The Maine Woods

A Publication of the Forest Ecology Network

"In wildness is the preservation of the world." Henry David Thoreau

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Looking in the direction of the Scott Road from the top of Bigelow's West Peak. *Photo by Jonathan Carter*

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NON-PROFIT ORG.

A Voice in the Wilderness by Jonathan Carter

EAST-WEST CORRIDOR ECOLOGICAL CATASTROPHE

Cianbro Corporation has proposed building a 220 mile 4-lane highway/energy corridor across central Maine. This East-West Corridor (EWC) would run from Calais to Coburn Gore, connecting up on each end with road systems in Canada. The EWC would virtually cut Maine in half. It is being promoted by Cianbro as the salvation for central Maine's poor economy and as a route for containerized cargo brought up from the new Panama Canal to the deepwater port of Eastport – a short spur away from Calais.

FEN director Jonathan Carter and FEN supporter John Herrick atop Bigelow's West Peak..

While Cianbro's traveling presentation promotes the EWC as a 4-lane highway only, it is clear that the ultimate objective is to use the EWC as a transmission line for mountaintop industrial wind, to pipe Alberta tar sands and North Dakota oil and gas east, to transport ore from several potential open pit mines in Maine, and possibly to carry Maine's abundant freshwater west.

The ecological impact of the EWC would be catastrophic. It would be the largest and most expensive construction project in Maine's history. It would result in hundreds of acres of wetlands destroyed, thousands of acres of clearcuts, many major river and stream crossings (including the Penobscot, Narragaugus, Kennebec, Machias, and Dead Rivers), massive water contamination and siltation, declining freshwater fisheries, the impediment of north-south movements of wildlife, and it would damage, by proximity, many wild and special places (Moosehorn and Sunkhaze National Wildlife Refuges, Bigelow Preserve, Appalachian Trail, etc). The fill alone for the road would require 7.5 million truck loads which, if lined up, would stretch around the globe.

Many would argue that the EWC is simply delusional thinking on the part of Cianbro. This road has been proposed in the past and has always been deemed uneconomical. While it seems clear that a 4-lane highway would not be viable, it is the energy and utilities component that offers potentially large economic returns for many out of state and international corporations. However, the biggest difference between past proposals and the current one is that Cianbro is promoting the EWC as a private road, constructed with two billion of investor-backed dollars.

FEN is working with a coalition of other groups under the umbrella name "Stop the Corridor". While Cianbro has not yet divulged the exact route, we have been busy building public opposition through outreach and education. Although a project of the magnitude of EWC will take several years to move through the regulatory process, it is critical that we build strong public opposition now. We need to challenge the project at every stage of development. While we have so far done an outstanding job in igniting opposition and organizing local and regional groups along the route, a much broader statewide campaign needs to be developed immediately. Stopping of the EWC will not be successful, unless we engage citizens statewide.

For the Planet,

Jonathan Carter, Director, Forest Ecology Network

Golden Eagle by Paul Donahue

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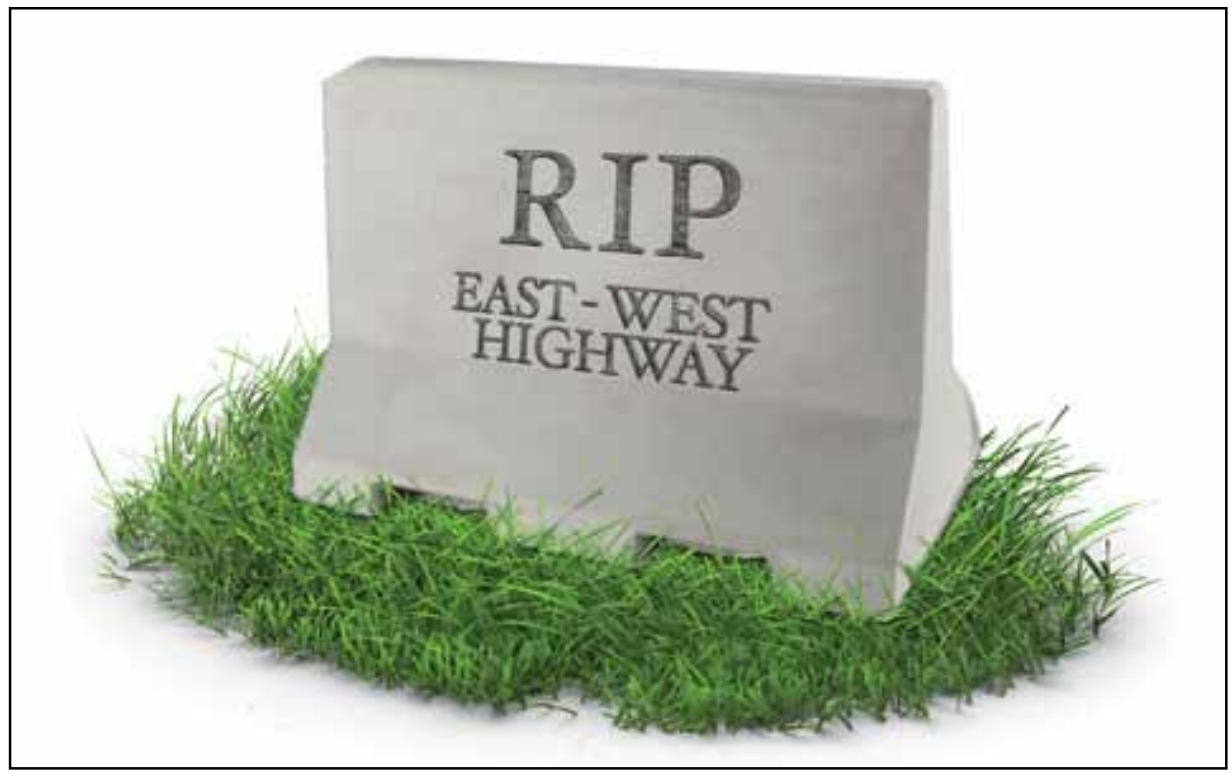
A Hellacious Highway

by Crash Barry

Try to picture a turnpike that cuts across the interior of Maine. A four-lane super-highway built through woodlands and bogs. A completely fenced-in, 220-mile private toll road, running along rivers, lakes and farms, then over mountains and ridgelines. Starting in Calais and ending at the Quebec border at Coburn Gore, the so-called "east-west corridor" is being pushed by Peter Vigue, head of Cianbro, the construction wing of Maine's energy-speculation industrial complex.

Under Vigue's plan, a steady parade of tired Canadian truckers hauling tandem trailers (or Irving tanker trucks filled with gas and diesel) from the Port of Saint John in New Brunswick will pay $125 to save two hours driving time en route to Quebec. These monster tandem trucks - measuring over a hundred feet long - aren't currently permitted on Maine's roads. But via Vigue's private expressway, the Canadian trucks would be allowed to surpass American weight standards, all while traveling at 75 mph, the proposed speed limit.

Vigue never mentions the traffic from the west, however. Probably because he knows the image of truck convoys loaded with medical waste and sludge from Canada headed into central Maine would be unpopular with the locals. Yet under Vigue's proposal, waste haulers transporting municipal and industrial biosolids will appreciate the short-cut to Casella Waste's "New England Organics" mega-sludge processing facility in Kennebec County's Unity Township. And if Vigue gets his right-of-ways, haulers of medical waste will be happy with the toll road's proximity to the Juniper Ridge landfill in Old Town, owned by the state, but run by Casella.



The tolls from the truckers coming from both directions, though, won't be enough to pay for the construction of the $2 billion road project. And since Vigue won't even venture a guess on the fee for passenger vehicles, it's doubtful revenue from tourist traffic will make a dent in the construction debt. That's why the scheme is referred to as a "corridor" instead of a "highway." Despite his public protestations to the contrary, Vigue's fancy new website (eastwestme.com) admits the powerful truth: the road paves the future for utility and communications corporations to run lines from Canada into the heart of Maine. Big Wind and other energy giants will be glad to rent the private highway's median as a way to link to the power grid. And once the roadwork is completed, then voilà, a ready-made path exists for a pipeline pumping oil sands to the Canadian Maritimes.

Environmental activist Hillary Lister, who lives in Athens in Somerset County, has observed Vigue's efforts to turn his east-west pipe dream into a reality since 2007. It was at a conference in Bar Harbor featuring New England governors and eastern Canadian premiers when she first heard Vigue publicly mention the corridor.

"He said it was important to view Canadian companies as friends to Maine and not to treat them like enemies," Lister recalls. "But his big reason for the road was that 'there was no other plan' to bring jobs to Maine." Vigue went on to bemoan the loss of well-paying manufacturing jobs, specifically Dexter Shoes, that headed to China after being purchased by Warren Buffet's Berkshire-Hathaway Corporation.

That argument struck a sour chord with Lister. She grew up in Dexter. The super-highway, if built, would be located about 10 miles to the north. How, she wonders, would a toll road help her hometown recover from the devastating shoe factory shutdown in 2001? These days, Dexter, like many of Maine's former mill towns, is plagued by opiate abuse, unemployment, despair and empty brick buildings. It drives her crazy that Vigue goes around the state offering false hope and empty promises of jobs in order to secure support for the highway. After all, how many employment opportunities can truck stops and gas stations actually provide? Because wireless robots will collect the tolls at each of the six exits, so no humans need apply for those gigs.

But even more troubling, for Lister, is how Vigue's pet road would dramatically increase the tonnage of out-of-state trash being shipped into Maine, where regulations for waste disposal are far less stringent than laws across New England and eastern Canada. And the situation is bound to get worse. Thanks to a new trash-for-gas and pipeline deal with U-Maine, Casella needs to import more and more waste to generate maximum amounts of methane from the Juniper Ridge landfill.

For years, as an activist, Lister has focused on the trash industry's negative impact on Maine's water supply and the environment. And now, as the state continues to grow as a dumping ground for other people's garbage and gunk, she finds Vigue's current push for the toll road particularly infuriating. So on July 14, she and others will be asking tough questions to a gaggle of political candidates at a forum in Dexter devoted to the proposed highway. Vigue has been invited to the event, but organizers haven't heard back. Lister doubts he'll attend. "He doesn't want to publicly deal with all the unanswered questions. Will this road cross the Appalachian Trail? What's going to happen to the wildlife in this corridor?" Lister also doubts the road could be built for the two billion bucks Vigue claims. And she worries that if the project does start, cost overruns could turn the road into Maine's version of Boston's Big Dig. "They still don't have financing for the project. Besides, even if they do get the money and the government's approval, it'll take a while. And then it'll be at least another three years to build the road. And that's an optimistic time frame. By then Vigue will be retired," Lister says. "Maybe he's just trying to set up construction projects for his son Andi Vigue who is now president and chief operating officer for Cianbro?"

Time and time again, Vigue has publicly denied that Cianbro has any interest in building the project. "We build bridges," he's been oft quoted, "not roads!"

Vigue is being disingenuous about Cianbro's real business. Even a cursory exploration of cianbro.com shows the company's deep involvement in many industries. They've built LNG terminals, wind farms, oil rigs, fuel pipelines and trash-burning plants. Their clients aren't just in the energy sector. Cianbro fixed a giant paper machine for Great Northern, built a bottling plant for Poland Spring Water, constructed a half-million square foot micro-chip facility for National Semiconductor, helped repair the Pentagon after the 9-11 attacks and has worked with Casella on several projects. And that's just a tiny fraction of the company's global customer list.

It's understandable why Lister and others don't trust Vigue. Especially since the fella is known for his odd behavior and secrecy about project details. These days, for instance, Vigue appears at public events accompanied by a half-dozen bodyguards, claiming the thugs are necessary to prevent attacks by hippies and eco-terrorists who have allegedly threatened his safety. Plus Vigue is always rabidly defending his decision to keep the actual route of the highway confidential. He insists it's the only way to prevent super-highway opponents from harassing landowners into not selling. At a recent Tea Party gathering, one of Vigue's surrogates also implied the secrecy would help developers acquire land parcels cheaply, since sellers wouldn't know the true value of their property as a potential segment of highway.

Despite support from Governor LePage and members of the Legislature, the highway isn't a done deal, yet. Vigue still has to raise billions of bucks, followed by the tough task of convincing regulators that paving a new roadway through undeveloped land — and expanding existing logging roads — won't hurt the environment. Even if he makes it past the bureaucrats, he'll have to contend with court challenges and other actions by environmentalists. And by then, it'll take more than Vigue's six bodyguards to quell the angry mobs.

East-West Corridor's Massive Impact on Conservation Lands and Special Places

by Jonathan Carter

The East-West Corridor is a private two billion dollar 220 mile project (from Calais to Coburn Gore) being proposed by the giant construction corporation, Cianbro. It is also a colossal threat to Maine's environment and economy. Peter Vigue, the CEO of Cianbro, has been traveling the state giving presentations. Mr. Vigue has been promoting the project as an East-West "transportation-utility-communications" corridor. While Vigue may make claims to the contrary, this corridor with its 500 foot width could include, in addition to the 4-lane super highway, a natural gas pipeline (from the fracking leases in Quebec and New Brunswick), transmission lines, and bulk water lines. It is not out of the question that crude oil from the tar sands in Alberta and the rapidly increasing fracking shale oil extractions in North Dakota (a shipment of which just recently transited Maine by rail, headed to the refinery in St. John) could be piped across Maine using this corridor. This "supercorridor" is also about enhancing the extractive industries in Maine - the torrified wood (a biomass process by which trees are turned into a coal-like substance using microwave technologies) industry being started in Millinocket for export to the United Kingdom and metal ore transport from several potential open pit mines being considered in Maine.

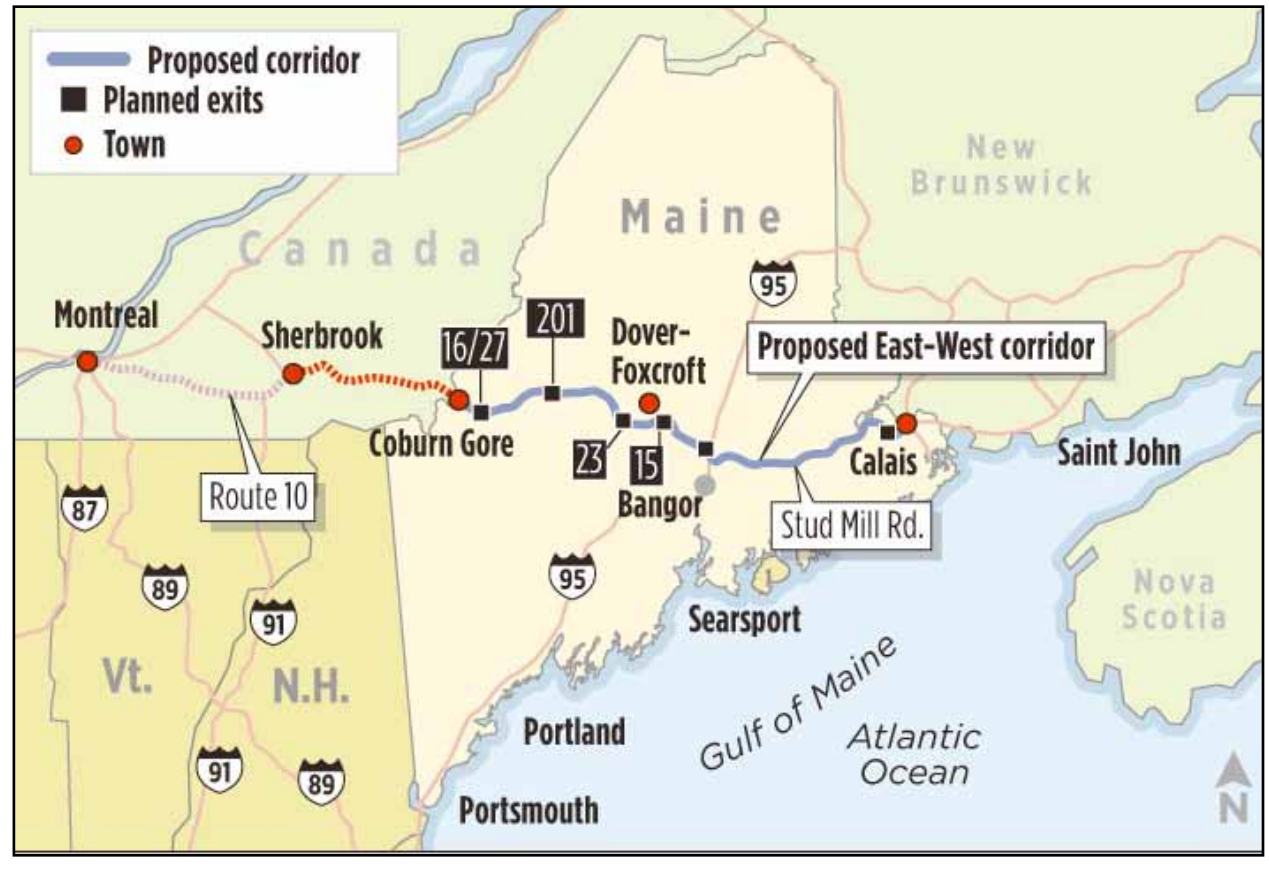
Jonathan Carter and Jym St. Pierre at East-West Highway press conference.

Vigue's lobbyists have been busy in Augusta. Governor LePage signed a bill in April which allocated $300,000 of our tax dollars to do a feasibility study for this two billion private investment toll road corridor. If Cianbro gets the green light, it stands to make hundreds of millions of dollars as the primary construction firm.

The East –West Highway concept is not a new idea. In fact, it dates back to the 1950's. The most recent Maine Department of Transportation (MDOT) feasibility study was done in 1998. The study concluded that a four lane E-W highway across Maine was not justified. Considering that the 1990's economy was far more vibrant than today's, it is hard to believe that a new study would come to a different conclusion. However, Vigue is fond of predicting that "if we build it, they will come". This reminds me of how flimflam man Charles Dana Wilber tried to get folks to settle the arid western prairies in the 1880's by concocting the myth that "rain always follows the plow"!

If MDOT does a fair and unbiased analysis, it can only conclude again that the building of an E-W Corridor is not warranted. It is simply too expensive and would cause massive ecological destruction. The route itself would involve virtually cutting Maine in half. In spite of the construction of so called "wildlife crossing," the fencing on either side of the corridor would impair north-south wildlife migration. The bulldozing, blasting, and movement of tens of millions of yards of rock and gravel would have an immense impact on the hydrology of Maine. Storm water runoffs from 220 miles of pavement will inevitably contaminate some of the hundreds of streams, lakes, ponds, and rivers in the path of the proposed corridor. At a minimum, 14 thousand acres of carbon-sequestering forestland would be forever eliminated. Noise and light pollution, reduced air and water quality, and loss of wilderness recreation areas would all be by-products of an E-W Corridor.

I have heard Mr. Vigue, CEO of Cianbro at two presentations state that the East-West Corridor will not impact conservation lands. This is patently false. While Cianbro has refused to be transparent and release a detailed route, based on what they have released, this project would potentially impact dozens of conservation areas and special places. At the very least Vigue should admit that his four-lane superhighway would impact such iconic places as the Moosehorn National Wildlife Refuge and the Bigelow Preserve. It would also have to cross a remote section of the Appalachian Trail which is National Park land. This proposal is an environmental nightmare."



Statement of Jym St. Pierre, Maine Director, RESTORE: The North Woods, Concerning the Proposed East-West Corridor

Funding has been approved by the Maine Legislature for an economic feasibility study of Peter Vigue's proposal to develop a private, east-west, four-lane, 220-mile "transportation, utility and communications corridor" across Maine from Calais to Coburn Gore.

The East-West Corridor has become the topic of intense pubic concern and there will more debate when the results of the study are released.

Meanwhile, there has been little discussion about the impacts of the East-West Corridor on significant conservation and recreation areas. So, to assist Mr. Vigue, I have undertaken a reconnaissance level inventory of these areas along the likely route of the corridor.

Mr. Vigue has been unwilling to reveal the precise route or routes of the corridor, so in my survey I have relied upon map information from a confidential 2008 report prepared for Cianbro, which is referenced in the Maine Dept of Transportation Request for Proposals (but which is no longer available online from MDOT). I have also used map information from Mr. Vigue's public presentations and published sources.

Depending on the precise route on the ground, it appears that the proposed East-West Corridor would cross, come perilously close to, or be in the viewshed of more than five dozen significant conservation and recreation areas. All of these areas are shown on the large-scale map on display here today and they are listed in an attachment to this statement.

My organization, RESTORE: The North Woods, has a direct stake in this issue because the proposed East-West Corridor would cross part of our proposed Maine Woods National Park & National Preserve. It could also cross Atlantic salmon rivers and other wildlife habitats and ecosystems we have worked to protect.

