

Nov. 18, 2013

Re: EIS scoping comments on the proposed Millennium Bulk Terminals-Longview

Dear sirs:

Thank you for the opportunity to provide comments on the EIS scoping for the proposed Millennium Bulk Terminals-Longview (MBTL). I am a concerned citizen living in White Salmon, Washington. I am a retired CEO, with a business and engineering background.

The lead agencies seek comments that will guide their decision on how the EIS will address:

- A reasonable range of alternatives for the proposals.
- Potentially affected resources and the extent to which the EIS should analyze those resources.
- Identifying significant unavoidable adverse impacts.
- Measures to avoid, minimize and mitigate effects caused by the proposals.

So my comments are structured in this order, except that potential mitigations are included in the topics when applicable.

1. A reasonable range of alternatives for the proposals.

Presumably the ultimate objectives of this project are to make money for MBTL, to supply fuel to Asian customers, and to create jobs. Alternatives for each of these objectives are discussed here.

"Whenever I run into a problem I can't solve, I always make it bigger." --Dwight D. Eisenhower

1.1 Objective: Make money for MBTL and their coal company customers

Life-cycle costs of coal: US coal production and combustion at any scale costs society many times the income of the producing company. The latest Congressional Office of Management and Budget (OMB) estimates of the social cost of carbon emissions (emitted from anywhere in the world) to be around \$35 per ton (ranges from \$11 to \$221 per ton, depending upon assumptions and year)—that's what we and our children will pay to clean up our carbon mess. So the carbon cost of coal amounts to a subsidy of about \$100 a ton, which is more than the market value of the coal and more than 5 times the operating income per ton of any US coal company.

http://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf

And that doesn't count the other social (external) costs of coal:

- health problems (even higher, estimated at ~\$150-300 per ton),
- land-use degradations from mining operations, or
- many other environmental costs.

Full Cost Accounting for the Life Cycle of Coal, Annals of the NY Academy of Sciences, 2011:

http://solar.gwu.edu/index_files/Resources_files/epstein_full%20cost%20of%20coal.pdf

http://www.catf.us/resources/publications/files/The_Toll_from_Coal.pdf

<http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2012/report/>

For the case of coal export, some of these external costs are lower, such as health care costs near the coal electricity plants, but then taxpayers are still subsidizing about half of these external costs (still far more than the coal company makes) and yet giving another country all the value of the electricity generated.

No-win: So whether burned in the US or abroad, the more coal we use, the more money we lose. On a societal level, coal has a severely negative gross margin—no sensible businessperson pursues such a losing cost structure unless it is massively subsidized. Since coal combustion fundamentally creates this much CO₂ and N₂O, and carbon capture and sequestration technology has not been shown to be feasible, any coal production will cost society far more than the coal company makes from it. Thus the only alternative that is fair to society is to leave the coal in the ground. This may not sound like a reasonable alternative for the coal industry, but we'll all be better off when it happens.

<http://thinkprogress.org/climate/2013/10/10/2766611/carbon-capture-storage-2/>

Since no coal company can make money without massive taxpayer subsidies, the obvious macroeconomic conclusion is that all coal is best left in the ground, as soon as we can upgrade the coal-based infrastructure.

1.2 Objective: Supply fuel to Asian customers

Chinese demand softening: There are many signals and forecasts that Chinese demand for imported coal will be peaking soon. This is driven in part by public discontent over the world's worst air quality, but also by dramatic increases in Chinese manufacture and deployment of wind and solar generation, efficiency improvements in their coal plants, and new rail lines to coal mines within China. Goldman Sachs, Deutsche Bank, and Citi have all published industry analyses warning that coal import demand from China is very questionable.

Goldman report: http://thinkprogress.org/wp-content/uploads/2013/08/GS_Rocks_Ores_-_Thermal_Coal_July_2013.pdf

Citi report:

<https://ir.citi.com/z5yk080HEXZtolax1EnHssv%2Bzm4Pc8GALpLbF2Ysb%2FI21vGjprPCVQ%3D%3D>

Greenpeace report:

<http://www.greenpeace.org/usa/Global/usa/planet3/PDFs/Coal/Endless%20Coal%20Myth.pdf>

<http://thinkprogress.org/climate/2013/04/17/1878501/as-china-addresses-its-airpocalypse-coal-exporters-fear-loss-of-another-market/>

Long-term competition from renewables will kill coal: At the same time that the US is shutting down coal plants and China and India are deploying more renewables, the manufacturing learning curves of solar panels, wind turbines, and batteries are rapidly progressing. The average price of a solar panel has declined by 60 percent since the beginning of 2011. By 2020 building codes will require much more efficient building envelopes and PV power will cost ~\$1/Watt installed, making it the cheapest electricity source. By 2020 automobile-grade batteries will cost about \$200/kWh, which will enable electric vehicles cheaper than internal combustion engine vehicles and provide massive distributed storage for the grid. And the learning curves won't stop there. The electric grid is about to see a technology revolution just like personal computers, the Internet, cell phones, smart phones, or photography.

