

WGA CTL Working Group Report – Public Comments

Comment Period: 11/6/07 -- 11/20/07

Sol Shapiro

I wish to take strong exception to a major premise of the Coal-to-Liquid report.

This exception relates to the fact that the entire premise for action related to coal-to-liquid deployment has been strongly constrained by an assumption that there will be an absolute mandate to constrain CO₂ emissions; and that a cost-benefit trade-off of national military and economic security versus CO₂ emissions will not be allowed.

For the uninitiated, climate change geo-engineering is an approach to mitigate the effects of global warming by, for example reducing incoming solar flux by about 1 1/2 to 2% to re-balance the Earth's energy interchange with the universe. A recent call (one of many over the past 30 years) for study and deployment of such approaches appeared in the journal *Climate Change* in August 2006 by Paul Crutzen, a Nobel prize winner and endorsed for study and deployment as needed by Ralph Cicerone, president of the National Academy of Sciences.

Given the long lifetime of CO₂ in the atmosphere and its concentration today which is higher than it has been since geological times that it is probable that serious study of geo-engineering will occur in the relatively near term with probable deployment.

Hence, it is my contention that, given the high probability that a short term fix for global warming is likely to be implemented to give the world the century or more it will need to change its energy base that the trade-off of national military and economic security versus CO₂ emissions should be considered and that the nation should come down on the side of early deployment of coal-to-liquid. And that necessary incentives be created to protect the major investment needed in such facilities against such actions as predatory pricing by OPEC.

An acknowledgement of receipt of this input would be greatly appreciated.

Sol Shapiro
Aurora, Colorado

Joint Environmental Community Letter

November 20, 2007

Dear Mr. Alex Schroeder:

As leaders of the nation's top environmental, public health and conservation organizations, we are writing to express our opposition to the conclusions and recommendations in the Transportation Fuels Initiative's Coal to Liquids (CTL) working group draft report. With the impending approach of the end of cheap conventional oil, we now face a choice: to develop yet another finite, dirty source of transportation fuel—at an even greater cost to our health and climate—or set a course for a sustainable energy future of clean energy resources. Unfortunately, the Western Governor's Association approached this issue under the false assumption that our nation must develop coal-to-liquid fuels without ever evaluating whether this was the right choice for our future. The WGA began this process by searching for ways to incentivize coal-to-liquids technology and make it more environmentally acceptable and neglected to evaluate whether CTL should be part of the solution at all. Due to this flawed premise, the process for writing a report that would be of value to the WGA broke down, some stakeholders were forced to leave the effort all together, and the remaining stakeholders were unable to reach consensus. Therefore, we respectfully request that the Western Governors' Association (WGA) re-constitute the process and produce a report that truly evaluates the best solutions to end America's dependence on oil.

The WGA's Transportation Fuels for the Future initiative's stated goals are to produce policy recommendations to build a transportation fuel system that addresses: 1) national security, 2) environmental quality, and 3) economic development in the West. However, in the WGA Policy Resolution 06-20 that created this initiative (published June 2006) the Governors urged DOD, DOE and Congress to develop financial, production and off-take incentives to deploy CTL technology. In this same resolution where Governors urge the government to subsidize the development of this technology they create an initiative to develop a policy roadmap for alternative fuels that considers cost and environmental impacts. The decision to subsidize the deployment of this technology was made long before any thought of environmental or even fiscal responsibility. This flawed policy making process lead to the creation of a task force that was directed to deploy CTL and consider the environment as an after thought at best. How can the WGA expect a fair, balanced set of recommendations when Governors have already chosen to develop this technology regardless of environmental and public health consequences?

In order to truly serve the Governors, the region, and the country, the WGA's Transportation Fuels Initiative should establish criterion that take environmental, public health and fiscal issues into account when evaluating potential solutions to our nation's dependence on oil. For example, any fair, thorough evaluation of coal-to-liquids must consider, among other things: future regulatory controls on carbon,

water constraints, worker health and safety concerns from increased coal mining, and land impacts from mining and infrastructure development.