The 2008 "strictly confidential" report on the East-West Corridor prepared for Cianbro Corp. says that

This East West Highway project will arguably be the largest private development ever undertaken in the State of Maine...Because it will cross the section of Maine that has a large concentration of wetlands, and will involve new bridges across the Penobscot and Kennebec Rivers (plus crossings of many other small streams), it will undoubtedly involve the largest wetland mitigation and compensation program ever required in the State. (p. 19)

Indeed, the proposed East-West Corridor seriously threatens Maine's natural environment and economy. Maine people should be paying special attention to a number of crucial concerns, including:

• environmental impacts to Maine's water, wildlife, wetland, forest, air and climate resources

• whether the corridor will accelerate biomass chipping of the Maine Woods and encourage more export of raw forest products foregoing the opportunity to add value

• whether eminent domain be used to take private properties

• whether the corridor precludes more efficient, less polluting and more cost effective alternatives, such as rail transport

• whether the corridor will open up remote areas for grid-scale wind power and other new energy projects

• whether the right-of-way will be a corridor for high voltage transmission power lines, a natural gas pipeline, an oil pipeline, and/or other major utilities

• short-term and long-term economic costs and benefits, including to Maine taxpayers

• whether taxpayers will be forced to bail out the private developers if they can no longer afford to maintain the road

• whether Maine residents and tourists will use the highway, if the toll is hundreds of dollars (as estimated by the executive director of the Maine Turnpike Authority)

• who will pay to patrol the highway

• whether the highway conflicts with Dept. of Homeland Security border concerns

• why public money should be used for a study of a private road

• why there is so much secrecy about what could be "the largest private development ever undertaken in the state of Maine"

• why the public should assume all the risks while all the direct profits will go to private interests

By making Maine just one more drive-thru state, the East-West Highway and Corridor could destroy some of Maine's best natural assets and put the state at a competitive disadvantage. It could further divide, rather than connect, the two Maines. In short, it appears to be a road map to a dead-end for what Mr. Vigue calls Maine's "hollow middle." Canada lost northernmost Maine in the Webster-Ashburton Treaty in 1842. Do they intend to get it back now by nudging Maine road developers to bifurcate our state?

We oppose the proposal to develop the East-West transportation, utility and communications corridor in Maine, we decry the lack of transparency surrounding the proposal, and we join those who are calling for our government and business leaders to be honest and open with us about what they are really up to.

July 16, 2012

photo by Troy R. Bennett-BDN

Jym St. Pierre at East-West Highway press conference.

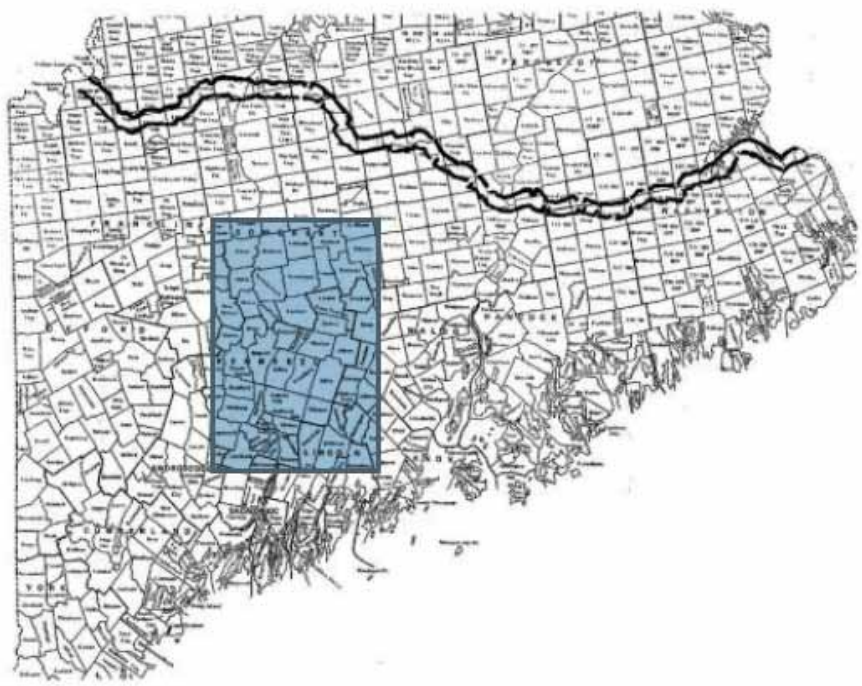
EAST-WEST HIGHWAY & UTILITY CORRIDOR

STOP THE PROPOSED EAST-WEST HIGHWAY & UTILITY CORRIDOR

What is the East-West Corridor proposal?

Cianbro Corp. is spearheading an effort by corporate investors to build a transportation and utility corridor that would run 220 miles from Calais to Coburn Gore, beginning with the construction of a four-lane highway. This private toll road is intended for heavy weight truck traffic between Canadian provinces across Maine. It could also be used for natural gas, tar sands oil and water pipelines as well as high voltage power lines.

The corridor would not follow existing public highways. It would be a private right-of-way 500 feet or more wide (I-95 is 300 feet wide). A confidential report prepared for Cianbro said it "will arguably be the largest private development ever undertaken in the State of Maine." The Maine Legislature has appropriated $300,000 for a publicly funded financial feasibility study to justify private investment in the project, though it could be a



Will the corridor bring prosperity?

Cianbo claims that the East-West Corridor will create a few hundred long-term jobs, but the issue of losing existing jobs has not been studied.

Towns in the path of the project will be bisected. Development that might follow the super-highway would siphon business from rural community centers. If tourists use the highway they will bypass the downtowns. Strides made in recent years to promote regional identity and quality of place for tourism and recreation, such as designated scenic byways, will be for naught. By making Maine just one more drive-thru state, the East-West highway would destroy Maine's best natural assets and put the state at a competitive disadvantage. The East-West Corridor would further divide, rather than connect, the two Maines.

What other concerns have been raised?

There are numerous unanswered questions:

• Why is crucial information, such as the precise route of the corridor, being kept secret?

• Will there be high voltage electric power lines along the corridor?

• Will wild and remote areas be opened up for grid-scale wind power and other new energy projects?

Will the corridor include pipelines for corrosive tar ands oil and/or for natural gas from fracking wells?

Will liquefied petroleum gas (LPG) be transported along e corridor?

Will biomass chipping of the Maine Woods be ccelerated and export of raw forest products creased?

Will the corridor be used to transport Maine's potable ater resources for sale out-of-state?

Will the corridor be used to ship ore from new open pit ining operations in Maine?

Why won't the feasibility study look at impacts on air, ater, wetlands, forests, recreation, communities, or ocal economics?

• Why are alternatives, such as railines, dismissed?

• Will eminent domain be used to take private property?

• Does the highway conflict with Dept. of Homeland Security border concerns?

• Who are the private investors and will all the direct profits go to private interests while the risks fall ultimately on the public?

How will the East-West Corridor affect Maine's wildlife and protected areas?

The fenced corridor would impede the movement of wide-ranging animals such as moose, deer, bear and lynx. The road and pipelines would also threaten wild brook trout waters and rivers where millions of dollars have been spent on Atlantic salmon restoration. More than 60 conservation/recreation areas are at risk:

1. St. Croix International Waterway (NPS)
2. St. Croix Corridor (DLLT)
3. Moosehorn National Wildlife Refuge (USFWS)
4. Snowmobile Trail ITS 84 (MSA)
5. Sunrise Easement (DLLT)
6. Farm Cove Community Forest (DLLT)
7. Big Lake Twp Public Reserved Land (MPPL)
8. Machias River Corridor (MPPL)
9. Duck Lake Public Reserved Land [Ecological Reserve] (MPPL)
10. Nicatous Lake Easement/Conservation Area (FSM)
11. Snowmobile Trail ITS 81 (MSA)
12. Snowmobile Trail ITS 104 (MSA)
13. Narraguagus River salmon restoration initiative (USFWS et al)
14. Great Pond Outdoor Recreation Center (DOD)
15. Great Pond Public Reserved Land (MPPL)
16. Great Pond Forest Legacy Easement (MDIFW)
17. Lower Penobscot Easements & Sunkhaze Corridor (TNC)
18. Lower Penobscot Forest Project (MPPL)
19. Bradley Public Reserved Land (MPPL)
20. Sunkhaze Meadows National Wildlife Refuge (USFWS)
21. Penobscot Nation River Islands (PN)
22. Penobscot River Restoration Project (USFWS et al)
23. Penobscot Nation Territory (PN)
24. Hemlock Stream Forest (FSM)
25. LaGrange-Medford Multi-use Trail (MPPL)
26. Bradford-Lagrange Public Reserved Land (MPPL)
27. Sebec-Piscataquis River Archeological District (MHPC)
28. Snowmobile Trails ITS 82, 83, 85, 86, 87, 89 (MSA)
29. Bud Leavitt Wildlife Management Area (MDIFW)
30. Peaks-Kenney State Park (MPPL)
31. Big Benson-Sebec Sanctuary (EPI)
32. 100 Mile Wilderness Conservation Area (AMC)
33. Alder Stream/Piscataquis River Preserves (NWT, FSM)
34. Four Seasons Adventure Trail (MPPL)
35. Delano Wildlife Management Area (MDIFW)
36. Appalachian National Scenic Trail (NPS)
37. Borestone Mountain Wildlife Sanctuary (MAS)
38. Greenwood Ponds Easement (FSM)
39. Appalachian Trail Sanctuary (EPI)
40. Monson Pond Easements (FSM)
41. Bald Mountain Public Reserved Land (MPPL)
42. Little Moose Mountain Public Reserved Land (MPPL)
43. Proposed Maine Woods National Park & Preserve (RESTORE)
44. Moosehead Region Easements (PC, FSM)
45. Cold Stream Forest Legacy Project (TPL, MPPL)
46. Moxie Falls State Scenic Area (MPPL)
47. Moxie Gore Public Reserved Land (MPPL)
48. Old Canada Road Scenic Byway (MDOT)
49. West Forks Public Reserved Land (MPPL)
50. Maine Hut Trail (MHT)
51. Western Mountain Conservation Easement (MPPL)
52. Dead River Trail & Conservation Corridor (MPPL)
53. Maine Wilderness Watershed Trust (Pierce Pond) (MWWT)
54. Dead River Public Reserved Land (MPPL)
55. Black Brook Flowage Wildlife Management Area (MDIFW)
56. Flagstaff Easement (MPBL)
57. Bigelow Preserve [National Natural Landmark] (MPPL)
58. Penobscot Nation Territory (PN)
59. Chain of Ponds Public Reserved Land (MPPL)
60. Arnold Trail to Quebec [National Reg of Historic Places] (NPS)
61. State Route 27 Scenic Byway (MDOT)
62. Kennebec-Chaudière Corridor
63. Boundary Headwaters Easement (FSM)

Will property rights be respected?

Those who live near the corridor's route may not be able to sell their homes for a fair price and they will not be compensated for plummeting property values.

The East-West Corridor has been referred to both as a public-private partnership and as a private project. If the project moves forward as a public-private partnership, a confidentiality clause within Maine law prevents the public from accessing information about the proposal until it is granted final approval by the Maine Legislature.

Furthermore, the U.S. Supreme Court has ruled that eminent domain can be used in the transfer of privately owned property to another private entity if the state determines a transfer provides an economic benefit to the public good. The feasibility study might be used to justify use of eminent domain. With State involvement, eminent domain would be an option to "take" land.

In summary, what are the big concerns?

LACK OF PUBLIC PARTICIPATION
- Lack of details made public, including the precise route
- Lack of ability for public participation in decision-making
- Taxpayer dollars used to justify a private project

THREATS TO LOCAL ECONOMIES
- No proven long-term benefit to Maine economy
- No demonstrated long-term net job creation
- Undermines existing rural downtowns

THREATS TO PROPERTY RIGHTS
- Could take homes and properties of Maine citizens
- Degrades quality of life and decreases property values along and near corridor route

THREATS TO NATURAL RESOURCES
- Jeopardizes traditional land uses, including farming, fishing, hunting and other outdoor recreation
- Destroys thousands of acres of Maine's farms, forests, wetlands, ponds and natural communities
- Imperils dozens of significant protected areas

What can I do?

- Ask the governor to block the Maine Dept. of Transportation from going ahead with the East-West Highway & Utility Corridor feasibility study. Write to Gov. Paul LePage, 1 SHS, Augusta, ME 04333.
- Ask your legislators if they voted to spend public money on a study of this private development and if they will vote to defund the study.
- Sign and circulate the petition to Stop the East-West Highway Utility Corridor.
- Join RESTORE to support efforts to stop the East-West Highway & Utility Corridor.

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East-West Highway: The Sleeping Dragon

by Lindsay Newland Bowker

Thanks to some inherent problems, a vibrant network of well informed and deeply committed citizen activists, and some really excellent investigative journalism by Lance Tapley and Colin Woodard that brought light to truth not otherwise coming forth from Maine's papers of record, Peter Vigue's East West Highway is temporarily off the table. The dragon has been driven back into its cave. Despite an aggressive statewide Koch brothers-style campaign of disinformation by Vigue himself, with tremendous support from the old asphalt lobby and many northern Republicans, by the time the election loomed, association with the East West Highway was a political poison pill. So the dragon was lead to its cave and told to stay there until it was safe to come out again. And it will. It will definitely re-emerge.

There are plenty of inherent problems to solve behind the scenes before it can come out of the cave again: (1) state and federal roads do not allow and are not built to accommodate the huge mega trucks used in Canada; (2) there is the big problem of interface with and use of public roads between Costigan and the private property and logging roads NW of Bangor that would be the main spine of the highway; (3) without public guarantees for investors the cost of financing and the risks are too great for private investment, even with an offset of income from utility corridor leasing; (4) Quebec, we learned from Colin Woodard's great investigative journalism, never heard of Peter Vigue of the East West Highway and his vision for that part of Quebec is definitely not theirs; (5) without expedited permitting and red tape cutting by the State it would be impossible to permit and impossible to show the "public benefit" necessary to justify what Vigue himself has acknowledges would be the largest environmental mitigation project ever undertaken in the U.S.; (6) Native lands are unavoidably involved in any Calais to Coburn Gore route and the Penobscot Nation has made it clear it is in absolute opposition to the road. Lance Tapley's wonderful article lays out 15 reasons altogether why the highway is stalled out and he is spot on with his analysis But the project, or another version of it, will for sure, remerge and we have some work to do to fend it off next time - work that we need to be doing now while behind closed doors Vigue and crew are doing their homework.

We learned from our year long engagement with the this dragon just how compelling and possibly lucrative this highway would be to speculative large land holders in the Unorganized Territories (UT) and we learned, though Vigue never disclosed the exact route, that two or three existing land holders already deeply connected to energy corridor earnings, own more than 2/3 of the land that would be necessary to create this roadway without resorting to eminent domain. But for the inconvenience of crossing public rivers and crossing over or using public roads in that stretch between Costigan and the NW logging roads, and of course the inconvenience of environmental protection mandates under State and Federal laws it could be hugely lucrative via leasing fees, earning into perpetuity without ever giving up ownership of the land. We learned from court papers involving a dispute between Echo Easement Corridor LLC, a subsidiary of International Paper, which controls a 200 foot easement corridor on which the Stud Mill Rd sits and Kennebec West Forest LLC, successor in interest to most of International Papers holdings, that Echo stood to gain $350 million if the Stud Mill Road is used for the East West Highway. The Stud Mill Road accounts for 60 miles of the total 220 miles of the proposed highway. Kennebec West Forest LLC, whoever they are, own most of the land along any route except that inconvenient middle 1/3. That translates into almost $1 billion in potential leasing fees for Kennebec, whoever they are. That's before you even get to whatever share of tolls and profits might be theirs in the bargain. That's a powerful incentive to not let this idea go. You can bet that behind closed doors Vigue, whoever Kennebec West Forest is and the old asphalt lobby (Maria Fuentes, John Melrose) are working the legislature, pressuring MDOT, and pressuring Governor LePage.

While they are doing their homework, we have to do ours. We have two very important goals we must achieve before spring of 2014 to prevent this dragon coming out of its cave…or one of is cousins, another version of the East West Highway.

Our first task is to repeal the highway privatization statute, Title 23 Section 4251 (http://www.mainelegislature.org/legis/statutes/23/title23sec4251.html) secretly passed behind closed doors by our legislature in 2010 and written by Maria Fuentes, John Melrose and Cianbro, with the East West Highway specifically in mind. That piece of legislation, still on the books delivers:

(1) public guarantees of private financing and up to 50% in public financing
(2) eminent domain
(3) expedited permitting
(4) complete private control of the roadway that by passes normal public highway labor issues and toll debates

Private highways have been a consumer/user nightmare wherever they have been used and companies like Macquarie, undoubtedly known to Vigue through his work on the Dulles Greenway, a Maquarie-owned private highway (http://www.tollroadsnews.com/node/1237). Macquarie, a global company, specializes in these roadways as easy money: no risk, 100% public guarantees on financing, guaranteed income, and flexibility of labor that would not be allowed on a public highway project. They go around the world trying to invent projects, trying to call them forth from state legislatures with dwindling budgets and failing infrastructure. Maquarie bought the controversial TransTexas Corridor, a project that is identical in concept to this new utility corridor version in this latest resurrection of Vigue's East West Highway. Maquarie is not the kind of company we would want to welcome to Maine. In Texas, to suppress negative coverage of the corridor, they bought a string of small local newspapers who had been opposing it. (http://24ahead.com/blog/archives/006214.html)

Our lobbyist-authored highway privatization statute allows any transportation facility in Mane to be privatized. From the point of view of public interest, it is one of the worst pieces of privatization legislation ever written. First thing this legislative session we must make a swift and huge effort to force the transportation committee to repeal this poorly framed lobbyist biased statute. Without it, no version of the East West Highway is possible. (Interesting footnote, before this awful law was enacted, Eliot Cutler supported creation of a privatization statute for the East West Highway as part of his gubernatorial platform. His joined-at-the-hip buddy Dennis Daimon is the one who haunchoed this bill through the legislature) The new transportation committee members have been announced. Chairs are Senator Ronald F. Collins of York (R) "Ronald F. Collins, Co-Chair Joint Committee on Transportation " <rcollins7 @maine.rr.com> and Representative Richard Cebra (R) of Naples "Richard Cebra, Co-Chair Joint Committee on Transportation" <RepRich.Cebra@legislature.maine.gov> . Write to them, write to your reps in your own voice and demand a repeal of this badly flawed and wrongly framed statute in which the public has had no say. We may want to discuss privatization in the future, but after we delete this bad law from the books before April 1, 2014.

Our second major citizens "must do" if we are to keep the dragon in the cave requires a little more of us, but is not beyond us. Take a look at the Land Use Planning Commission's (LUPC) current rule for private roads in the UT, remember that Kennebec West Forest LLC and one or two other interests already own 2/3 of the needed route for the E/W Highway Utility Corridor and imagine what would have happened if by some miracle the highway project had found/does find a way to proceed outside of the privatization statute. We need entirely new standards for private roads in the UT (permeable surface, elevated bridges rather than fill in wetlands, limits on width and length and on interface with public roadways.) This is urgently needed actually as the LUPC reorganization statute, crafted by the Maine Forest Products Council, just removed all forestry related roads in the UT from any oversight. We also need better standards, spelled out in statutes, for public highways in environmentally sensitive areas. New York's Adirondack Highway standards may be a good model and starting place.

The East West Highway is only sleeping….not gone. While it is sleeping we must get these two important legislative initiatives done before it awakes and re-emerges from its cave.

The Less-than-Positive Effects of Interstate Highway

by Pamela Prodan

The assertion that an east-west highway will boost the economy in rural parts of Maine has already been proven to be bogus. In October 1999, the Maine Department of Transportation and state planning office released the Phase IV Technical Report, the last of the studies evaluating a proposed east-west highway across Maine, which exposed the fallacy.

How about taking the Phase IV report off the shelf, along with the others in that series that looked at, not just the environmental effects of several different possible routes across the state including the one to Coburn Gore, but the whole concept. Those earlier studies have already shown that an east-west highway is not justified.

The new study the Legislature approved this session isn't going to look at the environmental effects, the economic effects, or the need of such a highway. It is only to study the "feasibility" of it, and for good reason. The environmental effects of an east-west highway have already been proven to be greatest for the Coburn Gore route. The need has already been shown to be so far out into the distant future as to be speculative. The economic benefits have already been shown to be paltry, if nonexistent, except, obviously, for the developers and construction companies so bent on building it.

An East-West Highway protest in Dover-Foxcrost in May 2012

The Phase IV Technical Report was the result of a study that specifically examined two comparable interstate highways, I-89 and I-91 in Vermont and New Hampshire. Based on the transportation and economic trends before and after the construction of those two interstate highways, the authors concluded that no significant employment or population growth would flow into rural counties located along an east-west highway across Maine.

To the extent that economic effects from a highway would occur, the authors concluded they most likely would occur within commuting distance of Bangor and other larger population centers along the corridor, which are already located near Interstate 95. The not-so-positive findings about the two interstates are numerous.

