially dangerous to their health and safety."[103]

Thus, should the developer sue, it would confront the high hurdle of showing that the City had insufficient evidence to support the adoption of the ordinance banning coal export. Review under the substantial evidence rule is extremely deferential and asks not whether City evaluated the weight of the evidence correctly, but only whether there was enough evidence to support the decision, disregarding the other information. The most common application of substantial evidence rule is where an appellate court reviews the factual determinations made by a trial court. Judicial decisions from the appellate courts make clear that judges are not reevaluating the evidence from scratch. "When the trial court's factual determination is attacked on the ground that there is no substantial evidence to sustain it, the power of an appellate court begins and ends with the determination as to whether, on the entire record, there is substantial evidence, contradicted or uncontradicted, which will support the determination."[104] Substantial evidence is not just any evidence to support the factual finding. The evidence must be reasonable in nature, credible and of solid value.[105] However, the fact that there may be conflicting evidence, and even that most of the evidence supports the challenger, will not support overturning the decision.[106]

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[103] D.A., § 3.4.2.
[104] *Bowers v. Bernards*, 150 Cal. App. 3d 870, 872-73 (1984).
[105] *Id.* at 873.
[106] *Campbell v. Southern Pacific Co.* (1978) 22 Cal.3d 51, 60 ("we review the entire record in the light most favorable to the judgment to determine whether there are sufficient facts, contradicted or uncontradicted, to support the judgment."); *see also Kuhn v. Department of General Services* (1994) 22 Cal.App.4th 1627, 1632-1633 (in evaluating the evidence, courts accept reasonable inferences in support of the judgment and do not consider whether contrary inferences may be made from the evidence).

C. A ban on coal exports from Oakland's own property will not violate the Dormant Commerce Clause

In the City Administrator's Notice of Public Hearing on the Health and/or Safety Impacts of Coal dated August 28, 2015, the City invited the public to submit information, testimony and other evidence regarding the Dormant Commerce Clause. Presumably, this request arose out of concern that regulation of trans-shipment of coal through Oakland would violate the Commerce Clause of the United States Constitution by discriminating against or interfering with interstate or foreign commerce.

This topic was covered thoroughly in a recent law review article that discusses at length the Dormant Commerce Clause in relation to local regulation of coal export terminals.[107]

In this article, the authors explain that, under the Dormant Commerce Clause doctrine, state and local regulations violate the Commerce Clause (1) if they discriminate against interstate commerce on their face or (2) if they place an undue burden on interstate commerce. On its face, an Oakland ordinance prohibiting coal exports from City-owned land would not discriminate between California and out-of-state coal producers, even if there are no California producers. Moreover, the first prong is not met merely by discrimination against a product that comes exclusively from out-of-state suppliers if the disparate treatment "results from natural conditions." [108] Thus, "treating coal differently because of its unique impacts on the environment would not offend the dormant Commerce Clause." [109] The authors concluded that it is unlikely that regulation based on coal's local impacts would amount to prohibited discrimination against the interstate movement of coal.[110]

The second prong "undue burden" test is more difficult to meet. Under the applicable balancing test, a nondiscriminatory state or local law will be upheld unless its impacts on interstate commerce are "clearly excessive in relation to the putative local benefits."[111] As the authors of the law review article point out, the Ninth Circuit has referred to *Pike*'s balancing test as the "minimal scrutiny test." [112] Unless a facially non-discriminatory law is "unreasonable or irrational," courts "should not second-guess the empirical judgments of lawmakers concerning the utility of legisla-

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[107] *See* Henry W. McGee et al., *Coal and Commerce: Local Review of the Gateway Pacific Coal Terminal*, 4 Seattle J. Envtl. L., 283 (2014).
[108] *See id.* at 309 & n.133.
[109] *Id.* at 309.
[110] *Id.*
[111] *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1960).
[112] *Black Star Farms LLC v. Oliver*, 600 F.3d 1225, 1231 (9th Cir. 2010); *see* McGee, *Coal and Commerce*, at 302.

tion."[113] A ban on coal exports may not be based on impacts that are merely illusory, but findings based on substantial evidence will suffice, even if there may be substantial contrary evidence. The City Council is, therefore, free to make an empirical judgment and decide what to do to protect the health and safety of Oakland Global's neighbors and workforce, and the City's legislative judgment should survive judicial review.

The law review article also discusses enhanced authority for local regulation of land owned by the City as a "market participant."[114] Depending on the particular terms of an ordinance dealing with coal exports, this issue may play an important role in the analysis. In any case, for the reasons set forth in the article, local regulation of coal exports from City-owned property in Oakland will not seriously implicate the Dormant Commerce Clause.

D. The City Council can enact an ordinance banning coal exports by a simple majority vote

Rumors have been circulating that the City Council cannot pass a ban on coal exports by a simple majority vote. These rumors, repeated by some City officials, have never cited any particular provision of the City Charter or Code that requires a super-majority vote.