Therefore any investment in coal infrastructure today would result in stranded assets within a decade.

Any government or community relying on cash flows from coal transport will be severely disappointed when the coal taxes and terminal jobs dry up and all they have left is a dirty mess to clean up.

Interviews with Jon Wellinghoff and Stephen Chu: *Solar and storage mean “game over” for traditional utilities* <http://reneweconomy.com.au/2013/solar-storage-means-game-traditional-utilities-10680>

Fossil fuels to be obsolete by 2030: <http://reneweconomy.com.au/2013/how-solar-and-evs-will-kill-the-last-of-the-industry-dinosaurs-86893>

Besides zero carbon emissions, the new renewables will lead to much more distributed generation and storage throughout the grid, dramatically reducing failure points from large power plants, while also increasing local grid resilience.

“Coal is a dead man walking.” –Deutsche Bank

Alternatives: Just as railroads missed the obvious opportunity to add airplane technology to meet the travel needs of their customers, coal companies should understand that they’re in the electricity business and acquire technology competencies to address the exploding demand for renewables, storage, or smart grids. While few companies are able to reinvent themselves when their products have become as obsolete as buggy whips, it’s a better prospect than trying to sell buggy whips.

Potential mitigations: Coal export companies should be required to post bonds sufficient to perform full terminal cleanups when international demand declines. Such assurances must remain fully funded and liquid through any possible bankruptcy or M&A transactions. The EIS should also consider the customer demand risks of this project—is the demand so shaky that any EIS involvement of the government should be prepaid by the proposers? (Wall Street wouldn’t invest in this project.)

1.3 Objective: Create jobs

The MBTL website claims a job creation of 135 operational jobs when fully built out. (The benefit of any construction jobs must be weighed against the deconstruction and cleanup costs from the inevitable shutdown noted in 1.2 above.)

First, 135 jobs is a drop in the bucket for Washington state, which has over 3.2 million people in its workforce. Amazon or Microsoft probably hire 135 people every week. The small company I cofounded, Cascade Microtech (NASDAQ: CSCD), employs over 300 operational people, and we didn’t create an environmental disaster to do it.

Secondly, there are many, and much more attractive, options for creating 135 jobs in Washington. As noted in 1.2 above, the new technologies being developed for solar, wind, battery, and smart grid will result in a huge deployment of the new green grid, much as cell phones obsoleted wireline telephones. The buildout will generate many thousands of jobs for decades. For example, the U.S. solar industry provided high-quality employment opportunities for 119,000 workers at nearly 15,000 locations in all 50 states in 2012. The solar energy workforce grew an impressive 13.2% from 2011 to 2012—nearly six times the overall national employment growth rate. By comparison, companies involved in fossil fuel electric generation shed 3.77% of their workforce between 2011 and 2012 (3,857 jobs), while the coal mining labor force contracted by 0.83% (a rate representing the loss of 851 workers). Oregon and Washington employed over 3500 people in solar industries in 2012; thus at a 13% growth rate, the solar industry created over 450 jobs in Oregon and Washington during 2012 alone.

<http://thesolarfoundation.org/research/national-solar-jobs-census-2012>

Thirdly, unfortunately there are many reasons to expect that coal export projects would create fewer new jobs than job losses in the communities along the rail lines, such as where I live. These communities have nothing to gain from coal exports and many quality of life aspects to lose. Coal transportation through the region would cause environmental, health, safety, noise, and productivity degradations that will negatively affect recreation and tourism business, decrease demand for living near a coal chute, drive away new businesses which would otherwise locate near the Columbia River, delay emergency services and commercial traffic, decrease property values, and compete with other businesses dependent upon rail or barge transport (contrary to MBTL claims that building out the terminal and doubling train traffic would help agriculture exports).

For creating port jobs almost any industry is better than coal export. RailAmerica recently shelved plans to develop a coal export facility in Grays Harbor, WA. After spending more than 18 months on a plan to ship coal abroad, the firm told a local newspaper that, “we believe that there are other uses and other opportunities for that terminal that are much more likely to generate jobs, economic development, tax revenues, (and provide a) general increase in business for the Port.”