The most common type of development along these corridors is highway-related services such as fast-food establishments and gas stations. Neither highway dramatically altered the underlying economic structure of the corridor communities. Both I-89 and I-91 generated negative bypass effects on some communities.

In the areas of White River Junction, Vermont and Lebanon, New Hampshire, communities that were bypassed, particularly along Route 5 between White River Junction and Newport, lost roadside business development as a result of the construction of I-91. Windsor County, Vermont, where I-89 and I-91 intersect, experienced the slowest rate of job growth of all counties in Vermont from 1969 to 1996.

St. Johnsbury, Vermont, located at the intersections of I-91, I-93 and U.S. Route 2, is served by five interstate exits, but was found to have generally underperformed the Vermont economy over the past 20 years.

Although I-91 did provide rural populations to the north of St. Johnsbury with better access to the town, the convenience of the interstate also encouraged residents to drive to Littleton or Lebanon, New Hampshire to shop. As a result, St. Johnsbury experienced little new retail development in recent years.

Proponents of an east-west highway will be hard-pressed to refute the actual historical data compiled about the harmful effects to rural communities of I-89 and I-91, both of which had been in operation roughly 30 years at the time of the study. Those highways serve regions such as central and northern Maine, providing comparable highway connections to Montreal. None of the findings should be a surprise to anyone who has followed the debate over the east-west highway. A financier would have to be a fool to invest in such an outdated concept rescued from the trash bin of history.

Pamela Prodan is an attorney practicing in Franklin County and one of the founders of Citizens for Sensible Transportation.

This article originally appeared in the Bangor Daily News on August 6, 2012

Stop the East-West Corridor

Unanswered Questions about the East-West Corridor

- WHO will own this corridor?
- WHAT utilities will also run along this corridor?
- WHERE exactly is the proposed route?
- WILL eminent domain be used to take land from people who don't want to sell?
- HOW wide will the corridor be?
- WHAT will be the impacts on the rural towns that will be bisected by the corridor?
- WHERE will the materials like gravel needed to build the highway come from?
- WHEN will we get the information that we are missing?

How can I help stop the East-West Corridor?

- Contact your representatives and tell them you do not want the East-West Corridor
- Talk to your friends and neighbors about this issue
- Join our email list at: stopthecorridor@gmail.com
- Host a presentation by Stop the East-West Corridor in your community
- Write letters to the editor about this issue
- Visit our website for information about upcoming events: www.defendingwater.net/maine

About Stop the East-West Corridor

Stop the East-West Corridor is a statewide coalition of Maine citizens dedicated to raising awareness, fostering open communication, and requesting transparency about the proposed East-West Corridor.

Our mission is to stop the East-West Corridor by demonstrating that the project is not in the interest of Maine and that Maine citizen stakeholders do not want it.

Stop the East-West Corridor Statewide Coordinator
Chris Buchanan
207-357-1443
chris@defendingwater.net

Land Matters: Eminent Domain

by Friends of the Piscataquis Valley

What is Eminent Domain?

Historically, eminent domain has been used to take private property for highways and other public works. But in 1954, in the landmark Berman case, the Supreme Court expanded the definition of "public use" to grant local governments broad authority to condemn "blighted areas" to improve them. http://www.sgrlaw.com/resources/trust_the_lead- ers/leaders_issues/ttl15/837/)

Generally, eminent domain, also referred to as "condemnation," is the taking of private property by local, state or federal government for a "public use" or "public purpose." (http://www.sgrlaw.com/resources/trust_the_leaders/ leaders_issues/ttl15/837/)

The federal and state constitutions merely limit the power of eminent domain. Part of these limitations is the payment of just compensation for the appropriated property. (http://www.condemnation-law.com/blog/articles-eminent-domain/2423/eminent-domain-process-powers-and-history-part-1/)

. . . [T]he United States Supreme Court rul[ed] on June 23, 2005 that local governments may exercise eminent domain powers to take private property for economic development. (http://www.sgrlaw.com/resources/trust_the_leaders/ leaders_issues/ttl15/837/)

According to Justice Sandra Day O'Connor: "The beneficiaries are likely to be those citizens with disproportionate influence and power in the political process, including large corporations and development firms." She reasoned that the decision eliminates "any distinction between private and public use of property— and thereby effectively [deletes] the words 'for public use' from the Takings Clause of the Fifth Amendment." (http://www.sgrlaw.com/resources/trust_the_leaders/leaders_issues/ttl15/837/)

Under the rules of eminent domain law, the condemning authority must declare a taking when acquiring private property without an owner's consent. . . Unfortunately, for a variety of reasons, the condemning authority may take property or property rights from an owner without declaring a taking and initiating the eminent domain process; thus preventing the property owner from pursuing a claim for just compensation. (http://www.condemnation-law.com/main/eminent- domain/inverse-condemnation)

Could Eminent Domain Be Used for the East-West Corridor?

At this point it is uncertain if the State of Maine will be a partner to the project, therefore the availability of eminent domain proceedings for the acquisition of right-of-way is not assured. Of equal importance is the determination if this is an East-West Highway corridor or if it is a wider consolidated utility corridor. The impact of this determina- tion is significant as the right-of-way needs for a highway corridor are generally in the 300 to 500 foot range while a consolidated utility corridor will be as much as 2000 feet in width. (2008 Cianbro Feasibility Report, p. 27)

. . . The road could be more than a highway. Vigue calls it a transportation, utility, and communications corridor, a 2000-foot-wide swath that leaves room for future needs, whatever they might be. "No one can define what the needs are 20 to 50 years now," he says. (April 16, 2012, http://www.mainebiz.biz/apps/pbcs.dll/ article?AID=/20120416/CURRENTEDITION/304139997)

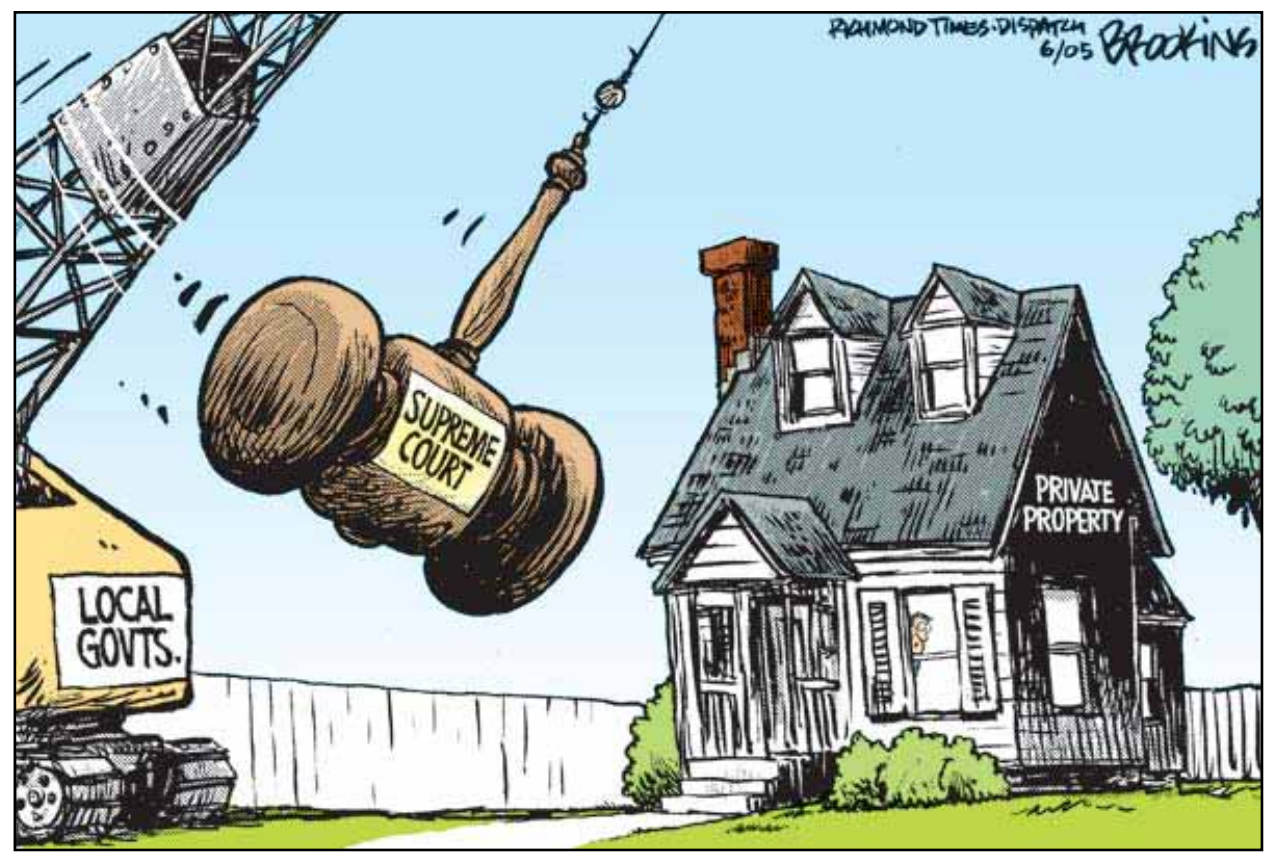
. . . [A] person [or corporation] that is not a transmission and distribution utility that received a certificate of public convenience and necessity ... or a corridor use certificate . . . to develop energy infrastructure within an energy infrastructure corridor may take and hold by right of eminent domain lands and easements within that corridor" (Maine Public Law Ch. 655, H.P. 1274-L.D. 1786 An Act Regarding Energy Infrastructure Development, effective July 12, 2010)

Every corporation organized under the general laws of the State . . . owning, controlling, operating or managing any pipeline within or through this State for the transportation as a common carrier for hire of oil, gas, gasoline, petroleum or any other liquids or gases may lay its pipelines and construct and maintain them in, along and under the roads and streets in any municipality, subject to the conditions and under the restrictions provided in this chapter and chapter 25. [ibid]

Use of Eminent Domain in Maine

In 1928, the Maine legislature passed a bill condemning a 25-mile section of the upper Dead River Valley to inundation, destroying the villages of Flagstaff, Dead River and Bigelow. The bill authorized the construction of a dam at the river narrows at Long Falls and the subsequent creation of Flagstaff Lake. The properties in these towns were obtained by the process of eminent domain, and residents were forced to relocate. In the spring of 1950, Flagstaff Lake was officially created when the gates at Long Falls Dam were closed. It remains a controversial project today. (http://www.wingfamily.org/tinaflagstaff.html)

In November 1993, Shaw's, Inc., wanted to build a store on Union Street in Bangor if it could obtain the old gas works property and sufficient additional land. The Bangor City Council considered this "in the public interest" and agreed to facilitate the project. "Fourteen buildings in the neighborhood were torn down, but not without a fight. The owners of Perry's restaurant sued to try to stop the city from taking the properties by eminent domain, but a settlement was reached" ("Expansion planned for Bangor's Shaw's," Bangor Daily News, May 14, 2003, p. B2). Initially, no provision was made for the loss of the business; only the assessed value of the lot and nonconforming building were considered. Eminent domain took other properties, which were promptly razed.



Eminent Domain & Utility Corridors in the U.S. Now

In Michigan, September 12, 2012: ". . . the Henses didn't know . . . that Enbridge intended to take an additional swath of their land for the pipeline—and there was little they or any of the other landowners who lived along the 210-mile route could do to stop it. In addition to the existing 60-foot easement Enbridge already has through the Henses' property, the company wants another 25 feet—about the width of a two-lane highway—for the new pipeline. It also wants a temporary 60-foot easement for a work area. Today the Henses and other angry residents have become unlikely activists, determined to at least have a voice in the $1.3 billion replacement project. . . .Resistance to the project has been so great that at one point Enbridge hired guards armed with semi-automatic pistols to stand watch near the backyards of recalcitrant farmers." (http://insideclimatenews.org/print/16514)

In Texas, July 11, 2012: TURF [Texans Uniting for Reform and Freedom] warned the Texas House Joint Committee of Government Efficiency and Reform and State Affairs that controversial public private partnerships (P3s) that sell- off Texans' public infrastructure to private corporations represents eminent domain abuse and grants state-sanc- tioned monopolies. (http://blog.mysanantonio.com/ter- rihall/2012/07/eminent-domain-abuse-monopolies-txdot- resurrects-the-trans-texas-corridor/)

In Texas, August 23, 2012: [A] judge in Lamar County ... ruled that the Canadian pipeline company TransCanada has the right to exercise the power of eminent domain to run the Keystone XL pipeline across an opposing landowner's property. (http://www.latimes.com/news/nation/nationnow/la-na- nn-keystone-xl-pipeline-texas-20120823,0,7657215.story)

Vigue dismisses issues of national land sovereignty, saying, "It doesn't matter if you're in Maine or in Canada. We're all facing the same challenges." ("Vigue pushes east-west road proposal to forest indus- try," Bangor Daily News, Friday Sept 14, 2012, pp A1-A2).

In Texas, February 17, 2012: A property rights coalition tracking the condemnation proceedings has uncovered at least 89 land condemnation lawsuits involving TransCanada in 17 counties from the Red River to the Gulf Coast—cases that could test the limits of a private company's power to condemn property. (http://www.texastribune.org/texas- energy/oil-and-natural-gas/keystone-pipeline-sparks- property-rights-backlash/print/)

Dana Berliner . . . at a libertarian non-profit group called The Institute for Justice, "This [use of eminent domain] is a nationwide epidemic," says Berliner. "We have documented more than 10,000 instances of government taking property from one person to give it to another in just the last five years. . . . Everyone knows that property can be taken for a road. But nobody thinks that property can be taken to give it to their neighbor or the large business down the street for their economic benefit," adds Berliner. (http://www.cbsnews.com/2102-18560_162-575343.html? tag=contentMain;contentBody)

Conclusion

The Maine Legislature obligingly has put into place the rules and regulations that would permit use of eminent domain for the East-West Corridor project:

- In 2010, the public-private partnership law was passed (Title23, Section 4251) which permits the public partner—e.g., MDOT—to use eminent domain for the private partner's benefit.

- Also in 2010, The Public Utilites Commission was empowered via LD76 to issue corridor certificates for approved projects to persons who may then develop or construct energy infrastructure. Eminent domain is regularly used to support this type of development.

Vigue . . . said he's prepared for a drawn-out, Plum Creek-type campaign that could take years and millions of dollars. "I have to be," he said. "I don't have any plans to give up." (http://www.pressherald.com/news/as-vigue-stumps- for-highway-project-foes-follow_2012-05-27.html)

In other words, investors would be ready to use eminent domain to build the East-West Corridor if they couldn't obtain the land any other way.

. . . [T]his is not a transportation project, it's a revenue project. It's an unbelievable land grabbing, monopoly building, autocratic scheme developed without public input. . . . (http://www.corridorwatch.org/ttc_2007/CW00000119.htm , 2006)

For more information:www.stopthecorridor.org or contact 207-564-8687 or stopthecorridor@gmail.com

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East-West Highway Would Require Massive Extraction

by Eric A. Tuttle

Let's for the moment say that we do, in fact, need some sort of East-West highway or better yet an East West Transit system. Given the current proposal, or any proposal for that matter, from where are we going to get all that DIRT?

For 4 lanes, at an average of 4 feet of fill, roughly 10.66 cubic yards per linear inch would be needed. There are 63360 inches per mile, meaning that 675,417.6 cubic yards of fill would be needed per mile, or a total of 148,591,872 cubic yards for the entire project. Actually, probably more than that would be needed since swamp and wetlands would need additional base construction. At 20 cubic yards per truck load this equals about 7.5 million truck loads. Where are we going to get all that fill?

Most of the proposed route is through wetlands, with their soils unsuitable for construction purposes. Will topsoil and gravel be taken from Maine's forested areas after the trees have been removed for profit, discarding the unusable? Where does the unusable material go, back to its location of excavation, or to a mountain pile of refuse? Will fill be imported from areas outside Maine? Maybe the mountains of asbestos waste in Canada at Theford mines will be imported for a road base? Are we going to dig massive quarries in Maine to excavate stone, crush it into usable materials, create a massive or low grade dust cloud to send eastward on the winds? What happens to these quarry remains? Are we going to dig open pits or dangerous shafts, like in the slate quarries throughout Maine? Are we going to encase the quarry remains in concrete walls, with them becoming similar to our imported trash landfill? Will quarry remains be left open to take in surface water, thus changing the composition of our groundwater, which eventually either ends up in our wells or seeps into streams, rivers, and lakes?

With the Trans Texas Highway project it is reported that Cianbro, or another excavation-orientated company leveled four mountains within that state. The project is now either bust or in a state of limbo. Will this happen in Maine also? Will mountains be removed because they are in the way?

Jobs and the East-West Utility Corridor

by Friends of the Piscataquis Valley

"I am not a job creator." (Peter Vigue, Cianbro CEO and East-West Utility Corridor promoter, Foxcroft Academy public presentation, May 31, 2012 , Dover-Foxcroft, ME)

"Maine lost 3,300 jobs from 2009 to 2010, a decrease of 0.6%. The total of 593,000 jobs is the lowest since 1999, when the state had 586,300 jobs. One major trend is the continued loss of jobs in the manufacturing industry. Structural factors, such as outsourcing and improvements in productivity, have decreased employment opportunities in this critical sector, which historically has tended to provide comparatively high wages and benefits." (Maine Development Foundation, p. 10, "Measures of Economic Growth in Focus" 2012, Eighteenth Report of the Maine Economic Growth Council)

"It should be noted that...this highway investment would facilitate more long distance freight trips and offer fewer opportunities for inland development...." (Wilbur Smith Associates, p. 114, "Northeast CanAm Connections: Integrating the Economy and Transportation Final Report," August, 2009)

Jobs lost?

"[Bill] Cohen, [director of communications, Verso Paper Corp.], said as little as two years ago, 70 percent of shipping by his mill was done by rail and 30 percent by trucks. Now it's 40 percent rail and 60 percent trucking. 'The rising cost of toll roads is making shipping by truck even more costly.'" (http://bangordailynews.com/2012/09/26/mill-executives- say-maine-paper-industry-viable-but-there-are-challenges)

"How would the new [E/W] highway affect towns such as Newport and Skowhegan that currently draw business from the traditional east-west traffic using Routes 2 and 9? Will the proposed 'Canadian connector' threaten Maine's lumber industry by providing faster, less-costly transport of Canadian wood products?" (http://bangordailynews.com/2012/09/11/opinion/ contributors/east-west-highway-poses-more-questions-than-answers/)

"...[T]he economy of St. Johnsbury (Vermont), which is similar to Northern Maine and dominated by natural resource industries, has been unable to overcome structural changes to its economy, despite its superior transportation assets." (RKG Associates, p. 7, "Maine East- West highway: Economic Impact Analysis, Phase IV Technical Report: Case Study Research," Sept. 1999, prepared for Maine State Planning Office & Maine DOT)

". . .[B]ypassed communities have lost roadside business development as a result of the construction of I-91... rates of employment growth in the counties serviced by I-89 and I-91 have been roughly comparable to statewide averages since 1969." (ibid, p. 6)

When pressed for what permanent jobs the corridor project might generate, Vigue responded: "There's the toll facilities, the maintenance, even the law enforcement jobs that will be created. Those are all permanent jobs. The question is how many people does it take to maintain 220 miles of road? How many people does it take to maintain these intersections, col- lect the tolls?" (Peter Vigue, Foxcroft Academy public presenta- tion, May 31, 2012 , Dover-Foxcroft, ME)

"Tolling will be all electronic at highway speed." (Dec. 22, 2007, (http://www.tollroadsnews.com/node/3318)

"The employment impacts of highway infrastructure investment do not remain constant over time. Increases in construction materials prices and wages over time will tend to reduce the number of jobs supported by each $1billion invested." (http://www.whitehouse.gov/blog/2011/09/09/ american-jobs-act-state-state)

Short-term gains vs. long-term goals

"I'm wary of this [East-West Corridor] being done by a private company. If it's worth doing, and the economic value is there, I don't get why we wouldn't make it a publicly owned toll highway so the state gets the surplus rather than some private owner." (Senator Dick Woodbury, Yarmouth, ME; http:// www.downeast.com/magazine/2012/june/the-east-west-highway)

"The state must not lose sight of its long-term economic goals for potential short-term gains. We need...to take a long hard look and not jump to fast conclusions that may be harmful in the long run." (Janet Sawyer, executive director, Piscataquis County Economic Development Corporation; http://www.mainebiz.biz/apps/pbcs. dll/article?AID=/20120416/CURRENTEDITION/304139997)

"The [Maine Economic] Growth Council views [multiple job holdings], in part, as a measure of job quality, as people often hold multiple jobs because no single job provides adequate compensation...The Maine Department of Labor suggests that Maine's rate is higher than the national average..." (The Maine Development Foundation, p. 12, 'Measures of Economic Growth in Focus,' 2012, Eighteenth Report of the Maine Economic Growth Council)

Big box stores at on-off ramps do not provide quality jobs. "Wal-Mart [in Maine} was found to have more workers than any other employers in the state relying on publicly- funded health insurance. This shows how taxpayers end up subsidizing Wal-Mart's policy of providing low wages and inadequate benefits." (http://www.goodjobsfirst.org/states/Maine)

"Given the obvious, the huge economic-political power that oil, electric, telecomm and water future realities hold for those with the bucks to get those assets flowing, these options appear to be viable economic activities that could enrich the profitability of the E/W Corridor, while bisecting our towns, our back forty acres, maybe our back yards, and it will most certainly fracture our highly cherished rural quality of life with little evidence of demonstrated local economic benefit...." (Roger Merchant, rural development specialist, professor emeritus, UM Cooperative Extension, OpEd, July 2012 in the Bangor Daily News, http://bangordailynews.com/2012/07/18/ opinion/east-west-highway-going-in-the-wrong-direction/)

Jobs for Canada, not Maine?