We do not submit these comments without an opinion on what such an evaluation will conclude. We believe that the considerable economic, social and environmental drawbacks of coal-derived liquids fuels (coal-to-liquids) preclude them from being a sound option for achieving energy independence. Relying on coal-to-liquids to fuel transportation needs could double global warming pollution per gallon of fuel as compared with the petroleum-based fuels we use today. Even using the best available carbon capture technology, which should be used as a last resort given the finite amount of storage capacity available, converting coal to fuel would still result in nearly ten percent more carbon dioxide emissions than conventional gasoline.

Moreover, large-scale deployment of coal-to-liquids would exacerbate the devastating effects of coal mining felt in many communities and ecosystems stretching from Appalachia to the Rocky Mountains, including polluted air and water, devastated landscapes and a dismal record of worker safety at some mines.

We can see no scenario whereby coal-to-liquids is compatible with our urgent need to slow, stop and reverse global warming pollution. To be clear, we must develop and use transportation fuels that have a substantially lower carbon emissions footprint than today's petroleum-based fuels. Coal-to-liquids cannot accomplish this. Every public or private dollar invested in coal-to-liquids is a dollar unavailable for investment in efficient vehicles, improved transportation systems, smart growth and sustainably-made renewable fuels. We need to reduce emissions sharply over the next decades, not spend billions of dollars on new ways to increase emissions or, in the best case, breakeven.

Finally, subsidizing a new, costly coal-to-liquids industry would not only severely undermine our ability to address global warming, but is unnecessary to achieving greater energy independence. We can have a robust, effective program to reduce oil dependence by using fuel-efficient vehicles, sustainably-made renewable fuels, and smart growth policies for urban areas. These measures alone would cut our oil demand by at least 40 percent by 2025, while substantially reducing the emissions of greenhouse gases that cause global warming.

We urge you to take thoughtful action and promote an energy future that enhances our security, our economy and our environment. Using coal to displace oil simply is not consistent with this future.

Appalachian Voices • Natural Resources Defense Council • Friends of the Earth • Montana Environmental Information Center • Valley Watch • Western Organization of Resource Councils • Greenpeace • Montana Audubon • Dakota Resource Council • KyotoUSA • Center for Biological Diversity • Climate Protection Campaign • Powder River Basin Resource Council • Sierra Club, Wyoming

Vickie Patton and Martha Roberts
Environmental Defense Rocky Mountain Office

Dear Western Governors' Association Staff:

Environmental Defense respectfully submits these comments reflecting its strong disagreement with the conclusions and recommendations in the Transportation Fuels for the Future Initiative's Coal to Liquids (CTL) working group draft report. The report fails to meaningfully address CTL's many environmental and economic shortcomings. Accordingly, the conclusions and recommendations offer a limited, one-sided perspective on how to advance the CTL industry through federal subsidies without fully considering the central objectives called for by the Western Governors' Association, aims that have served as the bedrock framework for the entire Transportation Fuels for the Future Initiative.

We also are deeply concerned about the unbalanced composition of the CTL working group membership. Indeed, we are aware of no other working group convened as part of this Initiative that so clearly failed to reflect multi-faceted, balanced membership. The other working groups in the Transportation Fuels Initiative reflect a wide range of constituencies: the biofuels working group, for example, included a number of different local government officials, academics, environmental organizations, fuel producers and agricultural organizations. The CTL working group consisted largely of the CTL industry and engineers, thereby marginalizing views that did not hew to those favored by the CTL industry. The working group composition led to a significantly delayed report, a report that does not meet the WGA consensus requirements rigorously followed by other working groups, and, most of all, a one-sided draft that does not address the three central stated goals of the Transportation Fuels Initiative.

Accordingly, we respectfully request that the Western Governors' Association (WGA) re-constitute a working group that is robust and balanced in its composition, more comprehensive in its scope, and recommend that the flawed draft report not be included as part of the final report for the WGA Transportation Fuels for the Future initiative.

The WGA's Transportation Fuels for the Future initiative aims to produce policy recommendations to build a transportation fuel system that addresses three core considerations: 1) national security, 2) environmental quality, and 3) economic development in the West. The CTL group's overwhelming composition of coal and CTL industry representatives has created a set of recommendations that are singular in dimension, focusing solely on federal subsidies for CTL, and utterly fail to address the multi-factored WGA mandate.