There are only rare instances where a 4/5ths vote (which in the case of the 8-member City Council would require 7 ayes) is required to pass legislation. Government Code section 65858 requires a 4/5ths vote to "adopt as an urgency measure an interim ordinance" which is effective for only 45 days in order "to protect the public health, safety, and welfare" while a legislative body or planning department is studying a question that may lead to a more permanent enactment.[115] The interim ordinance can twice be extended for additional time.[116]

Nothing in section 3.4.2 of the Development Agreement requires the City to "adopt as an urgency measure an interim ordinance" regulating coal exports while it studies the matter. The requirements of section 3.4.2 are that the City hold a public hearing after which it must make a determination whether substantial evidence has been presented that failure to adopt an ordinance banning coal "would place existing or future occupants or users of the Project [or] adjacent neighbors … in a condition substantially dangerous to their health and safety." There is no requirement that the City Council adopt an interim ordinance prior to adoption of a measure

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[113] *S.D. Myers v. City and Cnty. of S.F.*, 253 F.3d 461, 471 (9th Cir. 2001) (internal quotations and citations omitted).
[114] McGee, *Coal and Commerce*, at 303-304.
[115] Govt. Code, § 65858, subd. (a).
[116] *Id.*

that would ban coal exports. Moreover, such an interim ordinance would be pointless as OBOT will likely take years to build so the danger of coal exports through OBOT is not immediate.

What is immediate is the interest of all parties in having a swift resolution of the controversy, which an ordinance banning coal exports from the City's land will bring.

V. The developer's claim that the success of the entire project depends on coal exports is without merit

Defenders of the developer's coal export plan argue that, although coal exports have unfortunate environmental consequences, the more important thing is to bring jobs to Oakland, and a ban on coal exports will kill jobs. This argument rests on two premises: (1) that, without coal exports, the entire project will collapse and the Building Trades workers will lose all their expected hours of work and (2) that coal exports will contribute to the success of the project and bring prosperity to Oakland. These arguments are false.

A. OBOT is viable without coal as one of its commodities

When the developer signed the LDDA in 2012 and the Development Agreement in 2013, he had promised a city councilmember and the public in a writing on his website that he would not export coal from OBOT. Thus, when he entered into those agreements, he believed that OBOT would be viable and profitable without coal. Nothing has changed today that would alter his belief except for the $53 million that the four Utah counties are dangling in front of him.

In examining other ports on the West Coast, it is clear that coal is a small proportion of the commodities they ship. Coal accounts for only 0.15% and 0.8% of the value of all exports out of the entire Los Angeles district and the entire San Francisco district, respectively.[117] The ports in the Seattle, Columbia-Snake, and San Diego districts do not export coal at all.[118] Like these ports, OBOT can be viable without coal.

There are 15,000 possible commodities that can be shipped from OBOT. Oakland's top 10 containerized export commodities are wood pulp, fruit and nuts, meat, fish, beverages, oil seeds, grains, seeds, cereals, iron and steel, preserved vegetables,

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[117] West Coast exports; sheet LA 27; cell B3, sheet SF 27; cell B3, USA Trade Online (accessed Aug. 19, 2015); *available at* https://usatrade.census.gov/.

[118] West Coast exports; sheet SD27; column A sheet CS 27; column A; cell D7 sheet SEA 27; cells D7 and D1, USA Trade Online (accessed Aug. 19, 2015); *available at* https://usatrade.census.gov/

fruits, and nuts, plastics, food waste.[119] OBOT will be able to export a greater volume of some of these dry bulk commodities. And it can export oversized items such as tractors, bulldozers, aircraft and parts, machinery, wood, pipes, pumps, and turbines which as explained below, create far more jobs than coal exports.[120]

B. Coal exports will bring fewer permanent jobs to Oakland

Coal export terminals bring far fewer permanent jobs than terminals that ship other dry bulk goods and oversized commodities. A Port of Seattle economic impact study found that shipping 1,000 metric tons of grain—a bulk commodity like coal—generates just 0.09 jobs, compared with 0.57 jobs for containerized cargo and 4.2 jobs for "break bulk" cargo, such as big machines or goods shipped on pallets, which requires more handling.[121]

A study at the Port of Baltimore came to similar conclusions, finding that coal export supports just 0.11 jobs per 1,000 metric tons, as compared to 0.41 for other dry bulk commodities, 0.43 jobs for containerized cargo, and 1.71 jobs for autos.[122]

Recent redevelopments on port sites along the Lower Columbia River illustrate the weakness of coal exports as an economic strategy. The proposed coal export terminal at Longview would occupy 416 acres of heavy industrial waterfront property and produce 70 jobs—less than 0.2 jobs per acre. By contrast, in Troutdale, Oregon a recently cleaned-up port site attracted a FedEx Ground regional distribution center that employs over 750 people on 700 acres of heavy industrial property—supporting 1.1 jobs per acre.[123]

In Vancouver, Washington another redeveloped port site with 218 acres of heavy industrial waterfront is expected to employ up to 1,000 people to accommodate a surge in wind turbines and other cargo—generating 3.4 jobs per acre.[124]

Clearly, as an economic and job development strategy, reserving half of OBOT for Utah coal is a bad strategy.