When presenting to ordinary Maine citizens, Vigue speaks only of Eastport as the future terminal port for the corridor, but for Canadian businessmen: "In the future, globally in terms of trade, we can be a major contributor in global trade...Nova Scotia—whether it be Sydney, Nova Scotia, or Melford, Nova Scotia—will become the home of a trans-shipment facility...There's a site at Medford in excess of 1500 to 2000 acres...that will become a trans-shipment site....There'll be distribution centers built there. (Peter Vigue, "Future Prospects in Regional Economic Integration" presentation, CanAm Connection Conference, UMO, April 24, 2012)

"[R]esponding to the recent financial package offered by the provincial government of Nova Scotia to a paper

mill in Port Hawkesbury [NS]...I am asking your help in... determining whether this package is consistent with Canada's NAFTA and WTO commitments....Maine's paper industry believes the size and scope of Nova Scotia's assistance is likely to lead to a decreased market share for the state's mills...in Madison, Jay and Bucksport. Nova Scotia's support [$125 million aid package] of the Pacific West Commercial facility will disadvantage Maine's mills at a time when the U.S. paper industry is already facing challenges from countries like China who do not play by the rules...." The deal was finalized two days later; (U.S. Sen. Michaud [D-ME] in a letter to the Canadian Ambassador in Wash. D.C., September 26, 2012. http://michaud.house.gov/press-release/michaud-pushes-us- response-canadian-paper-mill-subsidies)

"[T]he current massive misallocation of resources is the artifact of a belief that human prosperity is maximized by unrestrained global competition for resources, markets, and money to...generate the greatest private profit. This is the underlying theory around which the institutions of the corporate-led global economy have been organized. The result is...a global race to the bottom on wages, benefits, and environmental standards; and unregulated financial markets that produce prosperity for the few, misery for the many, and insecurity for all...." (David Korten, p. 151, Agenda for a New Economy: From Phantom Wealth to Real Wealth.)

Resilient, local jobs

"A study of eight local businesses in Rockland, Camden and Belfast found that they spent 45% of their revenue within the local counties and another 9% statewide. The aggregate levels of in-state spending was nearly four times greater than that from a typical chain store. Other studies in the U.S. and abroad also have found that local businesses yield two to four times the multiplier benefits as comparable non-local businesses...." (Michael H. Shuman, pp. 40-49, The Small Mart Revolution)

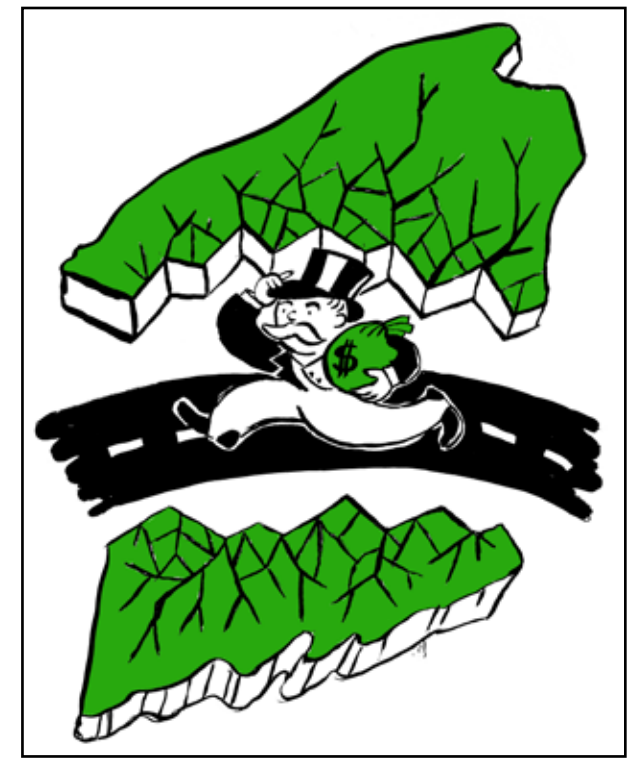
"Not only is [Maine's] landscape covered with vast acreages of forests, lakes, wetlands and coastlines, but its primary industry is tourism, at nearly $10 billion per year in sales of goods and services and $270 million in sales tax revenue from this source. A 2001 survey found that ecotourism rates in Maine were nearly twice the national average." (Austin Troy, p. 31, "Valuing Maine's Natural Capital," Manomet Center for Conservation Sciences, April 2012.)

"...[O]rganic vegetable and fruit farms spend 29% and 27% of their expenses on labor, compared to the State average of 18%. This means more of these farms' total output is ploughed back into their communities as farm workers spend their wages at local businesses." (Jed Beach, p.10, "Maine's Organic Farms—An Impact Report, Nov. 2012," Maine Organic Farmers and Gardeners Association)

"[F]rom 1988 to 2008, the number of certified organic farms [in Maine] rose from 41 to 339, a total growth of over 800%... Maine had the 12th highest number of organic farms in 2008." (Ibid, p. 5)

Conclusion

The East-West Utility corridor would serve a global economy to the detriment of the regional economy. Most current high-tech resource extraction and transport methods are au- tomated and specialized so that few regional jobs would be generated. Jobs that the corridor might create would result in permanent degradation of the landscape, contributing profoundly to the chronic impoverishment of the local and regional populations.



"The time is past for talking in vague generalities about our quality of life. We need to do something more concrete. We need to inventory, to protect, to enhance, and to market our specific and unique assets.... This is a process that needs to be "bottoms up," involving everyone. The state must implement the new Quality of Place legislation." (http://www.mainechamber.org/mx/hm.asp?id=MMW-Original)

Maine's communities and natural resources attract immigrants from other states seeking a higher quality of life. "In-migration from other states means people from outside the state are 'voting with their feet' and at least for now rating the state's quality of life on a par with faster growing, highly desirable Sun Belt locales." (Jed Beach, p. 25, "Maine's Organic Farms - An Impact Report, Nov. 2012," Maine Organic Farmers and Gardeners Association)

"We must learn to think of [quality of place] as the basic infrastructure of Maine's future prosperity...." (Governor's Council on Maine's Quality of Place, p. 8, "People, Place, and Prosperity: First Report of the Governor's Council on Maine's Quality of Place," December 4, 2007)

For more information: www.stopthecorridor.org or contact 207-564-8687 or stopthecorridor@gmail.com

126th Legislative Session - Industrial Wind and East-West Corridor

by Jonathan Carter

FEN is tracking several mountaintop industrial wind and E-W Corridor bills in the state legislature. The E-W Corridor bills deal with defunding a feasibility study and protecting Mainers from having their property taken by eminent domain. With the last minute one year extension of the federal Production Tax Credit as an add on to the bill avoiding the fiscal cliff (a total of 74 billion in new pork from wind to rum distillation to car racing enterprises was attached at the last minute – a pathetic way to achieve fiscal solvency!), we are now confronted with the very real possibility that a slew of new mountaintop industrial wind applications will be submitted to the DEP. Low natural gas prices and financial insolvency associated with some of the large mountain slayers, like Iberdrola and First Wind, might curtail some plans. While numerous wind bills have been submitted, many of the bills are what I call collateral - dealing with the impacts of wind –noise, property values etc. One bill, "An Act to Temporarily Suspend Permitting of Wind Energy Developments", could actually stop new mountaintop turbine placement in the short term, thereby allowing the PTC to expire at the end of 2013.

I am not optimistic that any meaningful wind legislation will pass, particularly with the Maine wind lobby spending plenty of time and money in Augusta. However, we cannot afford to roll over and play dead. There is too much at stake. To follow these bills log on to: www.mainelegislature.org/legis/bills/

Wind Bills
Title: An Act Regarding Wind Power Siting in the Unorganized Territories
Title: An Act To Amend the Expedited Permitting Area for Wind Energy Development under the Jurisdiction of the Maine Land Use Planning Commission
Title: An Act To Amend the Law Governing Appeals of Final Agency Action on Applications Concerning Wind Energy Development
Title: An Act To Amend the Maine Wind Energy Act
Title: An Act To Clarify the Laws Governing Noise from Wind Turbines
Title: An Act To Make Decibel Level Limits Consistent on All Wind Turbines
Title: An Act To Temporarily Suspend Permitting of Wind Energy Developments

E-W Corridor Bills
Title: An Act To Prohibit the Use of Eminent Domain in Certain Public-Private Partnerships
Title: An Act To Protect Landowners from the Exercise of Eminent Domain in Energy Infrastructure Corridors
Title: An Act To Defund the Feasibility Study for the East-west Highway.

East-West Corridor Photo Essay

by Jonathan Carter

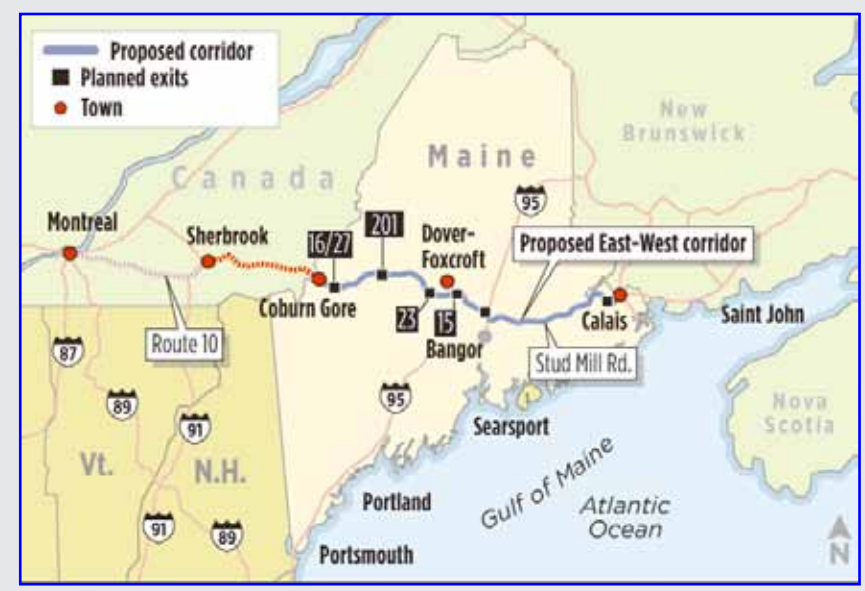
Last August, I spent a week attempting to transit the route of the proposed East-West Corridor (EWC). This involved six days of following mostly logging roads and rural country roads, hiking trails, climbing several mountains, canoeing streams and lakes, and slogging through wetlands. It provided me with an on the ground sense of what we have to lose if an East-West Corridor was ever built. It was not without its hazards – crossing streams with my truck and being harassed and forced to delete photos by the border guards in Coburn Gore. It also had its humorous sides – from lecturing a bunch of Colby students on top of Bigelow Mt. to running into a blueberry farmer at the end of Horseback Esker in the middle of nowhere who recognized me from a talk we apparently had twenty years ago when I was a Congressional candidate - and yes he did vote for me!

Cianbro Corporation has only released broad details of the route. What we do know is that the EWC would run from the Calais to Coburn Gore, connecting up with Canadian highways at either end. Cianbro has stated that it would follow the Stud Mill Road west from Calais to the Penobscot River. From the Penobscot it would weave through central Maine going south of the Piscataquis River and south of Dover- Foxcroft, headed toward Kingsbury. From Kingsbury it would head in a northwest direction toward the Forks and then connect up with the Lower Enchanted Road headed toward Coburn Gore.

In plotting out my course, I used the most direct route of existing woods roads and highways. While this will obviously not be the precise route, I am confident that much of my transit will prove to be accurate. At least, unless there is a major change, this photo essay depicts the landscape and countryside Cianbro hopes to destroy with this colossal ecological perversion.

I think the 220 mile long EWC can be broken into three sections based on physiographic features, vegetation, population densities, and human intrusion. Generally speaking the Western Section from Coburn Gore to Kingsbury is mountainous, a spruce-fir boreal forest, wild, and the least populated. The Central Section from Kingsbury to the Penobscot River is more rolling hills, mixed northern deciduous/pine forest, and settled farm land. The Eastern Section is characterized by a flatter landscape with many lakes and streams, a mixed northern deciduous/pine forest, and while not heavily settled, industrial forestry dominates.

On the following pages are some of the photographic highlights of my transit.



Coombs Brook and Horseshoe Mountain.

Pickerel Pond.

Peatland of the Horseback Esker.

Calais to Penobscot River

Headwaters of the Narraguagus River.

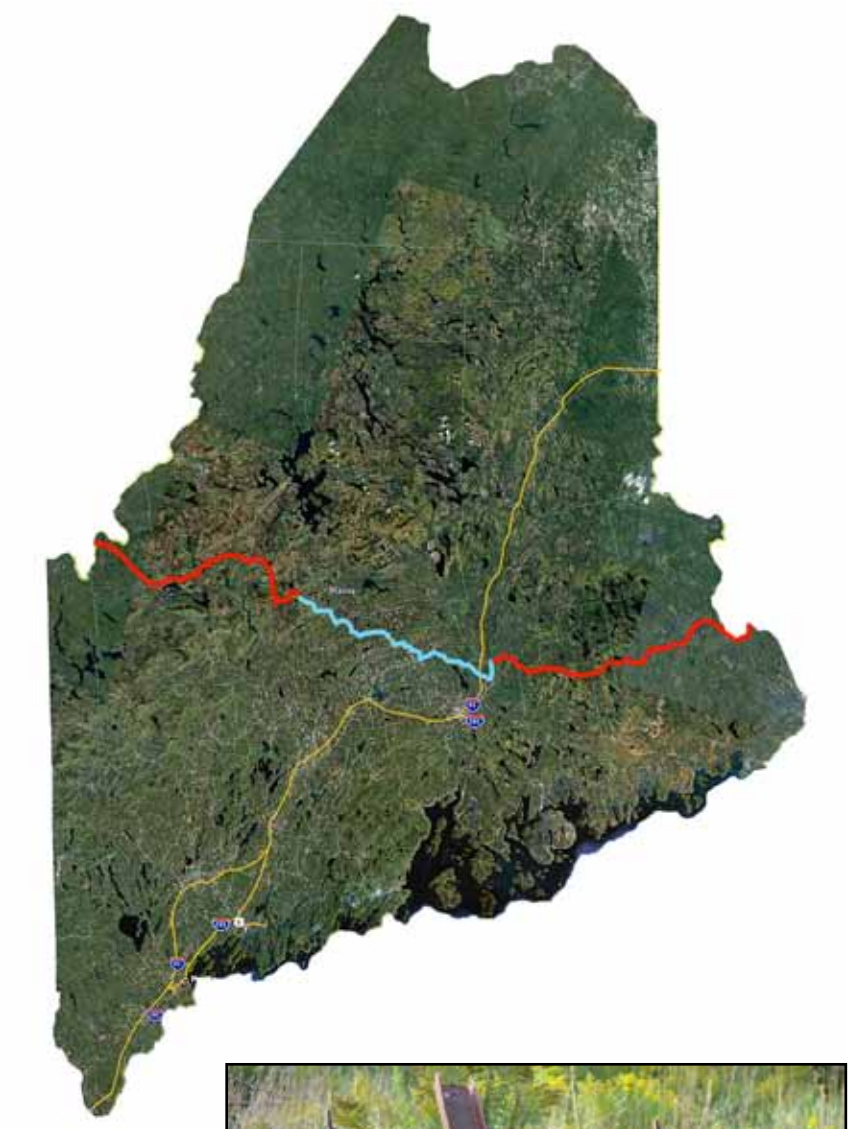
This region has some of the finest inter-connected lakes, ponds, streams, bogs, and fens in the country. Most of it should be the focus of wilderness restoration and be given forever wild status.

Heading east in the Stud Mill Road.

Sunkhaze Stream.

Moosehorn National Wildlife Refuge.

Penobscot River to Kingsbury



Old farm machinery.

A beautiful old Maine farm.

A road less traveled,

Parkman Baptist Church.

Crossing Kingsbury Stream.

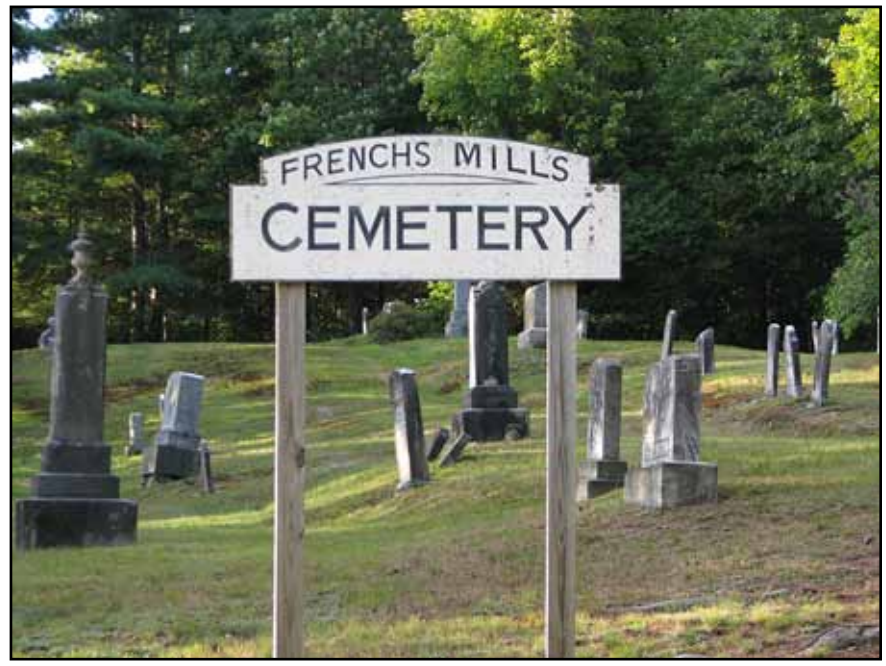
Farmland.

Local signage.

This central section is unique in that it is populated by farming and small scale logging communities such as Parkman, Charleston, Sangerville, Dexter, and Garland. The trip from Kingsbury to the Penobscot River was mostly on tar roads and I encountered numerous “No to E-W Corridor signs”. Many young organic farmers have bought old farms and are fueling what appears to be an agricultural renewal. Roadside farm stands were abundant. Placing the E-W Corridor in this area would completely shatter the quiet peaceful pastoral setting.

A row of old Sugar Maples.

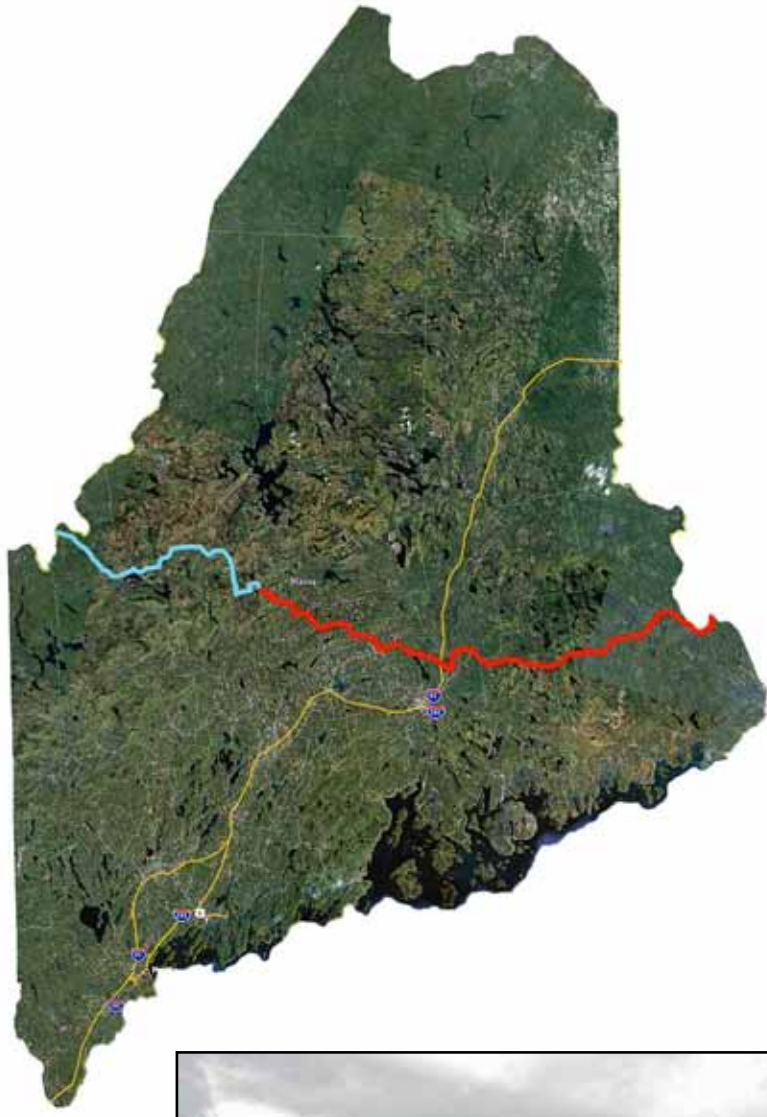
Garland Grange/



Frenchs Mills Cemetary.