Alternatives: Acquiring new technology competencies as described in 1.2 above would generate far more jobs. Acquiring some businesses outside of coal might enable current coal businesses to survive the looming collapse of coal demand everywhere.

Potential mitigation: It would be far cheaper to fund retraining programs for coal workers than to continue paying all the social (external) costs of coal.

2. Potentially affected resources and the extent to which the EIS should analyze those resources.

2.1 Air quality impacts: climate change

Existential threat: In 2007 the US Supreme Court ruled in Massachusetts v. EPA that greenhouse gases are covered by the Clean Air Act's definition of air pollutant and that EPA must determine whether or not emissions of greenhouse gases cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. Given that greenhouse gas (GHG) emissions are on track to destroy civilization as we know it, it would seem prudent to investigate the GHG contributions of this project, including the obvious and only end usage of the coal being transported, which is combustion.

References: World Bank 2012 report *Turn Down the Heat—Why a 4°C Warmer World Must be Avoided*
Scientific paper on 4°C: <http://rsta.royalsocietypublishing.org/content/369/1934/217.full#T3>
IEA warns of irreversible climate changes by 2016:
<http://thinkprogress.org/climate/2011/11/09/364895/iea-global-warming-delaying-action-is-a-false-economy/>

2.2 Impacts to threatened or endangered species

Salmon: Some salmon and steelhead runs in the Columbia River are severely threatened. These runs are critically important to the ecosystems, recreational fishing industries, and native subsistence rights.

2.3 Water quality impacts

Columbia fish already contaminated: Oregon Public Health recently analyzed fish collected from the Columbia River in August 2011. Among other findings, they found that fish upstream from the Bonneville Dam were contaminated with mercury -- 0.77 parts per million -- and had slightly elevated levels of PCBs. As a result, an advisory warns people not to consume any resident fish -- bass, bluegill, yellow perch, crappie, walleye, carp, catfish, suckers and sturgeon -- caught between Bonneville Dam and Ruckle Creek. The mercury comes from burning coal, even from as far away as Asia. Probably most of this is from the coal plant at Boardman, Oregon, but no study has confirmed this.
http://www.oregonlive.com/health/index.ssf/2013/09/columbia_rivers_contaminated_r.html

Coal dust and pebbles: With BNSF admitting that ~1% of the coal loaded in Wyoming is lost en route to Washington destinations, the EIS must require scientific analyses of where this coal ends up, before any approvals. Is that coal ending up in the Columbia River watershed? How much ends up in the river? In the air near rail lines? In the air of the Columbia Gorge, especially during winter? How much is lost at especially windy sites along the Columbia River—exactly those sites that attract wind sports tourists from around the world? And what are the effects of the coal that ends up in the river? How does it affect fish feeding or spawning? Will it add to the mercury concentration problems? Etc.

2.4 Social and economic impacts to local communities

In addition to the external costs of coal borne by society regionally or globally, various costs to local communities must be considered, including but not limited to:

- Degradation of the tourist experience. The economies of small communities in the Columbia Gorge and all along the rail routes from the Powder River Basin (PRB) are fragile. For example, half of Stevenson, Washington's jobs are tourism-related. If fishing becomes more impaired or the visitor's experience is dominated by the noise, obstruction, or dust from coal trains, then Stevenson will suffer more than a handful of tourism job losses. While the project proposers want environmental assessments "based on facts and science, not emotion", anyone choosing a weekend or vacation destination is choosing on emotion. In fact, the savviest investors admit that any capital decision is based on emotion.
- Railroad infrastructure upgrades (paid for by local governments), estimated at tens of millions of dollars.
- Job losses from talented people leaving our communities or choosing not to locate in our communities: Anyone with capital will tell you that capital will follow talent, and the talent most wanted can choose their location--they don't need to put up with coal trains and coal dust. And each of those talented people will employ dozens of other talented people. This EIS must include objective surveys of what tourists and existing and prospective Gorge residents would do if they had to live next to a coal chute. These are not people who can't afford to live elsewhere.
- Productivity losses of people waiting at at-grade rail crossings—this can be easily calculated from surveys of existing traffic and forecasted train traffic.
- Decreased property values near the rail line.
- Superfund cleanup costs after Asia tapers their coal appetite, which is still costing us taxpayers to clean up abandoned coal terminals in Portland, OR and Long Beach, CA.

Potential mitigations:

- Since this proposal increases rail traffic so much, the proposer should offer to share in the cost of new rail crossing infrastructure, in proportion to the fraction of rail traffic they are using.