Climate change has serious implications for the security, environmental quality and economic well-being of the West and the nation. The recent report by the Intergovernmental Panel on Climate Change, an

international body of the globe's leading experts on climate science, provided a sobering assessment of global warming's impact on water supply, agricultural production, and coastal communities.¹ In particular, the Panel's report highlighted impacts on water supplies, one of the most precious resources in the West, pointing out already occurring changes in precipitation amounts and increasing frequencies of droughts and heat waves.² Rising temperatures and less reliable water supplies have severe consequences for the West's economic growth and well-being. A reliable water supply is the lifeline of the arid West.

Climate change also threatens our national security. A recent report authored by a group of retired U.S. military leaders highlighted how global climate change will further destabilize volatile regions in the world and negatively impact American interests and safety.³ Without dramatic and immediate efforts to cap and reduce global warming pollution, Americans will experience a world that is less secure and stable. Addressing climate change through legally binding caps and enforceable measures must be a critical part of the Transportation for the Fuels Initiative if the Western Governors' Association is to achieve its three core goals of security, environmental quality, and economic strength.

The recommendations of the CTL draft report miss the mark by entirely ignoring the grim consequences of the extensive global warming pollution associated with CTL. Studies by the U.S. Environmental Protection Agency have found that diesel fuel produced through CTL technology results in more than twice the global warming pollution versus conventional gasoline.⁴ Even with full carbon capture and storage of the global warming pollution created by the CTL process, diesel fuel derived from coal results in a 3.7% increase in global warming pollution relative to conventional oil-based fuel.⁵ The profound greenhouse gases resulting from CTL implicate each of the central WGA factors and the failure to address global warming pollution in a meaningful and comprehensive way is a fatal flaw in the working group's draft report.

The nation urgently needs to address the global warming crisis through the establishment of a firm and declining national cap achieved through flexible, market-based mechanisms. A national cap must provide for extensive science-based reductions in greenhouse gases both immediately and over the long-term. Under a well-designed national policy to achieve climate security, major capital investments in new energy projects will internalize the full societal costs of their global warming emissions and compete in low carbon marketplace on an even-footing. The CTL working group's recommendation for considerable federal subsidies to support development of carbon-intensive CTL transportation fuel

¹ Intergovernmental Panel on Climate Change. 2007. Fourth Assessment Report: Climate Change 2007. Available at <http://www.ipcc.ch/ipccreports/assessments-reports.htm>

² Intergovernmental Panel on Climate Change. 2007. Climate Change 2007: The Physical Science Basis: Summary for Policymakers. Pg. 7. Available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_SPM.pdf

³ The CNA Corporation. 2007. National Security and the Threat of Climate Change. Available at <http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf>

⁴ U.S. Environmental Protection Agency. 2007. Greenhouse Gas Impacts of Expanded Renewable and Alternative Fuels Use. April. EPA420-F-07-035. Available at <http://www.epa.gov/otaq/renewablefuels/420f07035.pdf>

⁵ *Id.*

seriously misses the mark and leads the nation in the wrong direction, veering recklessly distant from climate security. Our scarce federal resources should be dedicated to initiatives that in fact address, meet and advance the WGA's three-pronged criteria. We urge WGA to adhere to its own enunciated framework for policy-making. We also respectfully request that the WGA provide for working groups that are multi-faceted and balanced to ensure the rigor that is the hallmark of reasoned policy development.

For the foregoing reasons, Environmental Defense respectfully recommends that the Western Governors' Association not include this draft paper in their final report. Please contact us at 303-440-4901 to discuss any questions about these comments.

Sincerely,

Martha Roberts
Vickie Patton

Environmental Defense
Rocky Mountain Office
2334 North Broadway
Boulder, CO 80304

Bonnie Turner
NextGen Energy Council

Dear Mr. Schroeder:

These comments are submitted on behalf of the NextGen Energy Council (the Council) in response to WGA's release for public comment of the draft report: Coal to Liquids: Transportation Fuels for the Future Initiative. The Council appreciates the opportunity to comment on the Working Group's draft report which the Council believes could have significant influence on the future of coal-to-liquids projects in Western States. It is because of this potential that it is important that the report adequately capture both the challenges and the benefits such projects present.