Roadside farm stand.

Kingsbury to Coburn Gore

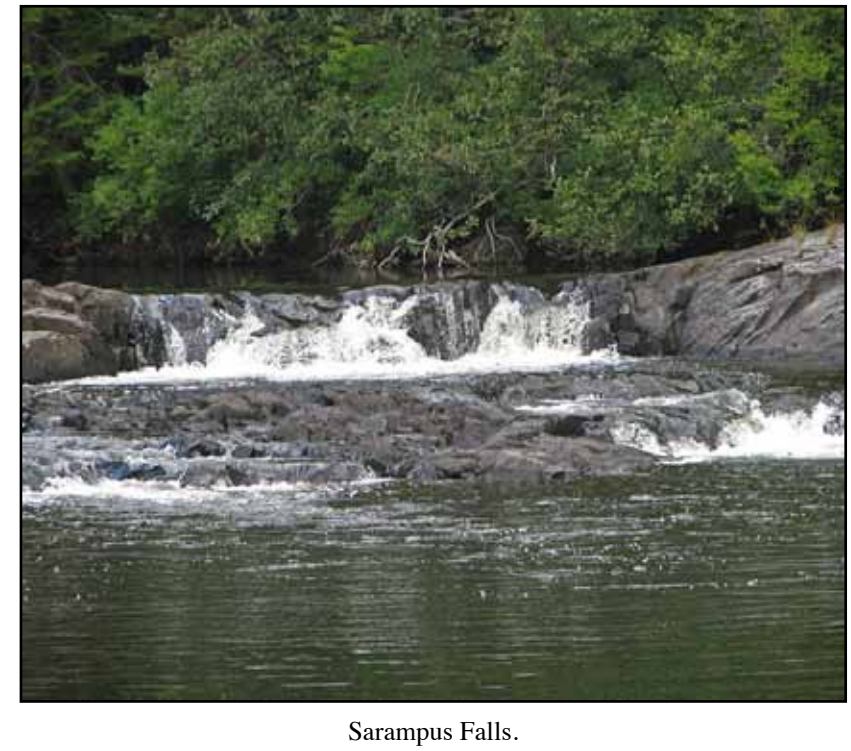


The summit of Moxie Bald, looking west toward Pleasant Pond Mt. and the Kennebec River Valley.

Lower Enchanted Pond.

National Scenic Byway Route 201.

Foss Pond.



Sarampus Falls.

Crossing the North Branch of the Dead River.

The Summit of Moxie Bald, looking east towad Maine Public Reserve Land on Bald Mountain Pond.

This western section of the proposed E-W Corridor is a premier mountainous wild lands area in Maine. In my opinion, it is worthy of being designated as a national park. The mountain springs and run-off provide pure, cold water to one of the best Brook Trout fisheries in Maine. While there has been a lot of abusive logging over the last thirty years, the region still retains a rugged, northern forest wildness which can be found in only a few other places in the northeast. Canada Lynx, Bald Eagles, and Bicknell's Thrushes can be found here. There have been sightings of Mountain Lions, Timber Wolves, and Golden Eagles. If there is to be any chance of the re-establishment of these species, this would be a prime region. Rather than looking to pave over more of paradise, this area should be targeted as a top choice in the northeast for wilderness restoration.

E-W Corridor crosses the Appalachian Trail.

Crossing Bald Mt. Stream.

Heading toward Kingsbury.

20 Facts about Wind Power -

The Facts about Wind Energy Development in Maine

When asked if they think wind generated electricity is good, affordable, green, useful, and necessary most people will say "Yes, of course." But the fact is, none of the above has ever been proven. Wind generated electricity has been effectively shielded from scrutiny by marketing and lobbying, with no obligation to verify its claims. But despite popular belief, wind generated electricity has high impact and low benefit to Maine's economy and environment. Following are 20 reasons to take a closer look.

1. Wind generated electricity will not "get us off of oil." Less than one percent of the electricity in the U.S. comes from oil-fired generators. In 2011 in Maine, it was less than one half of one percent. We use oil for transportation and heating. Electric vehicles and electric heat would reduce oil usage, but it would sharply increase electricity consumption. So ratepayers would more urgently demand and require affordable electricity rather than expensive wind electricity.

2. Maine has 4400 megawatts of electricity generation capacity, though we only use 1500 megawatts on average. Maine's peak load is usually about 2500 megawatts. There is no shortage of electricity and the grid forecasts less than one percent annual growth in demand for the next decade. No urgent need exists to sacrifice unique resources using ratepayer and taxpayer money to produce a small and unreliable amount of surplus electricity.

3. Even without wind turbines, Maine is already one of the cleanest states in the nation for electricity generation. According to the National Renewable Energy Laboratory, Maine ranks first in non-hydro renewable electricity generation per capita, per gross state product and as a percentage of total electricity generation. We also have the highest renewable portfolio standard in the U.S.

4. By necessity, conventional sources of electricity (nuclear, biomass, natural gas, hydropower) will remain the primary suppliers of electricity to the New England grid well into the future. Wind-generated electricity cannot, by its nature, replace or displace these "base load" generators. Intermittency and low power density restrict it to a role as a marginal supplier of electricity.

5. Maine's 2700 megawatt "goal" for land-based wind generating capacity would require the construction of 1200-1700 wind turbines, each around 400 feet tall, spaced about 1/4 mile apart, sprawled across 300 miles of rural Maine's mountains and ridgelines.

6. The expansive conversion of rural Maine to industrial wind development could provide no more than 5% of New England's electricity needs under even the most optimistic of scenarios. It would have no noticeable impact on New England's fossil fuel consumption. The intermittency of Maine's 2700 megawatt (MW) wind power goal gives it, at most, an effective output that is around 30% of its listed capacity, or about 800 MW. On New England's 33,000 MW grid, this is a drop in the bucket – especially when one considers the high-impact infrastructure needed to achieve this "goal."

7. Wind generated electricity is high impact and low benefit. The entirety of Maine's 2700 MW goal could be provided by the construction and operation of a SINGLE, moderately sized, conventionally fueled (e.g. natural gas) generation plant, at 80% less cost.

8. Placing wind turbines on Maine's mountains will not enhance our energy security. Almost all of the fuels used to produce our electricity are sourced from North America. ALL are readily available in North America.

9. Placing wind turbines on Maine's mountains will not reduce coal consumption or stop mountaintop removal mining. Coal is used in other parts of the country as a reliable (albeit dirty) base load fuel, with some states deriving 75% or more of their electricity from coal. Comparatively speaking, New England is a minor user of coal. Maine has only one small coal-fired generator, powering a Rumford paper mill. It accounts for about one half percent of all of Maine's electricity generation. New England, as a region, gets relatively little of its electricity from coal.

10. Erecting wind turbines on Maine's mountains will not improve Maine's air quality. EPA figures indicate that the burning of fossil fuels in Maine is a minor source of the state's particulate pollution. Most fossil fuel pollutants blow into Maine from population centers many miles away. Because wind turbines cannot replace base load generators, they will not close coal plants or reduce their emissions.

11. If CO_2 is a problem, wind power is not a solution. Placing wind turbines on Maine's mountains will have no impact on climate change. Using the wind lobby's optimistic claims, 2700 MW of installed wind capacity in Maine could only reduce total U.S. CO_2 emissions by less than five one-hundredths of one percent (0.05%.) Globally, there would be no measurable benefit since 98% of atmospheric CO_2 is from sources other than electricity generators.

12. Wind turbines require sources of NEW conventional generating capacity. The 2010 New England Wind Integration Study stated that "Wind's intermittent nature would require increased reserves, ensuring that there are other generation options when the wind isn't blowing." Even when wind does blow, base load generators continue to operate, while balancing generators operate inefficiently as they ramp up and down, which increases emissions.

13. New wind power integration will require an unprecedented expansion of transmission capacity. The president and chief executive of ISO-New England, said in 2010 that large scale integration of wind power into the New England grid "would require spending $19 billion to $25 billion for new transmission lines." This cost would be passed along in our electric bills.

14. Wind generated electricity will not guarantee lower electricity rates. Wind power lobbyists often state that they cannot compete with low natural gas prices, which are forecast to remain low and stable for decades. The wind lobby's insistence on a federal Renewable Energy Standard and other government subsidies are proof that wind-generated electricity cannot compete with other sources.

15. It is said that wind should be a "part of the mix" but its part would be insignificant. Demand for wind generated electricity is created not by the market, but by state and federal government policy. Without favoritism from government policies, wind power could not survive.

Even if the price of wind-generated electricity could be reduced, it is not a desirable source of electricity for the grid. Its intermittency, unpredictability and inability to be synchronized with demand make it a marginal source of electricity, the use of which must be mandated by government.

The wind industry's insistence on a Renewable Portfolio Standard (RPS) suggests that, without the mandate, they would be at a significant disadvantage. That disadvantage arises from a lack of any market driven motivation for a utility to purchase wind-generated electricity. Wind's high price and grid-integration challenges make it an outcast in the absence of governmental policies that dictate its use.

The wind industry is lobbying vigorously for a federal RPS, which would force utilities all over the U.S. to purchase a minimum percentage of their electricity from specific sources labeled as renewable. Amazingly, these "renewable" sources would not be required to demonstrate any particular degree of efficacy or feasibility. This type of arrangement already exists in Maine, which already has the highest RPS in the nation.

Commenting on her desire to create a federal RPS, Denise Bode, of the American Wind Energy Association (AWEA), a wind industry trade association, said, "For us, this is survival of an industry."

The pace of wind industry activity in the U.S. has been slowing. According to Platts Energy Week, "Bode attributes the drop to the lack of a federal policy requiring utilities to add wind and other renewable energy to their portfolios. Without a federal RPS, utilities are not including renewables in long-term supply decisions but instead are 'reverting back to what they can rate-base, what they can earn off of, rather than diversify their portfolio,' she said." In other words, as long as utilities are making sound business decisions, wind-generated electricity will not find a place in their portfolios, a situation the AWEA finds intolerable.

Royal Bank of Canada stated in its financial assessment of the largest operator of wind turbines in the world, Iberdrola Renewables: "Iberdrola's wind rollout is dependent on renewable legislation…" and "Iberdrola's focus will move to the U.S., and to a lesser extent, the U.K. where the regulatory drivers are becoming more attractive."

16. Wind projects are heavily subsidized at an exorbitant rate. Not accounting for state incentives, ratepayer mandates, and various policies, wind generated electricity is generously subsidized by federal taxpayers. According to the U.S. Energy Information Administration, wind generators take federal subsidies at a rate of $56.29 per megawatt hour (MWh). Compare this to the subsidy rates for reliable generators like natural gas and coal, which receive 64 cents/MWh, Hydro: 82 cents, Nuclear: $3.14, and Geothermal: $12.85/MWh. In 2010 the $5 Billion in federal subsidies for wind power was more than three times the amount that went to natural gas and coal power combined. Note that in the same year natural gas and coal produced thirty times more electricity than wind: 69% of all American electricity, while wind produced 2%.

17. Wind developments create notoriously few jobs. Despite boasts of creating Maine jobs, wind projects produce mostly construction jobs lasting less than 6 months. Wind projects are NOT long-term investments in jobs. Construction jobs are always welcome, but publicly-funded construction jobs should produce necessary and useful projects, like roads, bridges, and critical infrastructure. Moreover, state mandates to purchase higher priced wind-generated electricity could lead to lost jobs or fewer available jobs in Maine.

18. Most of a wind project's expenditures leave Maine - primarily overseas. Property valuations of most new wind developments in Maine are sheltered by tax increment financing and accelerated depreciation. Under the terms of these deals, Mainers' tax savings are diverted to developers to help finance wind projects.

19. EVERY operating, multi-turbine, grid scale wind facility in Maine that has been sited near people has significant unresolved disputes over noise emissions and shadow flicker. Continuing to site wind turbines using the same standards that have caused this conflict assures that the problems will grow in number and that more Mainers will be involved in disputes with wind developers in the future.

20. "Charting Maine's Future," the 2006 Brookings Institute report, warned Maine to avoid sprawl in order to protect its "quality of place" and its "brand." Maine's wind development policy actually encourages rural sprawl, threatening Maine's unique character as well as our future prosperity. Fairly weighing the massive impacts to Maine's economy and environment versus the minimal benefits from wind power, the facts lead us to conclude that the impacts far exceed the benefits. Maine must pursue more sensible and sustainable energy policy.

"Energy sprawl – the phenomenon of ever-increasing consumption of land, particularly in rural areas, required to site energy generation facilities – is a real and growing problem. Over the next twenty years, at least sixty-seven million acres of land will have been developed for energy projects, destroying wildlife habitats and fragmenting landscapes. According to one influential report, even renewable energy projects – especially large-scale projects that require large-scale transmission and distribution infrastructure – contribute to energy sprawl."

Excerpts from the 2006 Brookings Institute publication Charting Maine's Future, An Action Plan for Promoting Sustainable Prosperity and Quality Places:
"In the long run, the slow degradation of Maine's vivid and distinctive quality of place (and the reputation it supports) may be the greatest cost to Maine of all."
"Another problem, meanwhile, is the defacement of Maine's scenic corridors."
"Maine's stellar quality of place, for one thing—its traditional towns and beautiful landscapes and seacoasts—constitutes a major, appreciating asset in an age when retaining and attracting workers and retirees matters intensely."
"First, the state should continue to invest urgently in protecting and enhancing its top-notch quality of place, for that is its "calling card," its brand, and its truest source of prosperity."
"As its world-famous brand declares, Maine has – in its vivid small towns and waterfronts, its lakes and fields and rocky coastline – exactly the sort of authenticity and quality of place that can set a place apart. Maine is unforgettable and distinctive, and that matters."

Friends of Maine's Mountains
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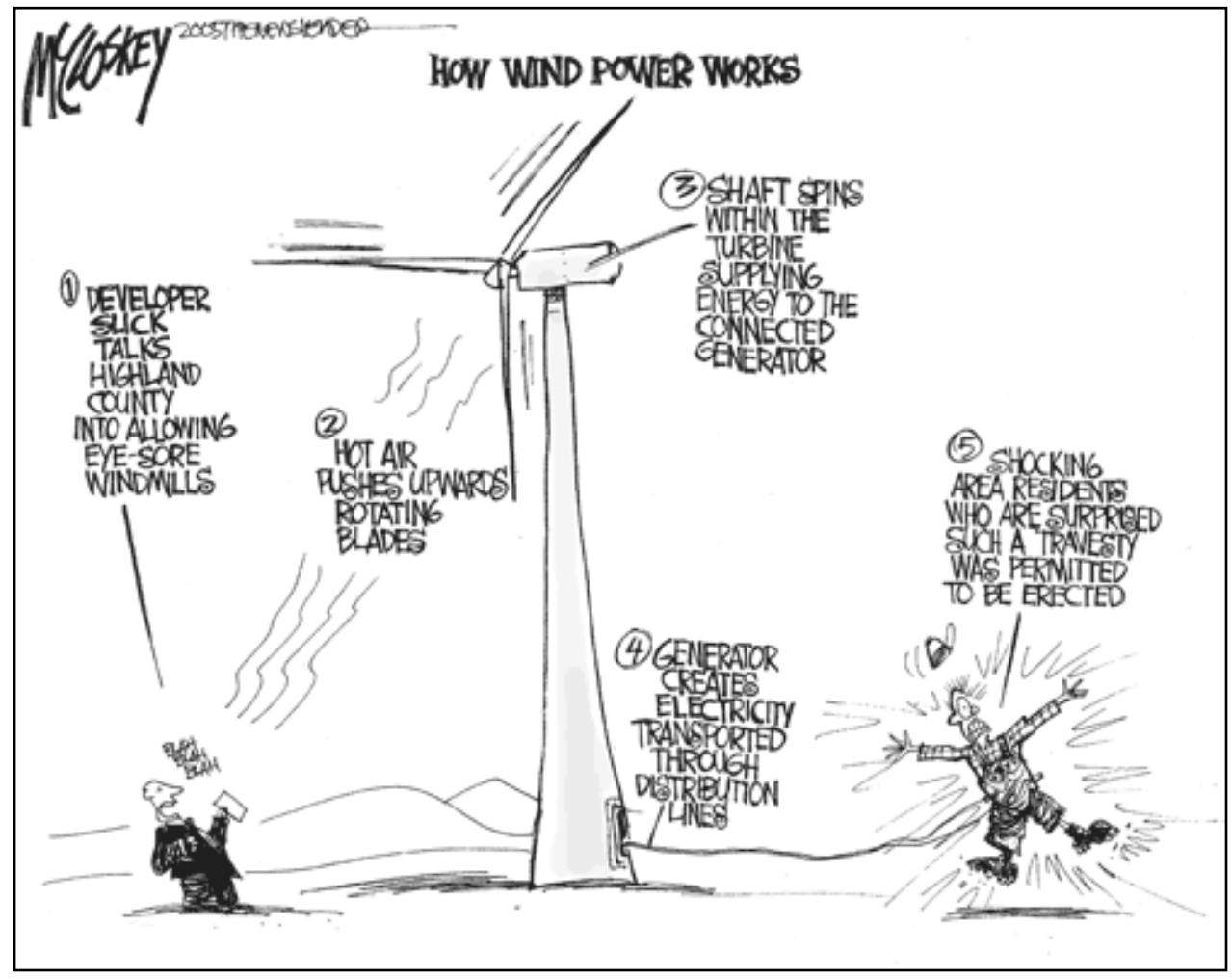


Will the Golden Eagle Be Returning to Maine?

by Bob Weingarten

Industrial wind on the landscape has become an overwhelming menace to Golden Eagles in the western Maine mountains. It may very well mean the difference between the return of this magnificent native raptor to Maine, or its total elimination from our wildlife heritage.

The Golden Eagle (*Aquila chrysaetos*) had once rivalled the Bald Eagle (*Haliaeetus leucocephalus*) as the largest resident bird of prey in Maine. Golden Eagle wingspans extend up to 6 feet, body length is up to 40 inches, and weight is between 8-13 pounds.

While Maine once had a long-standing resident population of breeding Golden Eagles, the remoteness of eyries and the confidentiality of nests known to naturalists had limited the awareness of the species as compared to Bald Eagles. Historically, shooting, trapping, and poisoning reduced Golden Eagle numbers. Environmental contaminants, especially DDT, caused reproductive impairment in the post-World War II era.

Golden Eagles are traditionally associated with rugged topography and open country including rangelands, tundra, and alpine areas. They often nest on cliffs in mountains, but tree nesting prevails in forested regions. In Maine, Golden Eagles have typically been associated with mountainous areas in the western and northwestern portions of the state. Both cliff and tree nests have been documented in Maine. The alpine zone above tree line offers higher availability of favored prey.

Golden Eagles may search for prey from great soaring heights or lofty perches but usually hunt from flights <100 m above ground interspersed with low (< 8 m) coursing maneuvers (Carnie 1954, Collopy 1983a). In Maine, food remains at nest sites have often consisted of wading birds, such as Great Blue Herons. Golden Eagles are known to forage over a much larger territory than Bald Eagles, making them much more susceptible to the dangers of wind turbines in their environment.

One very significant observation about Golden Eagles is their built-in genetic tendency of returning to historic eyries for breeding. Ten nesting territories have been documented in Maine with certainty, but at least 18 other localities are suspected. Several of these historic Golden Eagle eyries are in locations where industrial windpower facilities are in place or have been proposed. For example, there is an historic Golden Eagle eyrie on Sisk Mountain where TransCanada wants to expand the Kibby windpower factory, and two other eyries are within 10 miles of Kibby. Thus the plot thickens.