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[119] Port of Oakland, *Port of Oakland Top 10 Commodities By Tonnage – Exports (Containerized) Calendar Year 2014*, source: U.S. Dept of Commerce, Bureau of Census; *available at* http://www.portofoakland.com/maritime/commodities.aspx; *Port of Oakland, Maritime Operations at a Glance–Principal Exports*; *available at* http://www.portofoakland.com/maritime/operations.aspx.
[120] *Id.*
[121] Eric de Place, *An Alternative to Coal Jobs; Clean redevelopment provides more employment at Northwest ports*, Sightline Daily (Sept. 14, 2011) http://daily.sightline.org/2011/09/14/an-alternative-to-coal/.
[122] *Id.*
[123] *Id.*
[124] *Id.*

C. Building a coal export terminal may be a gateway to instant obsolescence

The idea that coal exports will provide the foundation for a successful project is baseless given the collapse of the domestic coal industry and Asian countries' scaling back on the reliance on coal as an energy source. The proposal to base Oakland Global's future on coal appears to come out of a time warp from several years ago. In 2015, coal faces an uncertain future worldwide.

The U.S. coal industry's recent hot pursuit of overseas markets is the direct result of regulatory and economic pressures that are contracting coal's share of the energy market here in the States. Under new Environmental Protection Agency regulations, U.S. power plants are required to cut emissions by 32 percent from the 2005 levels by 2030. In addition, new power plants are required to be much cleaner, which could effectively bar construction of new coal-fed plants. The rapid expansion of natural gas and renewables are also taking a toll on the U.S. coal market.

Facing a dramatic collapse of domestic demand, the coal industry is desperately seeking overseas outlets.[125] But the prospects for selling surplus coal overseas are suddenly looking much worse than they did just two years ago as the recent global coal boom turns to global coal bust.

1. China Is Ratcheting Down Coal Imports

China is the biggest market for coal in the world. China was a net coal exporter before 2009 but became a huge importer in the next four years.[126] That is now yesterday's news. In 2014, China's coal use declined for the first time in this century and its imports dropped by 10%.

Although the Chinese government has a reputation for indifference to air pollution, it has begun to take forceful measures to respond to the appalling air pollution in major Chinese cities. Partially as a result of these measures and partially as a result of China's economic slowdown, in the first five months of 2015, China's coal imports fell by 38.2% compared to the same period in 2014—a huge fall in such a short

[125] Ben Goldfarb, The Latest: coal companies seek terminals beyond the Northwest, High Country News (May 21, 2014); *available at* https://www.hcn.org/issues/46.9/the-latest-coal-companies-seek-export-terminals-beyond-the-northwest.
[126] Annie Gilroy, *China's Coal Imports Go From Bad to Worse*, Market Realist (June 24, 2015) *available at* http://marketrealist.com/2015/06/chinas-coal-imports-go-bad-worse.

time.[127] A report released this month indicates that China's coal demand has now fallen for eleven straight months.[128]

Wall Street analysts now recognize that China may already have reached its peak use of coal, years before it was expected. A Wall Street Journal article in February cited analysts who said the trend is part of "a worst-case scenario for coal miners the world over, who had hoped Chinese coal imports would save them from collapsing markets in the West."[129]

The decrease puts China at or near an inflection point known as "peak coal," a point at which a long-term decline in consumption of the mineral begins after decades of heavy use. The shift already is having major indirect effects, with coal prices worldwide falling to six-year lows, mines closing throughout China, and global mining companies facing insolvency.[130]

The mining industry previously had "predicted a straight line of continued growth in China. Now here we are," said Lucas Pipes, an analyst at Brean Capital LLC, an investment bank and asset-management firm. "That is a sea change in the global coal market."[131]

"There's no question that a lot of U.S. companies in particular latched their hope to significant gains in China … almost into perpetuity," said Mark Levin, an analyst at BB&T Corp.'s capital-markets group. And given transportation costs, the U.S. mining company is "the guy who gets priced out of Asia the fastest."[132]

2. India's Coal Boom Has Also Withered

With Chinese demand for foreign coal stalling, India has become the latest great hope of the seaborne coal market. However, grassroots citizen opposition, inadequate infrastructure, transport bottlenecks,[133] and coal supply issues have caused

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[127] *Id.*
[128] Zachary D. Boren, *China coal demand falls for twelve straight months*, Energydesk Greenpeace (Sept. 9, 2015); *available at* http://energydesk.greenpeace.org/2015/09/09/china-coal-demand-falls-for-eleven-straight-months/.
[129] Timothy Puko, Chuin Wei-Yap, *Falling Chinese Consumption and Output Undermine Global Market; Last year's trend is country's first such decline in 14 years, frustrating mining companies*, Wall Street Journal (Feb. 26, 2015); *available at* http://www.wsj.com/articles/chinas-coal-consumption-and-output-fell-last-year-1424956878/.
[130] *Id.*
[131] *Id.*
[132] *Puko*, *Falling Chinese Consumption*, *supra*.
[133] Sunil Saraf, *India Coal: transport bottlenecks as demand is expected to rise*, Platts (May 27, 2015), *available at* http://www.platts.com/news-feature/2015/coal/india-coal-transport/index.

financing for new coal plants to dry up and cast doubt on optimistic assumptions about India's potential to replace China as a major importer of coal.