The report contains valuable information about the status of coal-to-liquids technologies in the US which will be useful to decision makers at the state level. However, it is the Council's position that the Preface and Executive Summary do not do justice to the majority of information presented in the report and do not present to the Governors a fair assessment of the benefits to their states and the country as a whole that could result from pursuing coal-to-liquids projects. Nor does the summary accurately portray the assessment in the body of the report of the magnitude and status of the challenges that must be addressed for such projects to meet the public's demand for environmental protection and action on reducing carbon dioxide (CO₂). In particular:

Energy Security Risk. As the report notes, dependence on imported fuels costs the country \$600,000 a minute. The result is the country's record trade deficit is being driven by energy prices. The EIA estimates that by 2030 the US will be importing two thirds of its oil and 25% of its natural gas, primarily from politically unstable nations and face increased international competition for supplies. To give Governors a sense of the far reaching implications of the decisions they make, the Executive Summary and full Report should give the enormous energy security risk the country faces at least equal weight as the implications of CO₂ regulation (which to date, the report acknowledges, has not been approved at the Federal level). WGA should reference the numerous credible sources, such as the Department of Defense and Department of Energy, which have detailed the magnitude of the energy security risk.

The West's suitability for CTL projects. The report fails to adequately describe the suitability of the coal states in the West for CTL projects. In addition to the abundant reserves as identified in the Executive Summary and the report, the West's coal mining operations are the most efficient and cost effective due to surface mining of thick seams with thin layers of overburden, the best safety and reclamation records, the country's CO₂ pipeline network and established EOR operations, the most extensive geological formations with potential for permanent CO₂ sequestration and the West's coal states have low population density, substantial tracts of developable land and rural communities which understand and support energy development.

The economic benefit to the West of CTL projects. The report would do well to reference analyses estimating the potential economic benefits that would accrue to states and local governments. For instance, it is estimated a 30,000 bpd coal liquefaction plant would sustain 1000 jobs and an annual payroll exceeding \$25m, generate annual state and local government tax revenues between \$10M and \$20M, and annual operating and maintenance expenditures of \$400m [1]. Rural communities in the

West know that in addition to expanding the tax base and education funding, energy projects support essential medical and emergency facilities, recreation amenities, retail and professional services and generate cash income all of which are vital to maintaining the farming and ranching communities of which they are a part.

The environmental benefits of using CTL fuels. The report states on P12 “F-T diesel fuel is a blending component or direct substitute for petroleum diesel fuel and can help solve significant air quality problems”...“it significantly reduces regulated emissions allowing commercial and government fleets to meet their implementation plans”.....” F-T fuels have been used as a blending stock by several refineries to meet the low aromatic CARB diesel standards.” Clearly F-T fuels have potential to help with air quality in our communities, but the Executive Summary reflects none of this information. This is one example of the lack of even coverage of the environmental aspects of CTL fuels. Again a more even handed Executive Summary is needed to truly reflect the potential benefits and challenges associated with developing these alternative fuels.

Addressing projected life-cycle CO2 emissions. Rapid progress is being made on reducing CO2 as well as on capturing and reusing CO2 produced during the liquefaction process and the report itself says there is potential for negative CO2 emissions (P17). This is not reflected accurately in the Preface. Similarly, the Executive Summary should reflect this optimism and the report’s own conclusion. And while the Governors would do well to incentivize further research into co-firing with biomass as the report recommends, this should be in addition to a very aggressive research and development program for other methods of life cycle carbon reduction (including those from vehicles) as well as capture and storage, that will not only benefit the CTL industry but also the current oil, gas and power generation industries.

An accelerated action agenda. Given the magnitude of the energy security risk, the length of time needed to conduct research into technologies (especially carbon reduction, capture and sequestration) and the lead time to plan, finance and build CTL projects, one would expect a sense of urgency to emanate from the report. Instead the report emphasizes “caution” and uses words such as “consider” in its recommended slate of actions. The Council recommends that an action agenda be created that gives the Governors specific direction of steps to take to address the urgent research needs, overcome other impediments and to jump start initial CTL projects in Western states.

The NextGen Energy Council shares the WGA’s objectives that all aspects of CTL fuels be examined closely and that we must protect the natural heritage that is so rich in the West. The Council stands ready to assist the WGA in ways that ensure these twin goals are reached and to move forward prudently on developing the West’s strategic energy resources.