MIGRATORY GOLDEN EAGLES

Todd Katzner, Ph.D. is a Research Assistant Professor of Wildlife and Fisheries Resources at West Virginia University in Morgantown, WV and manages a project that has outfitted several Golden Eagles with telemetry devices on their backs. The project uses a satellite to track and analyze the data sent back from these eagles. These birds breed in northeastern Canada and winter in the southern Appalachians, and the entire migratory population passes through the eastern U.S., including Maine, twice each year.

photo by Paul Donahue

A Golden Eagle scanning the ground for prey.

Dr. Katzner explains that the goal of the project is to develop high-resolution spatial data of migration corridors of, and habitat use by, eastern Golden Eagles in regions of high potential for wind development.

We recently contacted Dr. Katzner to learn more about his work in tracking migrating Golden Eagles. With the assistance of other opponents of industrial windpower in Maine's mountains, we provided Dr. Katzner with the latitudes and longitudes of all existing and proposed wind projects in Maine. Dr. Katzner's mapping team graciously drew up maps showing the migratory flight paths of those Golden Eagles in his tracking project that have appeared within a 10 km (6.2 mile) buffer zone around any of the existing or proposed wind sites.

Map 1 shows Golden Eagle Migratory Movements from 2007 -2012 in the Kibby-Sisk-Snow Mountain area of the Boundary Mountains. Not only are the Kibby and Sisk projects a direct threat to eagle migration and breeding, but the huge project of 80 turbines proposed by the Penobscot Indian Nation on Snow Mountain, as well as on all the surrounding ridgelines in Alder Stream Township, will make this wilderness a catastrophic industrial obstacle course for eagles (as well as many other avian species, bats, etc.).

Relative to these maps it is crucial to point out that this initial tracking sample is quite small and not random, and it goes without saying that there are untelemetered birds using these and other areas of Maine. Dr. Katzner indicates that "absence of evidence is not evidence of absence."

Even with these caveats in mind, we can see how Golden Eagle migratory routes and sites of wind turbines intersect. The 3D tracking data is showing that Golden Eagles migrate at a lower elevation than previously thought and swing back and forth in their flight patterns, thereby becoming even more susceptible to turbine blades.

VIRGIL CAINE

Dr. Katzner's project is not the only source of Golden Eagle tracking data. At the Center for Conservation Biology (CCB) is a group of professionals, students, and citizens who also are dedicated to tracking Golden Eagles. The CCB is a research group within The College of William and Mary and the Virginia Commonwealth University.

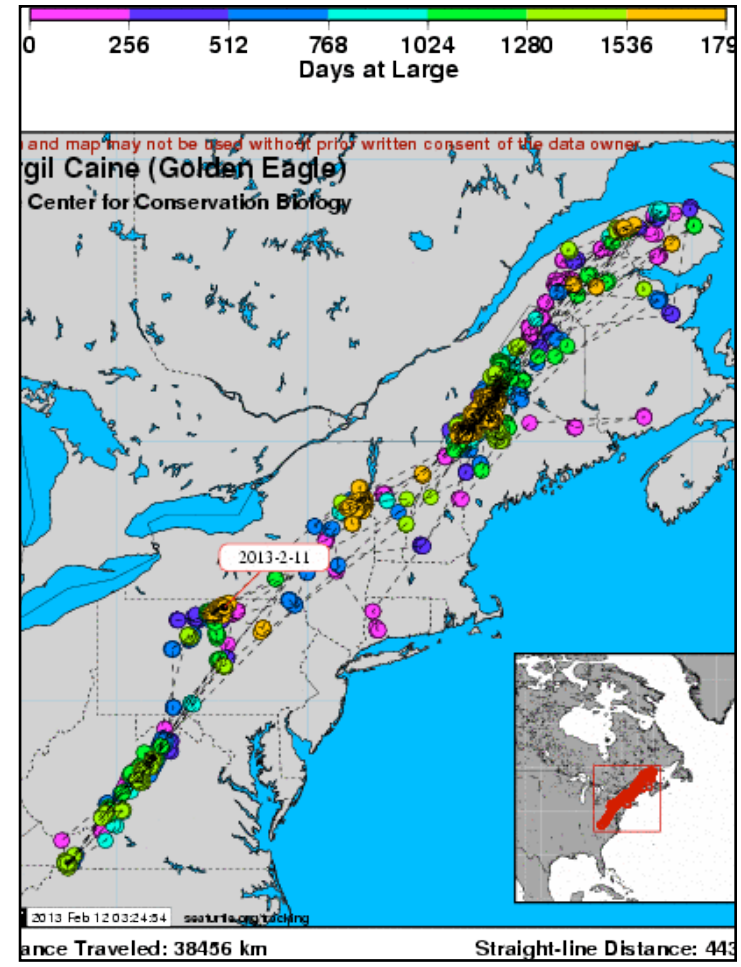
One such eagle that has been tracked since 2008 by the CCB is Virgil Caine. She is a female Golden Eagle caught while wintering in the mountains of Virginia in March 2008 and equipped with a telemetry unit. She was named after a fictional confederate soldier from Virginia commemorated in a 1960s song (by The Band).

Virgil Caine's flight data indicates that not only has she been migrating through the Boundary Mountains but also has been spending a good deal of time in Maine during the summer months, particularly in the Sisk Mt. area. Scientists are speculating that Virgil Caine, as well as other Golden Eagle females of breeding age, are looking for new nesting territories as the population of Goldens in Canada expands.

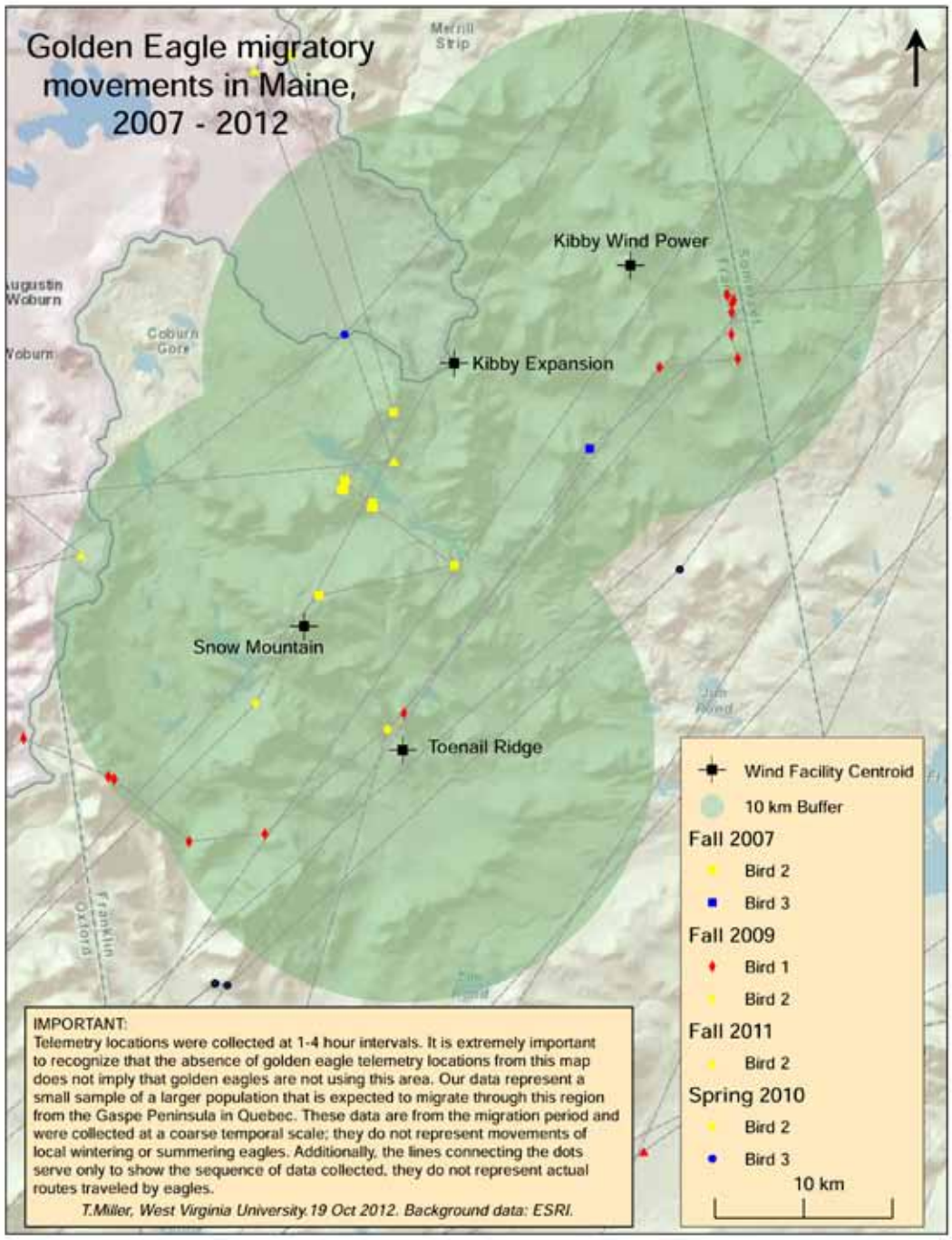
Map 2 is a composite of Virgil Caine's movements, color-coded to show days-at-large in various locations. As can be seen, there is a concentration of days-at-large in Maine's western mountains (right now she is spending the winter in PA).

We contacted a researcher at the CCB, Dr. Libby Mojica, who graciously provided Map 3, which shows the specific concentration of Virgil Caine's movements in the Chain of Ponds/Sisk Mountain area. Mark McCullough of the U.S. Fish and Wildlife Service (USFWS) recently told Friends of the Boundary Mountains that Chain of Ponds is a "hot spot" for Golden Eagles: both for migratory and resident eagles like Virgil Caine, and that there are other hot spots in Maine as well (conversation Oct. 1, 2012).

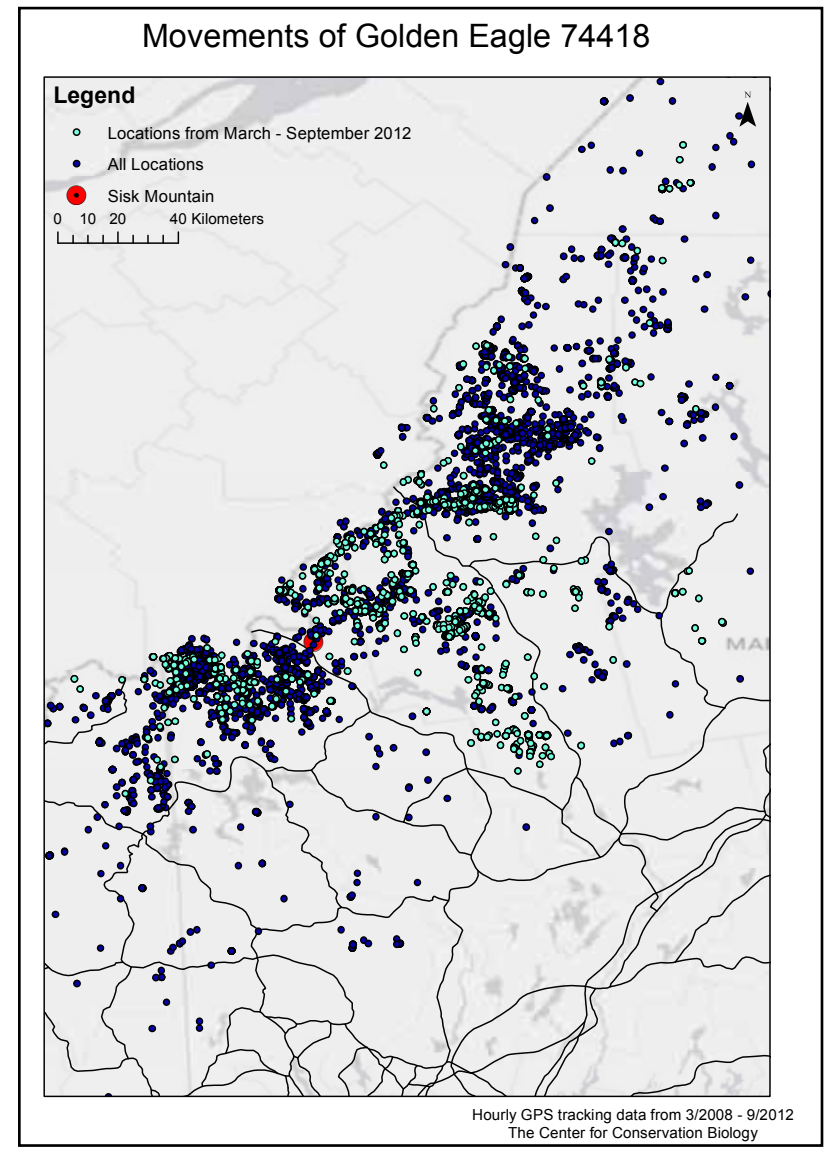
A Golden Eagle outfitted with a telemetry unit.



Map 2 - A composite of Virgil Caine's movements, color-coded to show days-at-large in various locations.



Map 1 - Golden Eagle Migratory Movements from 2007 -2012 in the Kibby-Sisk-Snow Mountain area of the Boundary Mountains.



Map 3 - the specific concentration of Virgil Caine's movements in the Chain of Ponds/Sisk Mountain area.

THE FUTURE FOR GOLDEN EAGLES

Golden Eagles have been protected under federal statute since 1962. The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" Bald and Golden Eagles. Taking is described to include their parts, nests, or eggs, molesting or disturbing the birds.

The purpose of The Bald and Golden Eagle Protection Act is to safeguard these species by: 1) not abusing an eagle, 2) not interfering with its substantial lifestyle, including shelter, breeding, feeding, and 3) not causing nest abandonment. The USFWS has indicated that no "incidental take permits" will be issued to any wind energy developer for take of Golden Eagles in the eastern part of the United States, given their precarious status.

Despite these protections, the wind industry is marching forward to the detriment of migrating, and potentially breeding, Golden Eagles in Maine. Undeterred by the risks faced by the eagles, and despite all the new telemetry date now available, the U.S. Army Corps of Engineers has issued a long delayed permit to TransCanada to proceed with building the Kibby Expansion Project on Sisk Mountain, the site of an historic Golden Eagle eyrie and the breeding habitat of the endangered Bicknell's Thrush. The Corps is justifying this clear threat to Golden Eagles by requiring TransCanada to prepare an Eagle Conservation Plan - but the ludicrous permit conditions don't require TransCanada to prepare the conservation plan until AFTER the wind project is built!

Consequently, on Nov. 26, 2012 Friends of the Boundary Mountains filed a lawsuit in federal district court in Bangor to challenge TransCanada's permit. We are calling into question the Army Corps of Engineers compliance with the Clean Water Act, the International Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. This is a groundbreaking lawsuit that, if successful, may have far-reaching implications for many of the proposed wind power projects that will ravish our mountains and wildlife habitats.

This is a heavy lift for our small and under-funded group. Not only are there attorney fees, but also we need to hire expert witnesses to make our case to the Court. If you can support Friends of the Boundary Mountains with a financial contribution, it would be much appreciated.

Please make checks payable to "Friends of the Boundary Mountains" and mail to:
Friends of the Boundary Mountains
P.O. Box 145
Farmington, ME 04938

Friends of the Boundary Mountains is a not-for-profit 501(c) (3) tax-exempt organization and contributions are tax-deductible.

With your help and a little luck these majestic birds will once again grace our mountains and skies.

Bob Weingarten is the President of Friends of the Boundary Mountains.

Perspective: How Much CO_2 Can Be Avoided by 1000 Maine Wind Turbines?

by Brad Blake

Last year the Legislature commissioned an assessment of our progress toward the statutory wind goal. Among the sobering findings, we learned that if Maine builds the thousands of mountaintop turbines necessary for 2700 megawatts, we would reduce New England CO_2 emissions by at best only 1.5%. In the report, former Maine public advocate Steve Ward wrote:

"Thus, if Maine were to achieve the wind energy goal for 2015 of 2,000 MW and if those turbines actually operated with a capacity factor of 33% we estimate that these wind turbines would cause an annual Greenhouse Gas reduction of 2,688,444 tons that otherwise would have been emitted in New England, primarily by natural gas-fired generators."

Mr. Ward calculated that if Maine installs 2000 MW of wind power operating at (a very optimistic) 33% CF, then those turbines would likely cause an annual 2.7 million metric ton (MMT) reduction in CO_2 emissions from New England electricity plants. While Mr. Ward's assumed 33% turbine performance rate was high (in 2012 Maine wind projects collectively reported below 25% capacity factor to the Federal Energy Regulatory Commission), and while he did not account for increased emissions due to inefficient ramping in thermal generators which would be used to "balance" the wind power's intermittency, nonetheless we will for the purposes of this exercise assume that 2.7 MMT is a fair and conservative projection for 2700 megawatts of wind power.

2.7 million tons of anything sounds like a lot of weight. Imagine 1.3 million Ford F-150s_falling out of the sky onto each Maine man, woman and child! Alas, CO_2 is a gas, not a truck, so let's put that tonnage into perspective.

New England CO_2 emissions total about 163 million tons.1

Using Mr. Ward's calculations, and correcting his generous capacity factor presumptions, if 1000 Maine wind turbines can reduceCO_2 by 2.7 MMT, those 2700 MW of wind would reduce New England CO_2 emissions from all sources by only 1.5%.

For scale, this is four and a half feet on a football field.

Further Perspective

- United States CO_2 emissions in 2011 were 5,420 MMT. Maine's projected 2.7 MMT of avoided CO_2 would reduce American CO_2 emissions by five-one hundredths of 1%.

For scale, this is 1.8 inches on a football field.

- Global CO_2 emissions in 2011 were 33,376 MMT. Maine's projected 2.7 MMT of avoided CO_2 emissions would reduce global CO_2 by eight-one thousandths of 1%.

For scale, this is a blade of grass on a football field.

*The above article was excerpted from **Straight Talk about Carbon & Climate by** Friends of Maine's Mountains*

The American Wind Energy Association - Promoting the Scam

by Brad Blake

The position of Citizens Task Force on Wind Power is that wind power is a scam that depends on a multiplicity of financial manipulations (PTC, ARRA SEC.1603, 5 year ddb depreciation, TIF, etc) and heinous mandates (RPS, RGGI, Maine PL 551) to even exist. AWEA, in its efforts to keep the PTC from expiring, has essentially stated that wind power development would not exist without this taxpayer-funded income stream. Thus threatened, AWEA and its supporters have turned in desperation to netting the argument down to jobs.

The positions espoused by AWEA and the wind industry and their supporters in two decades of promoting the wind industry have largely been refuted in recent years. There is no demonstrable offset of carbon or other pollutants that can be validated. Nor is there any evidence that wind power is cost effective in the open market.

Further, the proliferation of utility scale wind sites in Maine is not supported by the poor to marginal wind potential (NREL). Utility scale wind turbines are a blight on the land, totally out of scale and out of place, degrading Maine's vaunted "Quality of Place" (Brookings Institute 2007), with a negative impact on tourism and property values. Utility scale wind sites have a sprawling footprint and the blasting, leveling and scalping of Maine's ridges is environmental degradation on a massive scale which would never be allowed for any other industry.

Wind turbines built too close to people results in health degrading annoyance from audible noise as well as more serious sickness from low frequency sound waves (something I personally have experienced). A lawsuit based on this was settled by First Wind in Mars Hill but other potential lawsuits from individuals are pending. Right here in Maine, people have moved and abandoned homes to get away from deleterious effects of wind turbines.

As you see, there are multiple issues relating to wind power development in Maine. Perhaps foremost is the cumulative impact of the proliferation of industrial wind projects, especially given the state's goal set out in PL 661. There are currently six large scale wind projects operational in Maine: Mars Hill, Stetson I & II, Rollins, Kibby, Record Hill, and Spruce Mt., as well as two smaller projects in Freedom and Vinalhaven. Under construction this year, Bull Hill in Hancock County is yet another in a series of disasters for Maine's mountains, perpetrated by developer First Wind.

Consider the impact of Bull Hill. The Vestas V100 turbines are 476 ft. tall. This is more than twice the height of the tallest building in Maine, Portland's Franklin Towers, which are 204 ft. tall. These turbines are more than half as tall as the tallest building in New England, Boston's John Hancock tower at 790 ft. tall. These towers will be clearly seen from Cadillac Mt. in Acadia National Park. Do the nearly 3 million visitors to this grand place want to see industrial wind turbines? Impacted even more closely will be the view from the top of Schoodic Mt., which is preserved as part of the Donnell Pond Public Reserved Land. This incredible place was protected by the taxpayers' money from bonding for the Fund for Land for Maine's Future.

Schoodic Mt. and Acadia are not the only places where industrial wind turbines have ruined the viewscape. Record Hill in Roxbury is highly visible from Baldpate Mt. on the Appalachian Trail as well as Tumbledown Mt., another of Maine's treasures purchased for preservation with taxpayer money. Mars Hill, Stetson, and Rollins are all visible from Mt. Katahdin. While those sights are a bit distant from Maine's iconic landmark, the wind industry is planning wind power sites with the larger turbines closer to the boundaries of Baxter State Park. Kibby and Record Hill both loom over designated state "Scenic Byways". Should there be a build out of just the wind sites currently in some stage of planning/development, there will soon come a day when there will be no vista in Maine's mountains that does not include wind turbines.