The Financial Review, a leading Australian business and finance newspaper, reports that, despite anticipated growth in the use of coal in India, India may have little need for foreign coal beyond the next six or seven years. The Financial Review cites a report by Tim Buckley, director of Australasian energy finance at the Institute for Energy Economics and Financial Analysis (IEEFA), saying Prime Minister Modi government's bold renewable energy and coal production goals could eliminate India's need for thermal coal imports beyond 2021.[134]

3. Coal's Faces Bleak Financial Prospects and Action on Climate Change Could Turn an Oakland Coal Terminal into a "Stranded Asset"

Recently, the Bank of England, one of the world's key central banks, sounded an alarm concerning the increasingly risky nature of investments in fossil fuel that assume business-as-usual will continue without disruption.[135] Speaking at an insurance conference, Paul Fisher, deputy head of the regulation authority that supervises England's banks and insurance companies, warned that insurers could suffer a "huge hit" if their investments in fossil fuel companies are rendered worthless by international action on climate change.[136]

"One live risk right now is of insurers investing in assets that could be left 'stranded' by policy changes which limit the use of fossil fuels," said Fisher. "As the world increasingly limits carbon emissions, and moves to alternative energy sources, investments in fossil fuels—a growing financial market in recent decades – may take a huge hit." [137]

The new warning from the Bank of England follows a caution from its head Mark Carney that the "vast majority of [fossil fuel] reserves are unburnable" if climate change is to be limited to 2ºC, as pledged by the world's governments.[138] The bank

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[134] Ben Potter, *India won't need Australian coal after 2020, analyst says*, AFR Weekend (Aug. 10, 2015); *available at* http://www.afr.com/business/mining/coal/india-wont-need-australian-coal-after-2020-analyst-says-20150810-givhmm##ixzz3j5NO7ggZ.

[135] Damian Carrington, The Guardian (March 3, 2015) *Bank of England Warns of Huge Financial Risk from Fossil Fuel Investments*; *available at* http://www.theguardian.com/environment/2015/mar/03/bank-of-england-warns-of-financial-risk-from-fossil-fuel-investments/.

[136] Paul Fisher, *Confronting the Challenges of Tomorrow's World* (March 3, 2015); *available at* http://www.bankofengland.co.uk/publications/Pages/speeches/2015/804.aspx

[137] *Id.*

[138] *Id.*

will deliver a report to the British government on the financial risk posed by a "carbon bubble" later in 2015.[139]

Citibank recently issued a similar warning. In an August 2015 report, Citibank stated, "We estimate that the total value of stranded assets could be over $100 trillion based on current market prices."[140] And coal bears the brunt, accounting for more than half the value of stranded assets, even in the unlikely event that carbon capture and storage becomes a viable technology.[141]

Citibank based its analysis of stranded assets on a study published earlier this year in Nature, one of the world's leading scientific journals. [142] Figure 1, which appears in the Citibank report,[143] sums up the findings of the analysis published in Nature. The green represents the percentage of coal reserves that could be extracted under a 2ºC scenario. The graph shows that 80% of proven coal reserves must be left in the ground if carbon capture and storage becomes viable; and 90% if carbon capture and storage turns out to be a pipe dream.

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[139] http://www.theguardian.com/environment/2014/dec/01/bank-of-england-investigating-risk-of-carbon-bubble

[140] Jason Chanel et al., *Energy Darwinism II; Why a Low Carbon Future Doesn't Have to Cost the Earth*, Citi GPS: Global Perspectives and Solutions (Aug. 2015); *available at* https://ir.citi.com/hsq32Jl1m4aIzicMqH8sBkPnbsqfnwy4Jgb1J2kIPYWIw5eM8yD3FY9VbGpK%2Baax/.

[141] *Id.* at 84.

[142] Chistopher McGlade, Paul Ekins, *The geographical distribution of fossil fuels unused when limiting global warming to 2ºC*, Nature (2015); *available at* http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html; *see also* Damian Carrington, *Leave fossil fuels buried to prevent climate change, study urges*, The Guardian (Jan. 7, 2015), *available at* http://www.theguardian.com/environment/2015/jan/07/much-worlds-fossil-fuel-reserve-must-stay-buried-prevent-climate-change-study-says (estimating that 90% of United States coal reserves must remain buried).

[143] *Chanel*, *Energy Darwinism II*, at 84.