Yours truly,



Bronwen J. Turner
Executive Director

John Smillie
Western Organization of Resource Councils

The Western Organization of Resource Councils (WORC) appreciates this opportunity to comment on the draft report, Coal to Liquids: Transportation Fuels for the Future Initiative. These comments supplement the comments submitted by the WORC and nine other groups on November 20th. WORC is a regional network of seven grassroots community organizations that include 9,500 members and 45 local chapters.

The draft report contains a useful compilation of data. The report acknowledges major potential problems for a liquid coal industry, such as lifecycle emissions of carbon dioxide, and the huge water requirements of liquid coal plants. We appreciate the report's attempt to look at the implications of siting the facilities and infrastructure needed for producing two million barrels per day of liquid coal in the West.

However, the report understates or glosses over many of the problems it identifies, and fails to consider most of the important implications of those it does identify. These problems make liquid coal inappropriate for further consideration as a significant source of transportation fuel. The policy recommendations in the report – especially the open-ended recommendations for federal subsidies for liquid coal – are not supported by the information in the report, which renders it of little or no value to inform policy-making.

The technology for making liquid fuel from coal is in its infancy, and is too expensive, too dirty, and too water consumptive for the arid West. Technology to combine biomass and coal as feedstocks is even further from maturity and would be even more expensive. These technological and financial problems are magnified by the need to develop, regulate, and finance carbon capture and sequestration technology.

Energy efficiency and sustainable renewable fuels will be better places to invest available societal resources than liquid coal will be for the foreseeable future. Every dollar spent on incentives for a commercial scale liquid coal industry will be wasted, because it would be better spent on energy efficiency and truly low-carbon, renewable fuels.

The report acknowledges that liquid fuels from coal would have double the life-cycle carbon emissions of the petroleum fuels they would replace, but attempts to preserve the fiction that there is, nonetheless, a way to produce a significant amount of liquid coal without emitting unacceptable amounts of carbon dioxide. According to the executive summary, liquid fuels from coal can have life-cycle carbon emissions “at or below” those of comparable petroleum fuels. This glosses over the incontrovertible facts; namely, that (1) liquid fuels from coal will have greater life-cycle carbon emissions than petroleum, even with complete carbon capture and sequestration at coal-to-liquids facilities; and (2) real, significant reduction in carbon emissions from the liquid transportation fuel sector is incompatible with the production of liquid coal, even with complete carbon capture and sequestration and co-fueling with biomass.

The enormous capital cost of liquid coal plants – not merely the “uncertainty” of financing sited in the report – is the reason private capital markets have shunned this technology. Investments in more efficient transportation systems and passenger vehicles, at the national level, and in sustainable, renewable biofuels at the national, state, and local levels, will yield more annual production capacity, displace far more petroleum, and create many more jobs and economic activity per dollar than liquid coal.

Making liquid fuels from coal requires far more water than is available without diverting water from existing agricultural, municipal, industrial, and in-flow uses. Water has always been a scarce commodity in the West. Existing levels of atmospheric carbon have already exacerbated this problem, bringing us measurable climactic change which has diminished average annual snowpack, increased average temperatures and increased evaporation. Deployment of a technology that would lock in increased carbon dioxide emissions while consuming 7-15 barrels of water for every barrel of product⁶ in this environment would be grossly irresponsible.

In short, liquid coal is a dead-end technology. It is too speculative, too expensive, has far too long a lead-time, is unavoidably bad for the climate, and would divert money and resources from cleaner, cheaper, faster alternatives that will create more and better jobs, farm income, and rural economic prosperity.

For all of these reasons, the draft report’s recommendations to support federal financial incentives for liquid coal, to develop Coal-Biomass to Liquids Industry, and to Develop/Promote Alternative Incentive structures are misguided. Siting, permitting, and other regulatory processes for coal-to-liquids and carbon sequestration facilities are needed. Federal incentives for carbon pipelines and storage, in the absence of a price on carbon emissions, are both inappropriate and useless.

The recommendation to promote a biomass supply and transportation infrastructure for a coal-biomass to Liquids Industry is also inappropriate. Resources and incentives would be much better targeted to biomass-only projects, which could be more appropriately scaled and would have much greater carbon-reduction benefits.