But what about all that "clean", "green", "free" electricity that is promised by the wind industry? When is it acceptable to have on average less than 25% output? No industry would survive on that. Nobody would buy an appliance for their home that works only 25% of the time. Yet that is what we are buying with taxpayers money. That and, together with mandates, guaranteed higher electricity costs.

I end with a personal anecdote. I am originally from Lincoln. I spent July 11 to July 16 at camp on Silver Lake in Lee, one of the areas impacted by First Wind's Rollins Project. It was a perfect stretch of summer weather and Saturday, July 14 was the hottest day of the year in New England thus far. On July 12, 13, 14, ISO-New England experienced it's greatest electricity demand (a function of massive demand for air conditioning). The wind hardly blew and certainly did not reach the threshold (about 12 mph) to produce usable electricity from wind turbines. At 5 PM on Saturday, it was 92 degrees at the farm on Winn Rd in Lee where 13 of the 18 turbines on Rollins Mt. can be seen. Not a single turbine was spinning. When we could have used wind the most, it failed and the inverse correlation demonstrated here is well known. Yet the taxpayers gave First Wind $53.2 million for this failure. More wind power sites in Maine? It is just going to be more of the same, a blight on the land, a failure to produce, surviving on taxpayer money, schemes, and scams.

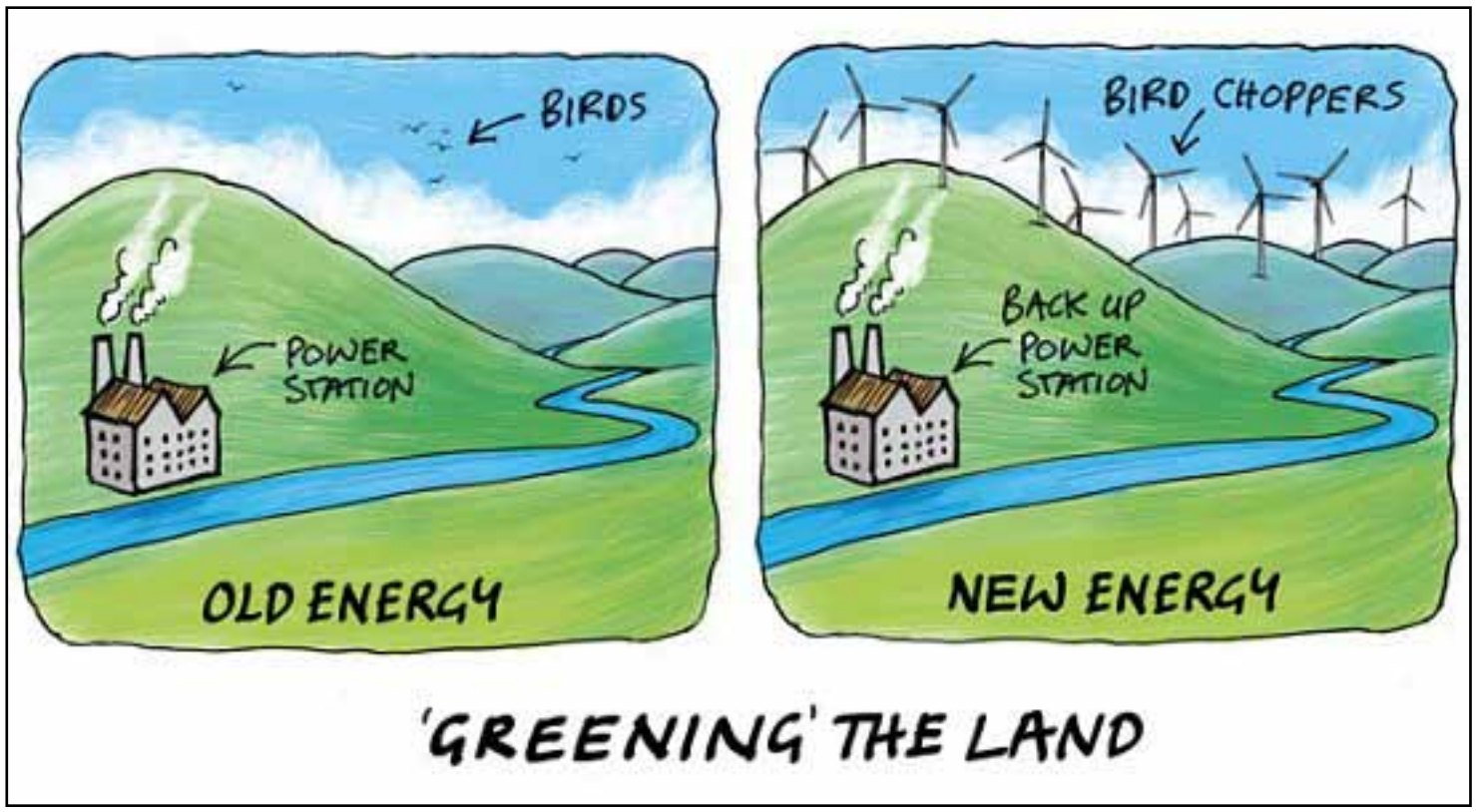


photo by Gary Snyder

The Stetson industrial wind project.

Application for the Passadumkeag Wind Park - Testimony by Bradbury Blake

Greenbush, Maine - July 14, 2012

Good evening, Commissioner Aho and DEP staff. My name is Bradbury Blake and I live in Cape Elizabeth. I start tonight by sharing a very personal story. I was born and raised in Lincoln and as a kid, I rambled all over this country with my beloved grandfather, hunting, fishing, camping, and picking blueberries. I love this country, the eastern edge of the magnificent Downeast Grand Lakes region. My great-great-great grandfather was one of the original settlers of Lee and I always loved the view from the old farmstead. Looking between the ridges and across Bill Green Pond, it seemed like an endless series of verdant rolling ridges. Now that view includes the southernmost array of Rollins Wind turbines in Rocky Dundee. Beyond, is the easternmost end of Passadumkeag Mountain. If you approve this project, every turbine, 80 feet taller than the Rollins turbines, will completely ruin the view.

Passadumkeag Mt. from Lee

This leads to my first point, cumulative impact. The Rollins project sprawls across seven miles of ridges. It has a looming or distant presence everywhere you go in Lincoln Lakes. Beyond Lincoln are Stetson Mt, Jimmey Mt. and Owl Mt. All covered with wind turbines. People at places like Upper & Lower Hot Brook Pond have the similar ruined view as Lincoln Lakes. A dear friend who couldn't be here tonight asked me to mention that his land on a hill used to have a spectacular view of Mt. Katahdin, but now they look at the turbines of Stetson II. And now we see Passadumkeag Mountain being sacrificed to the thieves who are in the wind business not to produce electricity, but to take advantage of a scam to reap taxpayer subsidies and RECs. There are met towers up all over the northeastern part of Maine, from Greenland Ridge above East Grand Lake to Kelly Hill in Stacyville and Mt. Chase, close by the boundary of Baxter State Park. How much of the "Quality of Place', identified by the 2007 Brookings Institute Report as Maine's greatest asset, does one region have to sacrifice for a favored industry that isn't about generating electricity or offsetting pollutant, but is about reaping taxpayer subsidies and selling REC's. I urge you to conclude that destroying Passadumkeag Mt. for this wind project is a cumulative impact that is unacceptable. Where does this ruination of a region end? I say it ends here by saying "NO" to this project.

On June 5, I was one of the participants at a meeting with you and three of your key staff. I thank you for meeting with representatives of the citizens and listening for the first time ever since the heinous wind law was passed. In that meeting, we provided a great deal of feedback as to the frustrations of local residents: they feel they are not being heard and they are not being treated fairly in the process. An example of this is people taking time from their lives to speak at DEP "Public Comment Meetings", but having the three-minute rule imposed. Is this what our democracy has come to? The draft for this project is cloaked in the mantle of saying the statute forces approval and the citizens really don't have a say? Do we have a "3 minute democracy" for citizens?

At the end of the June 5th meeting, you assured us that you are setting a "New Tone" in the department relating to wind power permitting. When I read the draft analysis, I could.only see the citations to the statute and conclude, it is the same old whitewash. Whatever the wind company has written is Gospel and there has been little critique done by staff, that what was expressed at the first public meeting was never received serious consideration. Yet when you look at the LURC process regarding the Bowers Mt. Application last year, LURC granted a hearing, something DEP has stubbornly refused to do. DEP has consistently said no hearing because there has been no credible evidence of technical information presented to warrant a hearing. That attitude doesn't even give the citizens an opportunity to pull together the resources to challenge a wind application. Yet LURC listened and for the first time citizens had the opportunity to present sworn expert witnesses and, more importantly, cross-examine the wind industry representatives. The result: a wind power application was denied for the first time ever in Maine. If the DEP staff will not cross-examine the wind industry, at least give the citizens the chance.

Even given the perceived constraints of the wind statute, the DEP cannot turn its back on the mission to protect Maine's environment. How is allowing craters to be blasted into the mountain that are up to 30 feet deep and a quarter acre in size protecting the environment? How is allowing blasting and leveling for two acres around each turbine protecting the environment? How is building wide, crushed rock roads to move massive components up a mountain considered environmental protection? How is allowing industrialization with audible noise and low frequency sound waves disrupting wildlife considered environmental protection? How is putting blades that kill birds, low frequency sound that causes barotraumas with bats and the extensive wildlife habitat fragmentation protecting the environment? How is the permanent loss of a thousand acres of carbon sequestering trees and the use of herbicides to prevent re-growth protecting the environment? We have seen ridge after ridge destroyed by industrial wind site development with the DEP never answering these questions. It is time that DEP sets a "New Tone" by living up to its mission! Instead of taking the easy way out by saying you are just implementing the statute, take the courageous and moral stand that wind power is premised on falsehood and the citizens of the state who you hear from tonight tell the truth about wind power and why this project must not be approved.

Here are other questions that we, the citizens, demand answers to regarding this project. First is the issue of transmission. DEP has a track record of approving wind projects when there are transmission problems. Stetson Mt. had overloaded the capacity of Bangor Hydro's Line 61 to the extent that Brookfield threatened to sue. Yet DEP approved Rollins before there was expanded capacity on this line. Even as the $1.4 billion MPRP is being constructed, ISO-New England has warned FERC that capacity payments will not be made in 2014 due to the bottleneck below Orrington. With the restriction of thermal loading on this new line on days when there are adequate wind conditions to produce wind power at or near capacity, it is unwise and irresponsible to approve yet another wind project that may cause overload. It is irresponsible and bad economics to continue to approve wind generators that will cause another MPRP to be built. The first of many rate increases attributable to grid expansion was just announced. Since Maine already produces some 40% more electricity than it consumes and it comes from reliable sources that produce base load and base load following electricity, it makes no sense to approve yet another environmentally degrading source of unpredictable, unreliable, grid-disrupting power that is relegated to surplus in the next-day delivery planning of the grid operator. For this reason alone, you must not approve the Passadumkeag project.

The second question is the reliance on the integrity of

the scenic consultants and boaters/hikers surveys regarding wind power projects. These are always done with the poor context that the wind industry and the zealots pushing this industry as ideology have had 20 years to place images of wind power as something positive and turbines being a religious icon of being "Green". It is only when people dig below the superficiality of such propaganda that they discover that wind turbines are not so "green" and they have a huge, environmentally damaging footprint, especially when measured per MW output. The arcane financial considerations keep most people from understanding that wind turbines are bad economics and very costly to both taxpayers and ratepayers. So surveys that are done are unscientific and, if people were provided with other facts regarding wind turbines, they may be far less accepting of the impact. Assessing scenic impacts has been contentious in every DEP public comment meeting. Even the DEP's scenic consultant, James Palmer, has found it confounding and confusing. Concerning Kibby, Mr. Palmer stated, "the reliability of procedures [for determining scenic impact] is not well established through empirical evaluation. What research exists suggests that the reliability of professional assessments is comparable to, but not higher than public assessments of scenic quality." Thus, who knows better about scenic quality and scenic value than those citizens who live and recreate in the Passadumkeag Mt. Region?
Third, the DEP itself sets out three factors in evaluating impact:

1) Landscape compatibility—whether the proposed activity differs significantly from its existing surroundings and context from which they are viewed. I beg you, is not industrializing a mountain ridgeline with 459-foot towers with aviation lights incompatible?

2) Scale contrast—the size and scope of the proposed activity given its specific location within the view shed. How can erecting turbines that are the size of Boston skyscrapers be considered in scale with the forest of Maine? The 459-foot tall turbines are more than half as tall as the tallest building in New England, the 790-foot John Hancock tower in Boston.

3) Spatial dominance—the degree to which an activity dominates the landscape composition. Isn't a sprawling industrial site on the ridgeline dominating in an incompatible way?

In closing, it is time for the DEP to do its job of protecting the environment. It is time for the DEP to listen to the local people who are impacted by wind power development who.not only do not want such development affecting them, but also understand the farce that is represented by this application. It is time to say wind power development is destructive. It is time to recognize the need for more industrial wind power is not supported in any way by evidence rather than perpetuate the myths and false assumptions that were the premise for the wind act. Deny this Passadumkeag Mt. project and future projects that come before DEP by recognizing the horrendous cumulative impact of the proliferation of this industrial activity in rural, undeveloped regions.

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Representing Citizens' Task Force on Wind Power

Wind-power Agenda Fuels CMP Increases

by The Citizens' Task Force on Wind Power

On July 1, most of Central Maine Power's customers unknowingly suffered a 19.6% increase in electrical transmission rates. If they did notice the shocking increase to their electric bill, they most likely failed to connect the rate hike with the aggressive agenda to push wind power in Maine.

The dramatic increase—which is just the start of rate hikes that are coming over the next five years—will affect hundreds of thousands of ratepayers, including businesses, which are those entities that we'd like to see start hiring again.

According to the Maine Public Utilities Commission, the primary driver of the 19.6% increase is the "Maine Power Reliability Project"—otherwise known as the $1.5 billion CMP upgrade.

"The major driver for these increases is the change in federally regulated transmission rates, which for CMP will increase by 19.6% and for Bangor Hydro Electric will increase 12%," stated PUC Utilities Commission Chairman Thomas Welch.

Welch's announcement implies that it is not the MPUC, but rather federal regulations, that have caused the increase. This rings hollow: the CMP upgrade was approved by MPUC commissioners—
even though some MPUC employees objected.

The MPUC staff reported that the upgrade could be accomplished for far less than the $1.5 billion price tag—$667 million, to be exact. The Portland Press Herald reported in 2010: "Maine can have a reliable power grid for substantially less money, and with far fewer transmission towers and substations, than the $1.5 billion project Central Maine Power Co. is proposing, the staff of the Public Utilities Commission has concluded. In an analysis made available late Tuesday, the PUC staff said CMP has overstated and accelerated the need for its Maine Power Reliability Program, in part by using forecasts for growth in electricity use that have become outdated since the recession started."

But the MPUC commissioners ignored their staff's recommendation.

The staff's objections were but a single dot in a years-long series of dots. Connecting these dots reveal a crony-capitalist agenda by politicians, bureaucrats, energy utilities and wind-power companies to fund the upgrade and subsidize the wind industry using ratepayer money—your money.

Kurt Adams, former chief counsel to Governor Baldacci, was MPUC chairman at the time the MPUC was working on the CMP upgrade. It was later learned that he had been interviewing for several months with a wind company, First Wind, which he would eventually take a job with.

While serving as MPUC chairman, Adams also took over $1 million in stock options from First Wind, according to the Maine Center for Public Interest Reporting. The center wrote an investigative series on this issue. (See links at bottom of page.)

But Democratic Attorney General Janet Mills determined that Adams broke no laws when he accepted the job offer and securities from First Wind while still serving as head of MPUC.
Adams, who took the job of Director of Transmission at First Wind, still works at the company, which is the most active wind developer in the state. First Wind's chief outside counsel, Juliet Browne of the law firm Verrill Dana, is married to Maine Democratic State Rep. Jon Hinck, who sits on the Energy, Utilities and Technology Committee. The committee last year killed all 13 citizen-sponsored bills regulating wind power.
These bills led to what was called the Fitts Amendment, named after Energy, Utilities and Technology Committee

continued on page 28

continued from page 27

co-chair Rep. Stacey Fitts (R-Pittsfield).

The Fitts Amendment came after Governor LePage proposed a bill to remove the state's 100-megawatt cap on hydropower, which would have allowed Maine to purchase affordable hydropower from Quebec. Maine's Renewable Energy Portfolio Standard, which forces the state to invest in expensive and inefficient wind and solar energy, caps the amount of hydropower that the state can count as renewable energy—even though hydropower is clean, reliable and much more affordable than wind power.

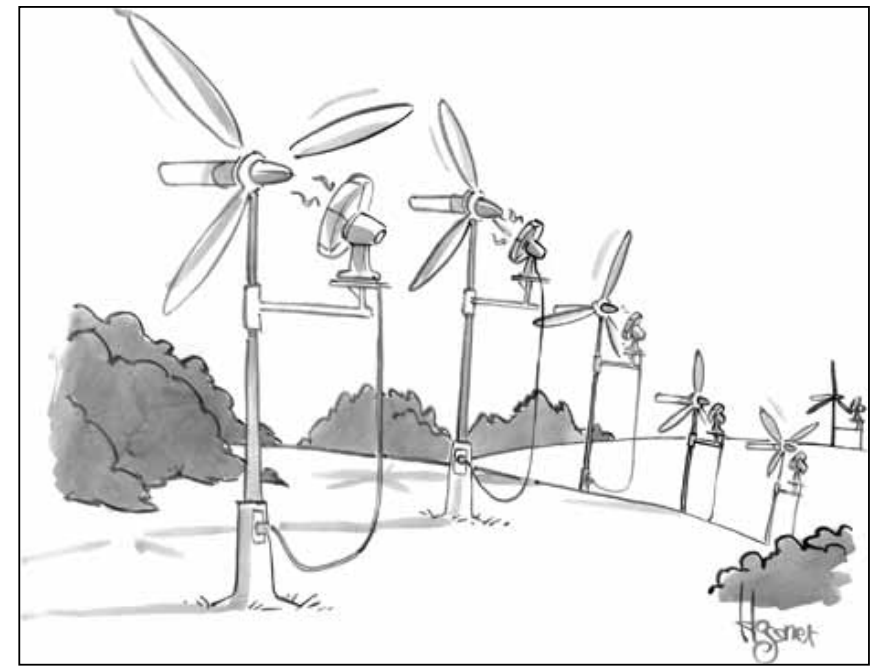
Representative Fitts took the lead on the amended bill to maintain the cap. The Maine House approved the amended bill, but it failed in the Senate. The governor's proposal died with it.

Fitts works for Kleinschmidt Associates, an engineering, licensing, environmental service firm offering specialized technical services to the "renewable" power industry.

Although the CMP upgrade is called the "Maine Power Reliability Project," insiders know the grid "needs" to be made more reliable because it was not equipped to handle the thermal overload caused by sputtering wind power.

Wind is unpredictable; if it suddenly surges, the grid can be overloaded. When you plug in one too many appliances, you trip a circuit breaker or blow a fuse. But when the grid goes down, it could cause a widespread blackout—all because the grid cannot handle the unpredictable effects of wind power.
Do not confuse these surges with wind's efficacy. In fact, wind power is a diluted, highly inefficient energy source. Maine's onshore wind resource is actually 89% below the national average, despite the fact that Angus King told us we were the "Saudi Arabia of Wind."

But wind can occasionally surge and destabilize the grid. An analogy would be widening Interstate 95 to 20 lanes for the one or two times a year a truck with an extremely wide load has to come through.