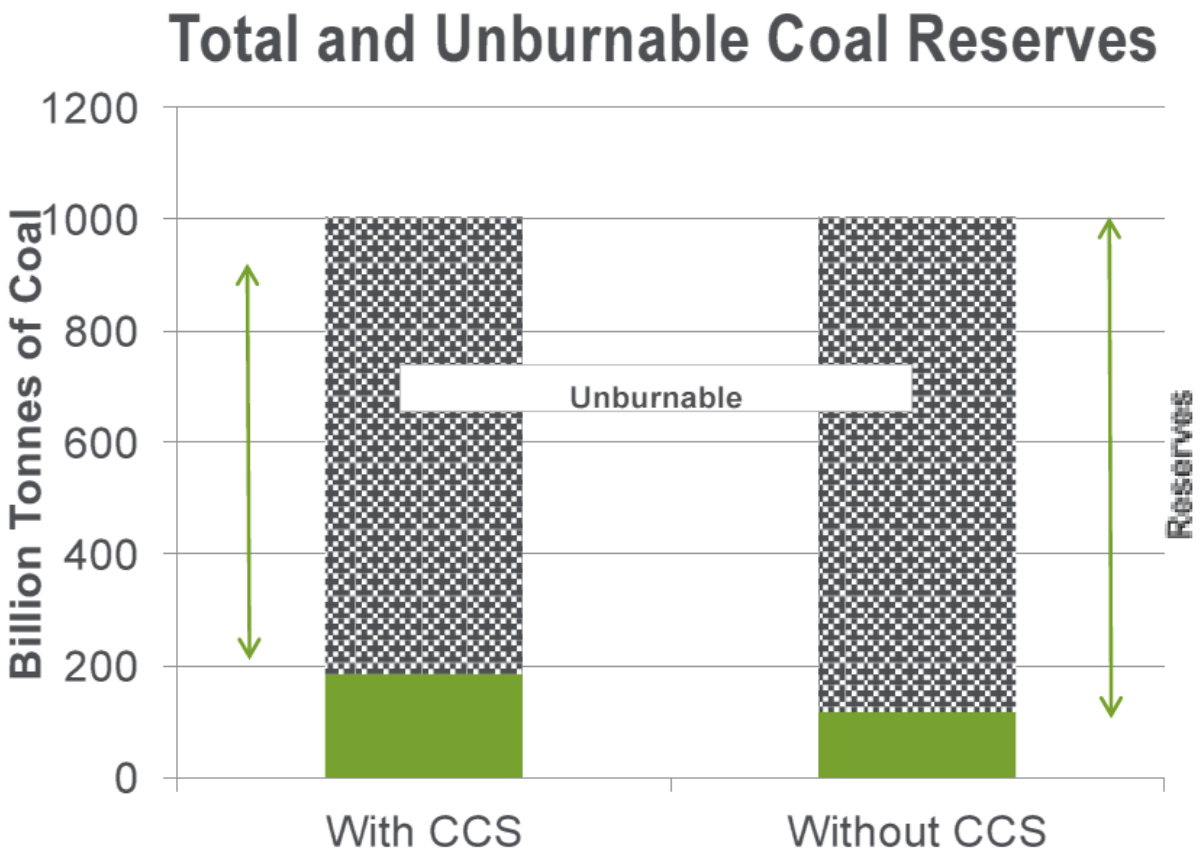

Figure 1. Total and unburnable coal reserves if carbon capture and storage technology becomes viable and if it does not. Source: Citibank.[144] Data Source: McGlade & Ekins, Nature (2015); Citi Research.

Although the warnings are becoming louder and more frequent, the idea that there may be a bubble about to burst has been voiced for several years. Former U.S. Treasury secretary Hank Paulson said in 2014: "When the credit bubble burst in 2008, the damage was devastating. We're making the same mistake today with climate change. We're staring down a climate bubble that poses enormous risks to both our environment and economy."[145] World Bank president Jim Yong Kim said: "Sooner rather than later, financial regulators must address the systemic risk associated with carbon-intensive activities in their economies."[146]

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[144] *Id.*

[145] Henry M. Paulson Jr., New York Times (June 21, 2014), *The Coming Climate Crash* at http://www.nytimes.com/2014/06/22/opinion/sunday/lessons-for-climate-change-in-the-2008-recession.html?_r=0

[146] Jim Yong Kim, Remarks at Davos World Economic Forum, Davos, Switzerland (Jan. 23, 2014) at http://www.worldbank.org/en/news/speech/2014/01/23/world-bank-group-president-jim-yong-kim-remarks-at-davos-press-conference.

With plummeting opportunities at home and abroad, the coal industry is receiving the cold shoulder from financial analysts, raising the prospect that a coal export terminal in Oakland may turn out to be a giant and costly White Elephant that produces nothing like the projected revenues the City of Oakland is relying on to repay the substantial investment of public funds in redevelopment at the former Oakland Army Base.