While research and development is needed to explore what we believe to be fatal flaws with the notion that significant amounts of imported oil can be displaced with liquids made from coal, it seems

⁶ The Draft Report cites two sources for a ratio of five units of water per unit of product. Permit applications for the proposed WMPI waste coal to liquids plant suggest a ratio of approximately 15:1. See “Susquehanna River Basin Commission, Docket No. 20050905, Sept. 14, 2005; approval of WMPI PTY, LLC, application for Groundwater Withdrawal of 7.000 mgd and Consumptive Water Use of up to 3.47 (Peak Day) for the Gasification and Liquefaction of Coal Waste.” Ratio of 15:1 calculated from WMPI’s permitted average daily consumption of 3.3 million gallons per day (mgd). An Idaho National Laboratory study suggests a 12:1 ratio for liquids from sub bituminous coal. See <http://www.gasification.org/Docs/Workshops/2007/Denver/11%20Boardman%202.pdf>, p. 17.

premature to spend federal or state funds for research and development of this technology given the uncertainty surrounding the availability of economically recoverable coal. Some of the research and development recommendations in the draft report are baseless – why, for example, would it make sense to promote CTL for early “megascal” carbon sequestration projects, rather than IGCC power plants? Other research and development recommendations would seem to be pre-requisite to launching a huge new industry with potentially catastrophic impacts to the global climate and western water supplies. However, federal and state expenditures on liquid coal, with or without biomass, are premature at best until national coal resource assessments are updated, as the draft report recommends.

Specific comments:

In the Preface and in the Introduction, the report refers to “abundant and relatively low-cost” coal, using an often-cited figure of 250 billion tons of recoverable reserves in the U.S. The assumption that there are 250 billion tons of economically recoverable reserves available for conversion to liquid fuels is open to serious question. Although the report cites the recent National Academy of Sciences report on the subject, it significantly understates the uncertainty about the size of U.S. and Western coal reserves. Moreover, these reserves can be considered low-cost only if no price is attached to carbon emissions or other externalities involved in coal production and consumption. For example, just six percent as much surface-mined land in the West has been fully reclaimed, and had associated reclamation bonds released, as has been mined in the last ten years.⁷

The report assumes that the economic benefits of developing coal for Western states is “obvious”. The experience of coal-mining counties in Appalachia, which have high rates of unemployment and poverty despite a century or more of coal mining, does not support this assumption. The report fails to analyze the potential job-creation and economic development benefits of alternative uses of public and private capital, such as investments in energy efficiency and renewable fuels. The report fails to analyze the farm and ranch income and economic development benefits of alternative uses of biomass and agricultural land, such as pure biomass gasification or liquefaction, power generation from biomass, cellulosic ethanol, and biodiesel.

Page 8, footnote 6: The report alleges that “With indirect coal liquefaction using F-T technology, the feedstock to make the fuels is a hydrogen and carbon monoxide-rich synthesis gas that has been purified *removing all sulfur, mercury, and other contaminants*” [emphasis added]. This overstates the environmental benefits of F-T. Existing and permitted F-T and IGCC plants do not have zero emissions of criteria pollutants or mercury, as this implies. Mercury removal, in particular, requires additional pollution control technology.⁸

⁷ See *Undermined Promise: Reclamation and Enforcement of the Surface Mining Control and Reclamation Act*, available at <http://www.worc.org/issues/Coal/SMCRA%20Report.pdf>.

⁸ Cf. [The Cost of Mercury Removal in an IGCC plant](http://www.gasification.org/Docs/News/2002/DOE_Parsons_Mercury_Final_Report.pdf), at www.gasification.org/Docs/News/2002/DOE_Parsons_Mercury_Final_Report.pdf.

Page 13: The draft report refers to the recent National Academy of Sciences report on the uncertainty of existing U.S. coal reserve estimates, but understates its significance. The NRC report found that, based on existing data, it was probably safe to conclude the U.S. had a 100 year supply at existing usage rates, but that it was “impossible to confirm” the 250 year figure. If coal production nearly doubles (as would be necessary to produce five million BPD of liquid coal, as suggested by the Draft Report), mining all economically recoverable coal would only give us a 50-year supply. If a calculation were made of the amount of economically recoverable coal that is no mineable because of surface owner opposition or environmental reasons, the number of years available coal would fall still further.