- Coal export companies should be required to post bonds sufficient to perform full terminal cleanups when international demand declines. Such assurances must remain fully funded and liquid through any possible bankruptcy or M&A transactions.
- The proposer should offer to augment property taxes of communities along the rail lines that can show a decrease in property values. (Since the coal export demand will collapse anyway, I'm not concerned that property values would be a long-term issue for property owners.)

2.5 Financial impacts

The EIS must include cost analyses for each of the impacts and alternatives listed above, to determine if the proposed action or alternatives are prudent uses of taxpayer dollars.

Presumably there is a very high cost associated with the end of civilization as we know it.

3. **Identifying significant unavoidable adverse impacts.**

3.1 Climate change

The elephant in the room is climate change. The carbon footprint of this project is larger than all the GHG emissions from the State of Washington, and almost 2% of US carbon emissions. There are no practical technologies that could mitigate the GHG emissions from coal combustion. If there were easy ways to avoid the adverse impacts of coal they would have been implemented long ago.

Dramatic consensus (except for the megaphone of the fossil fuel industry): 97% of climate scientists, most countries, the World Bank, the Defense Department, and the State Department all agree that we are on an emissions trend that will turn farmlands into deserts, raise sea levels, accelerate species extinctions, and create many millions of climate refugees—within just 20 years. Only nuclear war could cause more damage to the planet than this path we're on.

IPCC update: It's timely that the UN Intergovernmental Panel on Climate Change (IPCC) just released their latest report on the physical science basis of climate change. <http://www.ipcc.ch/> There are no big surprises—we're now 95% certain that we're changing the climate, we're forcing that change harder than ever, irreversible changes will be occurring, and we'd better aggressively change emissions if we don't want hell on earth. The latest quadrennial climate effects assessment for the US was released for comments in 2013. <http://ncadac.globalchange.gov/>

Unburnable carbon: Now the IEA and at least one major investment bank have bought into the concept of unburnable carbon. Unburnable carbon is the proven reserves on the balance sheets of fossil fuel companies that exceed the carbon emission total that would result in 2°C global warming. The global coal industry has the most unburnable carbon on its balance sheets.

<http://gofossilfree.org/files/2013/02/HSBCOilJan13.pdf>

If destroying civilization isn't a significant adverse impact, please inform us what is!

A proper scoping for this EIS would apply the latest climate change findings and carbon costs to reopen past EISs for Wyoming coal auctions. Given the new data in the recent IPCC report and the OMB's latest

social cost of carbon emissions, the existing EISs for coal leases in the Powder River Basin (PRB) should be re-examined for their environmental and social costs.

3.2 Coal dust and pebble pollution along the rail route

An impartial observer would wonder why we still have coal dust from trains—we can cover the cars, right? Apparently the risk of spontaneous combustion is high in sealed cars, and flooding each car with nitrogen is too costly. So we're back to the bizarre cost structure of the coal business, which already requires massive subsidies to exist.

If coal companies can't make money unless their cars are uncovered, then coal dust pollution is apparently an unavoidable adverse impact.

3.3 Mercury pollution in Washington and Oregon

About 20% of the mercury in the Willamette River is from coal plants in Asia, increasingly from China. Mercury concentrates in the fish food chain. Mercury poisoning can result in mental retardation, especially in infants, and cardiovascular disease. The mercury is dispersed in the atmosphere and spreads worldwide, reaching the west coast within a week.

http://www.oregonlive.com/environment/index.ssf/2008/04/chinas_mercury_flushes_into_or.html

If coal can't be economically burned without spewing out mercury, then mercury pollution is apparently an unavoidable adverse impact.

Conclusions

One clear conclusion is that coal should be left in the ground. The scope of this EIS should expand to re-examine PRB coal leases for their climate and economic impacts, and catalyze planning for an orderly exit from coal as a business anywhere in the US, retraining programs for coal workers at all levels, and how to discourage coal usage in our trading partner countries.

As a businessman I am certain that the macroeconomic effects of this project are negative on all levels—local, regional, national, and global.

As a parent I am mortified when my son simply asserts that “we're screwed” out of a future because of projects like this one. I am much more scared about Big Coal and Big Oil driving us toward climate catastrophe than I've been about nuclear war. No one has been crazy enough to pull the nuclear trigger, but we've been crazy enough to accelerate toward a slippery slope of civilizational suicide in the fog.

I beg you to consider your contribution to a livable planet.

Thank you for the opportunity to comment on this EIS scoping process.

Sincerely,
Eric Strid
White Salmon, WA