Even coal industry insiders are painting a grim picture of the industry's prospects. Bob Murray, CEO of Murray Energy, the largest underground coal mining company in the U.S., raised eyebrows with a September 2014 energy conference speech in which he cited U.S. Chamber of Commerce data that coal might supply only 14 percent of U.S. electricity fuel by 2030.[147]

"We have the absolute destruction of the coal industry," said Murray, whose company is privately held. "If you think it's coming back, you don't understand the business ... because it's not going to come back." Murray's company recently picked up Columbian coal mines for pennies on the dollar after Goldman Sachs Group Inc. decided to call it quits.[148]

"The coal industry is arguably the poorest-performing sector in today's global economy and is in a state of structural decline," according to Tom Sanzillo, IEEFA's director of finance.[149] "It is a shrinking industry with little upside potential." Sanzino adds that the market is unlikely to rebound, as it may have done in the past, because of tougher environmental laws. He recommends that investors avoid the coal industry. "The high level of risk for both coal-mining and coal-burning companies suggests weak long-term performance and is best avoided altogether."

Of coal companies that have publicly traded debt, Moody's Investors Service and Standard & Poor's rates all their bonds as junk.[150] "If you look at the long term, it's not getting any better," said Standard & Poor's analyst Aneesh Prabhu.[151]

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[147] Tim Puko, Robert Murray: Don't Copy Murray Energy Company's Deal Making, Wall Street Journal (Sept. 22, 2014); *available at* http://blogs.wsj.com/moneybeat/2014/09/22/robert-murray-dont-copy-murray-energys-deal-making.

[148] I.J. Dugan and Tim Puko, *Goldman Sachs Sells Columbian Coal Mines to Murray Energy*, Wall Street Journal (Aug. 13, 2015); *available at* http://www.wsj.com/articles/goldman-sachs-sells-colombian-coal-mines-to-murray-energy-1439518460

[149] Business Green, *Coal Industry Faces Grim Outlook, Analysts Warn* http://www.businessgreen.com/bg/analysis/2408771/coal-industry-faces-grim-outlook-analysts-warn

[150] http://www.cnbc.com/2015/01/12/has-war-on-coal-unearthed-the-ultimate-value-stocks.html

[151] Hertsgaard Mark, *Coal, Like Tobacco, Must Go—But It Must Be Phased Out Carefully*, The Nation (May 6, 2015); *available at* http://www.thenation.com/article/coal-tobacco-has-go-it-must-be-phased-out-carefully/.

If, as analysts suggest, the coal industry is a "dead man walking," what are the implications for Oakland?

Allowing coal exports puts at risk not only to the health and safety of Oakland's residents, but the long-term viability of Oakland's waterfront infrastructure investment. The public funding of this development, which may well exceed private investment when all is said and done, is premised on the notion that this development will become an economic engine bringing jobs to Oakland and earning rent that will bring stable revenues to the City for years to come. These goals are poorly served by a 66-year commitment to export Utah coal from our public land.

VI. CONCLUSION

As explained in detail above, coal exports pose a substantial danger to the health and safety of West Oakland residents, the future workers of the proposed coal terminal, and future generations of Oaklanders. There are no measures that will protect these residents from exposure to toxic coal dust. There is no evidence that covered cars or covered terminals would be effective in controlling fugitive coal dust. Coal exports will worsen climate change and lead to substantial danger to the health and safety of Oakland residents. Coal is not necessary for OBOT to be profitable and viable. When the coal market is collapsing in this country and in Asia and the long term prospects for coal are dismal, building a coal export terminal and leasing it for 66 years to Utah coal companies is foolhardy. The City Council has the authority to protect the health and safety of Oakland residents from the dangers of coal transport, storage, shipment, and ultimate combustion. We respectfully ask the Council to adopt without delay an ordinance banning the use of our public land for coal exports.

Sincerely,

No Coal in Oakland
Sunflower Alliance
350 Bay Area
System Change Not Climate Change
West Oakland Neighbors

ATTACHMENT A

Comments of Dr. Bart Ostro. Former Chief of the Air Pollution Epidemiology Section, California Environmental Protection Agency. Dr. Ostro was responsible for helping to develop the air pollution standards for fine particles (PM2.5) for California, the U.S. EPA and the World Health Organization and is the author of over 100 peer reviewed publications on the health effects of air pollution and heat waves.

RE: Comments regarding Exposure and Public Health Impacts of Coal Exports at the Former Oakland Army Base for the Council hearing on Sept 21, 2015

Dear Oakland City Council Members:

EXPOSURES

- Recent studies of 367 trains in Washington State (Jaffe et al., 2014; 2015) reported the average peak in near-by concentrations of fine particles (particles less than 2.5 microns or PM2.5) of coal trains were twice that of freight, specifically 21 versus 11 micrograms per cubic meter (the standard measure of particle concentrations, abbreviated as $\mu g/m^3$) . For reference, the current U.S. standard for 24-hour average of PM2.5 is 35 $\mu g/m^3$. In addition, they reported several events with concentrations greater than 75 $\mu g/m^3$ with concentrations up to 230 $\mu g/m^3$. Thus, we could expect very high peaks of PM2.5, at concentrations that could cause health effects.
- PM2.5 has been determined by The World Health Organization (WHO) to have the greatest worldwide impacts of any environmental exposure with an estimated 3 million deaths per year. Estimates for California range from 10 to 30 thousand per year.
- In addition to PM2.5, the coal dust will include toxic heavy metals such as arsenic, cadmium, chromium, lead, mercury and nickel.
- It is likely that coal trains, especially mile-long trains coming through a community on a daily basis will significantly impact the noise levels in the community.
- Since the location of the facility is in close proximity to the Bay, it is likely to lead to deposition of toxic metals in to the water which could ultimately enter the food chain.