Page 16-17: The draft report overstates the potential market for CO₂ for enhanced oil recovery. The draft report does not even note what is obvious from the data in Table 1: that is, less than 10 percent of oil potentially recoverable with CO₂ is in the states where almost all of the mineable coal is (the Rockies and Williston Basin states). The draft report glosses over its own evidence, that current CO₂ injection technology for coalbed methane recovery does not work.

Co-gasification of coal and biomass, p. 17-18: The draft report approvingly describes what amounts to an accounting gimmick, that is, off-setting the disastrous carbon implications of liquid coal with sequestration of carbon from an F-T facility gasifying biomass. The report notes the economic and technological drawbacks of this approach, but fails to connect the dots: “co-gasification” of coal and biomass will not be used unless a significant price is imposed on carbon emissions. If federal or state legislation does impose a price on carbon emissions, it is unclear why biomass producers would sell their production (or credits for sequestering carbon in low-carbon soils) to a liquid coal plant. Biomass producers would retain greater control over their production, and reap as great or greater economic benefit, by selling any carbon credits in the open market, and selling biomass to facilities gasifying biomass only, or producing cellulosic ethanol. They could also grow oil seeds for biodiesel production. Biomass-only facilities could be smaller, more suitably scaled to the amount of biomass available in the region, and subject to local ownership and control.

The report cites studies at Princeton for the assertion that systems co-fueled with coal and biomass could reduce GHG emissions “substantially” or “even to zero.” The studies in question rely on the accounting gimmick discussed above, and credit GHG offsets from associated electricity production to the liquid fuel. This is, in effect, giving apples credit for the orange juice from oranges grown in the same orchard.⁹ Accounting gimmicks aside, the physics and chemistry of the matter are incontrovertible: the lifecycle GHG emissions of liquid coal, without carbon capture and sequestration, used in transportation are twice as high per mile as those from fuel produced from conventional petroleum. Even with complete carbon capture and sequestration at an F-T plant, lifecycle emissions of liquid coal are worse than the conventional petroleum fuel it would replace.

⁹ Overall the orchard produces orange juice, but the apples don’t have anything to do with it. Attributing carbon savings from growing biomass to coal confuses current carbon with stored carbon.

Page 26: The draft report claims that CTL projects “*are* relatively clean with regard to regulated (criteria) emissions” (emphasis added). While it is true that backers of liquid coal promoters claim that their projects *would be* relatively clean, there are no relatively clean projects today. The world’s only commercial CTL facilities (Sasol’s Secunda plants) emit very high levels of sulfur dioxide and other criteria pollutants.¹⁰

Page 28: The draft report rightly highlights the need for increased funding for state coal mine regulatory programs, but glosses over the failure of Western coal mines and regulatory programs to achieve reclamation goals set by Congress in the Surface Mining Control and Reclamation Act.¹¹

In footnote 30, the draft report calculates the amount of transportation fuel derived from conventional oil that would be displaced by a two million BPD liquid coal industry in the West, as 5% of the total U.S. transportation fuel requirement in 2006. The draft report does not, but should, calculate the dramatically higher percentage of U.S. transportation fuel needs that could be displaced by investing two hundred billion dollars¹² in energy efficiency and renewable fuels.

Page 29: The draft report states without qualification or supporting evidence of any kind that “a large surface coal mine brings economic benefits to an area, and “So, too, will a CTL facility.” The logical and evidentiary shortcomings of these assertions are too numerous to detail here. In addition to ignoring the counter-evidence provided by 100 years of mining history in Appalachia, these statements fail to consider which and how many communities in the West could support the construction boom (and then the bust) of building even one small liquid coal plant; the cost of public infrastructure of all kinds; all environmental impacts other than fugitive dust emissions from coal mines; and the opportunity costs of investing hundreds of billions of dollars to bring a few thousand jobs to a couple of dozen communities. Hundreds of thousands of jobs could be spread to thousands of communities across the West if those funds were invested in energy efficiency and renewable energy.

Water Use and Availability: the report acknowledges but understates the importance of the tremendous water requirements of the liquid coal industry it promotes. It understates the water requirements of liquid coal projects: the proposed WMPI waste coal to diesel plant has water permits that work out to 15 gallons of water consumed for every gallon of fuel produced. The report cites one piece of Congressional testimony, to the effect that water usage requirements “may limit” the number of locations where coal-to-liquids plants may be cited. The facts warrant a much stronger conclusion: few, if any liquid coal plants can be built in the West without stealing from existing uses and needs. The report cites unsubstantiated CTL industry claims that air cooling and use of non-potable water can

¹⁰ The draft misuses the present tense for the future subjunctive tense in several other instances.

¹¹ See *Undermined Promise*, footnote 2. The draft report cites only dubious, anecdotal evidence -- awards given by the Office of Surface Mining to western coal mines -- as evidence of region-wide reclamation success. The authors ignore the more appropriate but much bleaker evidence in OSM’s annual reports on state programs, which are designed to measure the success or failure of reclamation and the effectiveness of state programs.

¹² At the conservative estimate given in the draft report of \$100,000 per daily barrel of capacity, \$200 billion would be required to build a two million BPD liquid coal industry.

reduce potential water conflicts, but does not mention (let alone estimate) the added costs of employing dry cooling technology, or cleaning alternative water supplies for use in cooling or process water. Even using the draft report's optimistic ratio of five barrels of water per barrel of product, a two million barrel per day liquid coal industry would use twice as much water as the City of Denver, or twenty times as much as the City of Billings, Montana.

Stuart Sanderson
Colorado Mining Association

Dear Mr. Schroeder:

The Colorado Mining Association (CN4A) submits these comments on the Draft Coal-to-Liquids report. CN4A is an industry association, founded in 1876, whose more than 700 members include the producers of coal, metals, and other minerals throughout Colorado and the west. CN4A is a major coal producing state, with ten active surface and underground mines in operation.

Our comments follow, as they relate to each listed recommendation:

Page 4: "In addition states should evaluate their regulatory programs to ensure that they are well-functioning and sufficiently protective of worker safety, public health and the environment to the extent of their authority."

We find this statement confusing. The domestic coal industry is one of the most regulated entities in the United States. State and federal laws dictate the minimum number of inspections per month/year to ensure compliance with environmental laws. The level and number of inspections far exceed that of other industries. Further, these enforcement programs are largely conducted by State agencies with federal oversight in order to ensure the federal requirements are being met. With regard to safety, the federal agency MSHA has jurisdiction over coal mining. The MSHA inspection level also far exceeds that of industries that are overseen by OSHA. With regard to public health, many of these programs are also delegated to the States with federal oversight. CMA recommends either supplementing this section with this additional detail regarding current state and Federal oversight or deleting the statement.

Page 23: "...in Wyoming alone, over 100 unit trains per day leave the Powder River Basin..."

This should be changed to 70 to 80 trains per day. This section overstates the amount of rail construction and traffic that would result from the CTL industry. This premise is not adequately established in this section. The basic premise laid out is that most CTL plants will be mine mouth, but in some instances may require rail service. It does not follow that a mature CTL industry will lead to another 150 trains per day of coal being loaded and shipped.

Page 26: "Since western coal reserves will be principally relied upon to support the development of a CTL industry..."

There is no basis for this statement, which Appendix A refutes by listing the domestic CTL plants that are under consideration. This list shows only one CTL plant in the western United States which would utilize western coal, the others would not be using western coal. Further, the one western plant will not rely on new rail capacity to meet the feedstock needs. The language is not factual and appears to be written so as to over-predict impacts.

Page 27: "Coal Mining, Health, Safety and Environmental Issues".

Language appears to overstate the impacts in the West. The case has not been adequately made that the large scale development of CTL will impact the West to the extent discussed in the report. We would suggest scaling back this section to a discussion of adequately funding the regulatory oversight of the coal mining industry alone. The rest of this section attempts to over-inflate impacts and tries to tie these impacts to CTL. These types of impact analyses will be defined in the necessary NEPA/permitting that must take place for expanding or opening of new coal mines, regardless of whether the impacts are tied to coal for electricity production or for coal to liquids.

Thank you for considering these comments. If you have any questions, please contact me.

Sincerely,

Stuart A. Sanderson
President