HEALTH IMPACTS

- Studies from around the world and from California demonstrate important associations between daily exposure to PM2.5 and a wide range of health impacts including respiratory symptoms, school and work loss, asthma exacerbation, emergency room visits, non-fatal heart attacks, adverse birth outcomes, hospital admissions, and death from cardiovascular disease. The populations at greatest particular risk (though other groups are susceptible) include children, asthmatics and older individuals with pre-existing cardiovascular or respiratory disease.
- Studies in California demonstrate that daily exposure to PM2.5 and larger particles can lead to early death, increases in hospitalization and emergency room visits, and adverse birth outcomes (Ostro et al. 2006, 2009; Malig and Ostro (2009), Green et al. (2009), Malig et al. (2013)). In addition, since exposure to coal dust can be considered similar to

that of black carbon, on a per microgram basis the risks of early death and hospitalization might even be larger than that of PM2.5 (Ostro et al., 2014).

- While specific ambient standards have been established for PM2.5, institutions including California EPA and WHO, have specified there is no clear cut safe level for these effects. This indicates that every exposure adds to the likelihood of an adverse health outcome.
- Chronic exposure to the toxic metals in coal have been linked to cancer, adverse birth effects, and other severe health outcomes.
- A recent review of the health effects of noise pollution indicates effects on sleep quality and quantity, reduced learning and school performance, impaired social–emotional development, stress and hypertension (Hammer et al., 2014).
- In addition, we need to consider the added health impacts of burning up to 10 million tons of coal on climate change. Over time, climate models predict increases in both the intensity and duration of heat waves in California and an increase in ozone pollution. Again, the health effects of higher temperatures and of ozone in California have been well documented and will result in increases in both mortality, hospitalization and emergency room visits in Oakland.

CONCLUSIONS

1. While there is uncertainty about the specific increase in coal dust from trains coming to Oakland, the available literature indicates important increases in fine and larger particles and several toxic metals.

2. The increase in local exposure to PM2.5 from coal trains is almost double that of freight trains.

3. Exposure to these pollutants have been linked in dozens of studies, including several conducted in California, with death, hospitalization for cardiovascular and respiratory disease, emergency room visits, cancer, asthma exacerbation and adverse birth outcomes.

4. There is likelihood that the pollutants will also end up in the Bay and in our food chain.

5. There is a possibility of other health effects on those on individuals working on or near the loading and unloading of the coal, from the exposure to noise and from potential derailments and fires.

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Malig et al. (2013) American Journal of Epidemiology 178:58-69.
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Ostro et al. (2014) Occupational and Environmental Medicine 72:123-9.

The opinions expressed here do not necessarily represent those of the California EPA.

ATTACHMENT B

PAUL B. ENGLISH, PHD, MPH
838 CENTRAL AVE., ALAMEDA, CA 94501
PAULENGL@GMAIL.COM

9/14/15

RE: Public Health Impacts of Coal Exports at the Former Oakland Army Base

Dear Oakland City Council Members:

I am a public health epidemiologist with over 25 years of experience in assessing public health impacts of environmental exposures, including hazardous material spills, pesticides, and air pollution. I am an Alameda County resident and hold a doctorate degree in epidemiology from the University of California, Berkeley, School of Public Health which I feel especially qualifies me to comment on the potential health impacts of possible coal exports at the Former Oakland Army Base.

I would like to focus my comments on three areas:

1) **Coal dust exposures will add pollution to an already disproportionately burdened community suffering long-standing health risks.**

   Exposure to coal dust is a public health hazard and exposure to West Oakland residents will be adding pollution to a community with already **some of the highest pollution burden in the State** with long-standing health risks. For example, published work conducted by myself and my colleagues showed that areas of West Oakland had **some of the highest rates of emergency room visits for asthma for children in Alameda County.** An accompanying economic analysis showed that that the highest costs in the County to society for treating asthma also incurred in this region. Adding coal dust exposures will add pollution to a minority area already suffering from disproportionate pollution effects and will increase health care costs. Children suffering from asthma would be likely to experience a further loss of lung function from inhaling even low levels of coal dust (especially those particles of coal dust less than 10 microns in diameter). The California Environmental Protection Agency has rated parts of the West Oakland area as some of the highest census tracts in the State burdened by pollution. For example, census tract 4017 in West Oakland is rated at the 78th percentile for overall pollution burden and the top percentile for clean-up sites compared to all other CA census tracts.

2) **The potential for fire and/or explosion especially during the terminal processing and storage stages, is real, and the onus should be on the developers/owners to show that proper control measures will be implemented to reduce this risk.**

   Dust explosions and/or fire can occur when coal dust concentrations are high enough, there is an ignition source, and oxygen is present. The owners/developers must show how the suspended dust will be kept at or below 25% of the lower explosive limit (LEL) at all times. Water misting is one of the main control methods for reducing coal dust explosion/fire potential. At the Westshore terminal near Vancouver, British Columbia, which is the largest existing coal export terminal on the West Coast, water costs are approximately $1.5 million/year. This does not seem like a good investment to be making during a historic drought crisis.

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3) Investing in fossil fuel development/transport at this critical time is bad for public health.

At a time when large institutions such as the University of California are divesting funds from fossil fuel holdings, the timing could not be worse for the City of Oakland to invest in coal transport. This obviously goes against the Council's own resolution (7/17/14) opposing the transport of fossil fuels by rail through the city. **Climate Change has been called the biggest global health threat of the 21st century.** It would be unconscionable for Oakland to support this effort, no matter what the financial gain. Health effects such as increased heat illness and death, increased air pollution and respiratory disease, increased wildfires and deteriorated air quality, drought and effects on water quality, are among only a few of the consequences of continued burning of fossil fuels. The City of Oakland would be complicit in contributing to the climate change crisis with the approval of this facility.

Thank you for letting me outline some concerns with the proposed coal export terminal at the former Oakland Army Base. I hope that the City will decide on the right side of history and not allow this health-damaging facility be approved in Oakland.

Sincerely,

Paul B. English, PhD, MPH

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From:	Kalb, Dan
To:	Cappio, Claudia
Subject:	Fwd: Testimony for Proposed Oakland Coal Export Terminal from UC Berkeley Energy & Resources Group
Date:	Thursday, September 24, 2015 3:34:05 PM
Attachments:	Oakland Coal Export for 9-21 hearing.xlsx ATT00001.htm

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FYI

Begin forwarded message:

From: John Romankiewicz <sustainablejohn@gmail.com>
Date: September 24, 2015 at 1:28:20 PM PDT
To: undisclosed-recipients:;
Subject: Testimony for Proposed Oakland Coal Export Terminal from UC Berkeley Energy & Resources Group

Dear City Administrator and Council Members,
I am a graduate student at UC Berkeley, and am submitting testimony with respect to the Oakland Export Terminal question regarding potential coal exports. I am in the Energy & Resources Group, at UC Berkeley, which is one of the oldest interdisciplinary programs of its kind in the country, and was founded by John Holdren, who is now the head science adviser to President Obama. I would like to provide the following comment (and attached spreadsheet with background calculations):

If the proposed plan passes and coal is shipped through Oakland, the emissions that the Port of Oakland will be enabling will be four to eight times larger than California's annual emission reductions under AB32. When burned, this coal will undo our entire state's efforts. We cannot afford to enable more global carbon pollution that causes more erratic weather, wildfires, droughts and floods. Please do not allow coal to be exported through Oakland.

Best regards,
John Romankiewicz
Energy & Resources Group
UC Berkeley

Greenhouse gas emissions when exported coal is burned

Capacity use scenario	49%	100%
Coal exports, Million Metric Tonnes	4.4	9
Direct emissions when coal exports are burned, MMTCO2/yr	13	26
Factor by which emissions from burning exported coal will exceed CA state-wide reductions.	3	6

If the proposed plan passes , the emissions we are enabling will be *four to eight* times larger than California's annual emission reductions. When burned, this coal will undo our entire state's efforts. We cannot afford to enable more global pollution that causes more erratic weather, wildfires, droughts and floods.

This spreadsheet describes simple calculations to compare the emissions from coal being exported to the emission cuts California is making in the next five years. Prepared by Josiah Johnston, PhD, Michelle Levinson of NextGen Climate America, and John Romankiewicz, UC Berkeley PhD Student. Feel free to reuse or share under Creative Commons Attribution 4.0 International License.

Calculations

Item	Value	Units	Notes/sources
Proposed annual coal export capacity	9	Million metric tonnes coal per year	Information from proposal, as conveyed by M Levinson
Proposed capacity usage	49%	Capacity use fraction	Information from proposal, as conveyed by M Levinson
Proposed annual coal exports	4.41	Million metric tonnes coal per year	
Direct Emissions factor	2.9	Mass ratio: CO2 to C	http://www.eia.gov/coal/production/quarterly/co2_article/co2.html
Direct emissions when coal exports are burned	13	Million metric tonnes CO2 per year	
California annual emissions in 2013	460	Million metric tonnes CO2 per year	http://www.arb.ca.gov/cc/inventory/data/data.htm
California annual emissions target in 2020	431	Million metric tonnes CO2 per year	http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm
California annual emissions reductions till 2020	4.1	Million metric tonnes CO2 per year	Average annual reductions, 2013-2030
Factor by which emissions from burning exported coal will exceed CA state-wide reductions.	3		