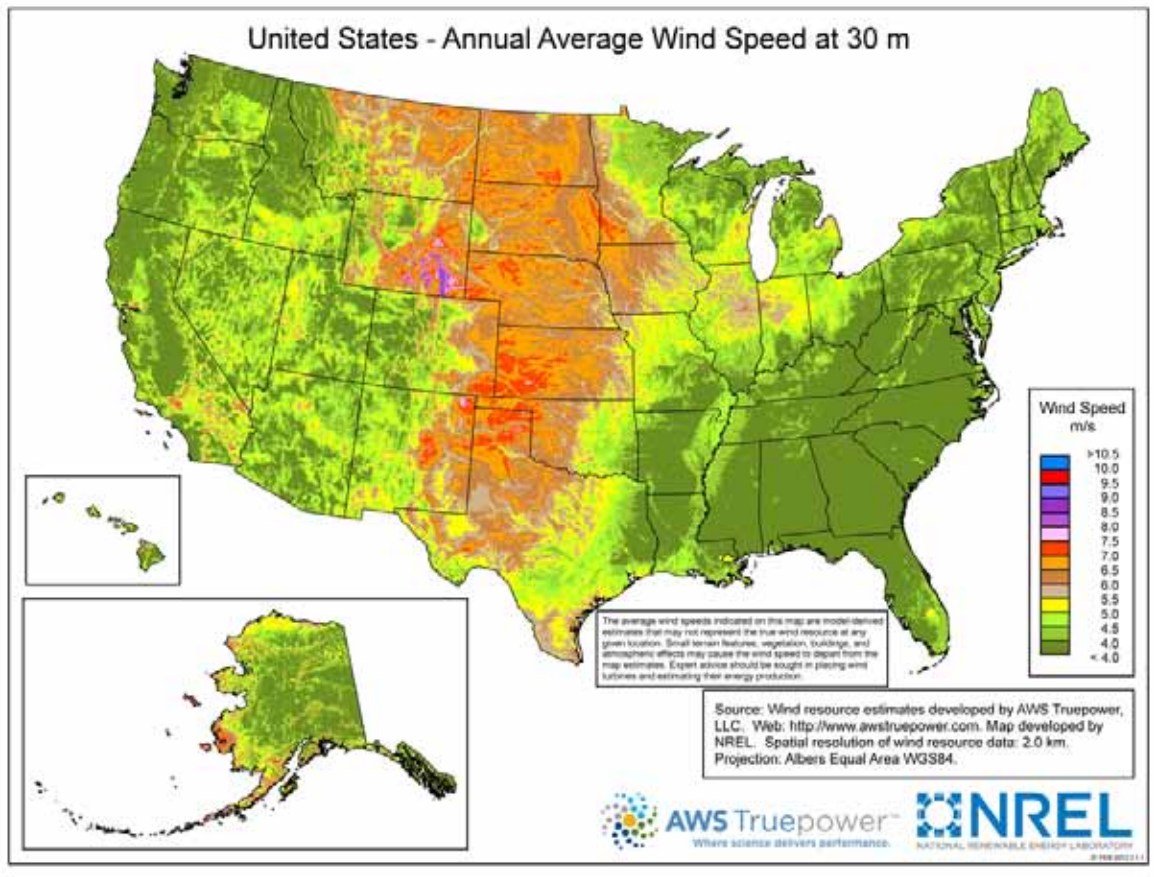
The officially stated reason for the CMP upgrade was primarily population growth, as well as the fact there had not been an upgrade in 40 years. However, population projections for the entire northeast (New England, New York, New Jersey and Pennsylvania) total only 3.4% growth over the next 20 years. You can see The Maine Heritage Policy Center's report on Maine's population decline here.

Also, CMP customers can read the back of their bill to see that they are paying a charge every month to keep the lines maintained. Hundreds of thousands of Mainers pay for CMP maintenance month after month, year after year.

The truth about the CMP upgrade finally came out in September 2010. In thePortland Press-Herald, Ignacio Galan, chairman of Iberdrola Group—Spain's global energy conglomerate that now owns CMP—emphasized the company's strong desire to develop large-scale wind power in Maine.

According to the PPH: "Galan's statements agitated Maine's wind power opponents, who said they suspected all along that the transmission line upgrade was motivated more by Iberdrola's desire to develop wind power than any concerns about reliability. 'This makes it clear that the (transmission line project) wasn't about replacing lines, it was about making Maine an industrial wind site," said Steve Thurston, co-chair of the Citizens' Task Force on Wind Power'."

Another perceived conflict of interest at the MPUC is with David Littell. As MPUC commissioner, Littell must ensure that rates are "just and reasonable for both consumers and utilities".



But at his other job, chairman for the Northeast's Regional Greenhouse Gas Initiative (RGGI), Littell is basically required to shove grossly expensive wind power—and thus transmission upgrades—down ratepayers' throats.

The wind industry likes to scream it creates "jobs, jobs, jobs", but most are temporary and are usually filled by specialized out-of-state wind crews. These short-term jobs pale in comparison to the year-round jobs that are at risk by Maine's electricity rates rising even higher—to say nothing about the blighted affect that wind turbines and transmission lines have on tourism and property values.

Transmission expenses are a huge cost associated with wind power, wherever wind projects go up around the world. This cost comes with a long list of government subsidies and other methods of preferential treatment that the wind industry enjoys at the expense of citizens and ratepayers.

CMP's lines had benefited from extraordinary ratepayer-funded maintenance and were perfectly fine. If building these industrial wind factories all over the hallowed Maine landscape is the crime, then the transmission is the getaway car. And you, the average Maine ratepayer, get stuck with the bill for it.

Proponents point out that because Maine makes up only 8% of the ISO-NE grid, we pay only 8% of the $1.5 billion MPRP cost; the other states will pick up the other 92%. But they never admit that there are an estimated $30 billion in similar wind-caused upgrades slated for other parts of the New England grid—and we will have to pay 8% of those projects too.

Multiply 8% by $30 billion, then divide it by Maine's ratepayers: this equals thousands of dollars per ratepayer. You will now start seeing this cost reflected in your CMP bill.

So if you look up and don't see a wind turbine towering over your hard-won little green acre, look down and you'll see one in your electric bill—and we've only just begun.

This editorial originally appeared in The Maine Wire in August 2012.

California's Flex Alert: A Case Study in Intermittent Energy

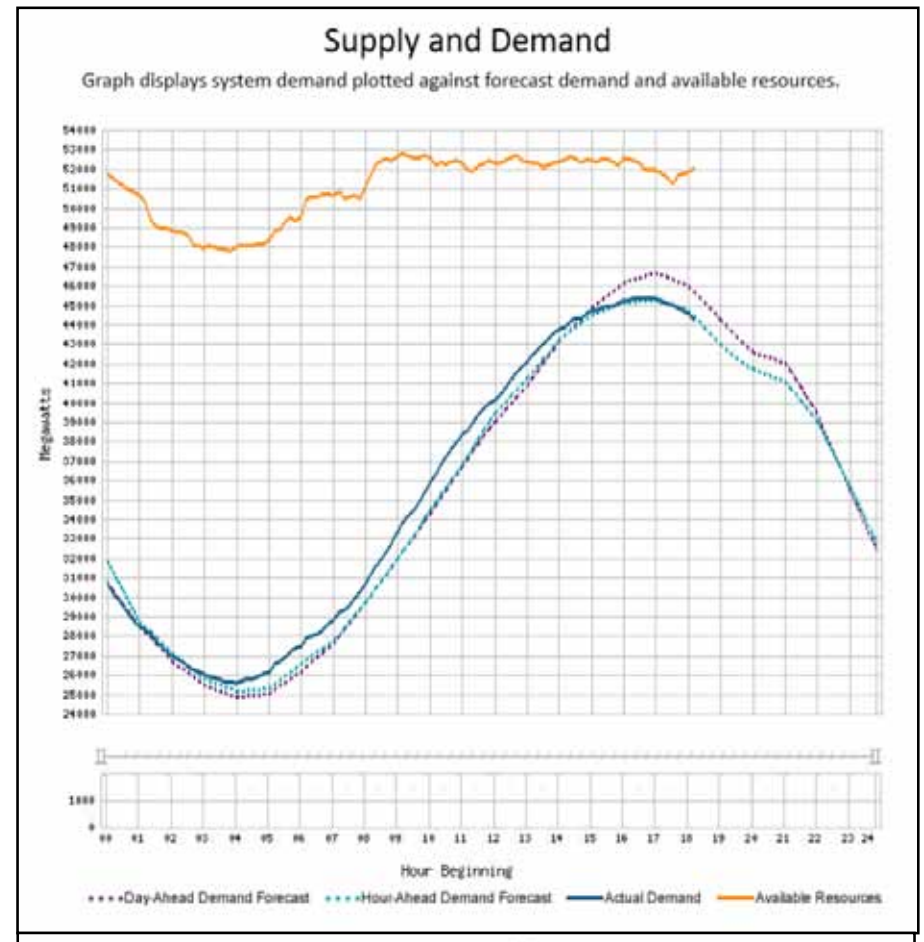
by Daniel Simmons

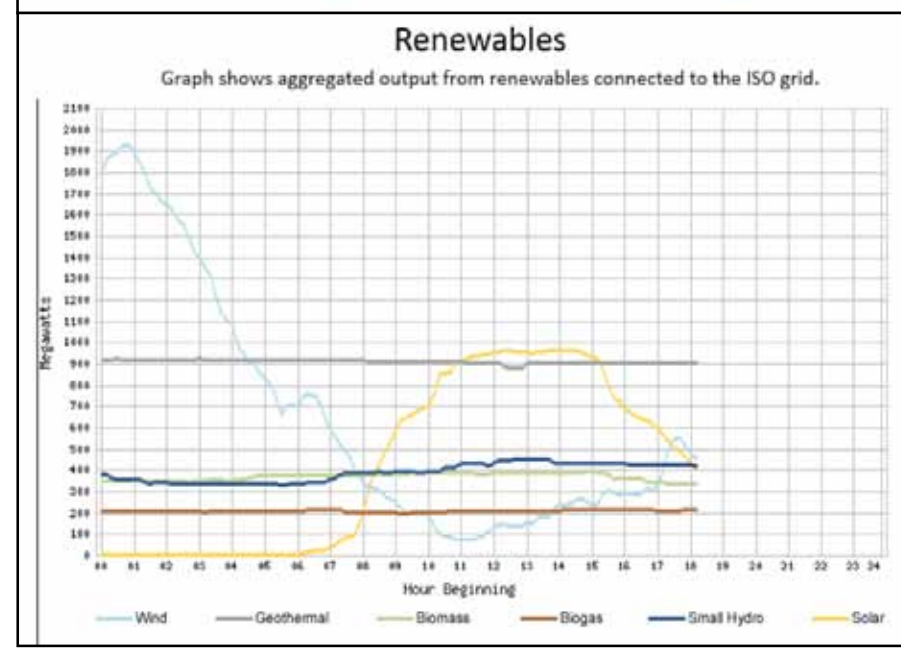
California has long been a leader in promoting wind and other renewables to power the electricity grid. Recently, California has gone even further and in 2011, Gov. Jerry Brown signed a law to force an increase in the amount of renewables utilities must use to 33 percent of the state's electricity by 2020. Currently, the state is experiencing a stressed electricity grid because of high demand and because some nuclear and natural gas plants are offline. Mandated renewable energy is proving itself incapable of filling the void. This situation show how little actual value wind, solar and other politically correct renewables have in the real world work of supplying people with electricity when they need and want it.

California is currently experiencing a "flex alert" which strongly urges Californians to use less electricity. According to the California ISO, the operator of the region's power grid, it is "critical" to conserve electricity today to make sure there aren't blackouts. Here's the graphic representing the alert:

Because California is rushing headlong toward more and more renewables in the electricity grid it is important to look at how renewables are contributing to keeping the electricity grid stable. For example, California has 4.297 gigawatts of installed wind capacity which could really help California balance the grid if the wind blew at the right times (spoiler alert—the wind doesn't blow at the right times).

The first chart below shows the supply and demand for August 9, 2012 in the California ISO electrical grid. The actual demand is in blue and the available generation is in orange. The second chart shows the renewable generation in California at that time.





There are some very important things to note with respect to the renewable generation. Wind's production peaked just before 1 am, when electricity demand was dropping as people went to bed and nighttime temperatures reduced the need for air conditioning. At the time, wind was producing 6 percent of California's electricity, but after 1 am, wind began to falter and wind production fell by 90 percent by 11 am. At that time, wind was producing less than 100 megawatts of electricity—a mere 0.2 percent of the electricity in California.

This shows how wind fails to produce electricity when needed most. At 11 am, as electricity demand was rapidly increasing and electricity producing was needed most, wind was at a low ebb. Fortuitously, wind production increased in the afternoon, but by 5:30 pm, wind was only producing a little more than 1 percent of California's total electricity.

Solar helped meet demand more than wind, because solar has the advantage of producing electricity when the sun is shining and households are using more power. But even solar failed to produce much electricity during the period of highest demand, producing just 2 percent of the state's electricity at its peak. Solar production peaked at nearly 1 gigawatt at 11 am and continued to produce about 1 gigawatt until 3 pm. The problem is that the state's highest period of demand occurred at about 5 pm, when solar's production had fallen by over 50 percent from its peak.

California's Altamont Pass

This data shows how little value wind and solar have in producing electricity when people really need it, and should be a wake-up call to California—one of the many states with mandates—as well as the Obama administration and other promoters of wind and solar. Even though wind and solar production might be growing in California, it isn't helping to balance the grid and keep the lights on. Electricity production has to balance electricity demand and wind and solar aren't doing a good job contributing. Moreover, it does not matter how many wind and solar installations are built because natural gas and other reliable power plants will be required to be built to meet peak electricity demand.

All of this begs a simple question, if wind and solar have so little value in supplying power when it is needed most, why is the Obama administration lavishing billions of taxpayer dollars, beneficial mandates, and special favors on these unreliable and expensive sources of electricity generation? The California situation shows that wind and solar can't be reliable upon to keep the lights on, so why do they receive such large subsidies? The above data shows that the explanation isn't likely related to the need to keep power affordable and reliable for the millions of U.S. households and businesses that use it.

New England Tar Sands Pipeline Plotted 'Behind Closed Doors' - Oil Giants Lobby Tar Sands Plan Behind Closed Doors While Denying Their Intention

by Common Dreams Staff

A new analysis released today by national and regional environmental groups shows that US oil giant Exxon Mobile and Canada's Suncor hold a majority stake in a pipeline system that local residents along its route fear could soon be used to transport tar sands from western Canada to the New England coast.

The central concern of the report (pdf) surrounds a 2008 proposal by Canadian oil giant Enbridge to reverse the flow of existing east-to-west oil pipelines that would allow transport of tar sands oil—categorized by many as the "dirtiest oil in the world"—from Alberta to the deepwater harbor of Portland, Maine.

Documents reveal that the Portland Pipeline Company met with Maine's Republican tea party Governor Paul LePage last year specifically to discuss Canadian tar sands. That meeting happened in October 2011, several months after Enbridge submitted an application in Canada to reverse the Canadian portion of the project in order to carry dangerous tar sands oil eastward. (AP)

The local companies who manage the pipelines companies insist the idea has been shelved for economic reasons, but multiple recent actions lead the environmental groups to believe that the proposal is now being quietly revived behind closed doors. Pointedly, the groups argue that the oil giants who own these local pipeline subsidiaries should not be trusted.

"Unbeknownst to most of the public," said the groups in a statement, "a major portion of the proposed tar sands pipeline that would cut across the Great Lakes, Ontario, Quebec and New England to Portland, Maine, is actually owned by oil giants Exxon-Mobil, Imperial Oil, and Suncor Energy – all of whom have a deep stake in tar sands extraction."

As the report explains:

The line has two direct corporate owners: Montreal Pipe Line Limited (MPLL), which owns the stretch in Canada, from Montreal to the U.S. border; and the Portland Pipe Line Corporation, which owns the U.S. section and is a wholly-owned subsidiary of MPLL. In turn, Montreal Pipe Line Limited's ultimate parent is ExxonMobil: Exxon subsidiary Imperial Oil Limited holds a majority interest in the pipeline. A smaller portion is owned by the Canadian giant Suncor Energy. Imperial and Suncor are among the biggest developers of Alberta's tar sands and stand to benefit greatly from this project to transport tar sands oil across the region for export.

With regionally-anchored names like "Montreal Pipe Line Limited" and "Portland Pipe Line Corporation," the ten environmental groups involved with the report—which represent members in Maine, New Hampshire, and Vermont—claim that the international oil giants who own these subsidiary companies would rather hide the fact that some of the world's most notorious polluters are operating in their backyards.

By hiding their identities behind a convoluted ownership structure, "It's easy to lose sight of who is really driving this tar sands pipeline proposal," said Dylan Voorhees, Clean Energy Director for the Natural Resources Council of Maine. "But the company's corporate family tree reveals that the vast majority of the pipeline is ultimately owned by the world's largest company – ExxonMobil, and, unfortunately, Exxon does not have Maine's interests in mind. They will act to maximize their tar sands profits with little regard to the risk poised to Maine's people, environment or natural resource economy."

"This information is a double whammy—not only is ExxonMobil, the largest oil company in the world, behind the plan to transport dangerous tar sands oil through Maine, but its local representatives have misled the public about the status of the project," said Environment Maine Director Emily Figdor.

According to the report:

For months ExxonMobil's local subsidiary, the Portland Pipe Line Corporation, has sought to deflect rising concerns in Maine about tar sands transport by denying that there is an "active" proposal to reverse the use the existing pipeline to transport tar sands. However, documents released today reveal that the company met with Governor LePage and the Maine Department of Environmental Protection last year specifically to discuss Canadian tar sands. That meeting happened in October 2011, several months after Enbridge submitted an application in Canada to reverse the Canadian portion of the project in order to carry dangerous tar sands oil eastward.

On the Canadian side of the border, advocates of the first phase of the project have repeatedly claimed that they want to bring tar sands east for Canadian use and denied that they are resurrecting the full tar sands reversal plan formerly known as "Trailbreaker." But this just doesn't fit the facts—including the fact that the Canadian consulate itself joined the Maine leadership meetings to talk about tar sands.

"Today's revelation is doubly troubling because Exxon's apparent partner in this tar sands pipeline scheme is Enbridge, the company that owns the line from Ontario to Montreal where it connects to Exxon's line to Portland," said Jim Murphy, an attorney with National Wildlife Federation. "Two years ago Enbridge spilled a million gallons of tar sands oil into the Kalamazoo River, with devastating impacts to the ecology, public health, recreation and property values. Independent review found that extreme negligence led to the spill. These aren't the kind of companies we can trust with Maine's natural resources."

"This pattern of misleading statements and trying to hide what is really going on is troubling," said Glen Brand, Executive Director of Sierra Club Maine. "Clearly these pipeline companies are worried that if Maine people and others really see the full picture of what is going on to bring tar sands through the region, they will face even greater public opposition. Exxon and Enbridge have dirty track records with oil and tar sands, so it is understandable why they prefer their dealings to be behind closed doors."

And what are the main issues for these environmental groups and concerned residents? NRDC's Elizabeth Shope offers just a few:

∑ Tar sands is a dirty fuel - extra damaging and risky to the environment and public health throughout its entire life-cycle of extraction, pipeline transport, refining, and combustion. An area of Alberta's Boreal forest the size of Florida could eventually be decimated if industry is allowed to continue expanding their extraction efforts. The damage from tar sands extends globally, as it causes 20% more greenhouse gas emissions than conventional oil, taking us in the wrong direction when the world needs to transition to clean energy.

∑ Tar sands pipelines pose greater safety risks to the land and water along their path. Diluted bitumen - raw tar sands mixed with a diluent so that it can be transported via pipelines – is more corrosive and abrasive than conventional oil, creating a greater spill risk. And, when tar sands pipelines do spill into rivers, rather than floating on the surface, the diluted bitumen separates – with the diluents evaporating and the bitumen becoming submerged and impossible to fully clean up.

∑ Exxon and Enbridge already have a bad track record with tar sands pipelines. ExxonMobil, the company responsible for the disastrous Valdez oil spill that rocked the world in 1989, was also responsible for the July 2011 Silvertip Pipeline spill that dumped 42,000 gallons of oil into the pristine Yellowstone River in Montana. While that oil spilled happened to be conventional crude oil, the pipeline is also used to move corrosive tar sands "diluted bitumen." Enbridge's best-known pipeline spill was the million gallon tar sands spill into Michigan's Kalamazoo River in July 2010. Just last week—more than two years after the spill – the Environmental Protection Agency told Enbridge that they still need to keep cleaning up the river.

∑ It is unacceptable for pipeline companies to deceive the public - especially when it comes to tar sands pipelines. With all the risks posed by tar sands pipelines, the public deserves to know and have a say in what toxic substances can come through their communities. It seems that realizing the strong opposition to the proposed Keystone XL tar sands pipeline from Alberta to the U.S. Gulf Coast and the proposed Northern Gateway Pipeline from Alberta to the British Columbia Coast, Enbridge, Exxon and its subsidiaries, and Suncor may be trying to sneak this pipeline through piecemeal, and without letting communities along the pipeline route know that the true purpose for the pipeline reversal would be to transport tar sands to Portland, Maine.

This article originally appeared on the website www.commondreams.org in October 2012.

Metallic Mining Disaster Looming from Reckless Mining Rules by LUPC and DEP

by Lindsay Newland Bowker

Both DEP and LUPC are about to implement draft rules under specific provisions of Maine's ill framed, lobbyist written metallic mining statute that are nothing short of recklessly irresponsible. Both agencies completely lack experience in mining and seem to have no knowledge of modern science or of legislative and regulatory trends in metallic mining nationally and globally. This is a "bananaism of Maine" classic. LUPC's draft rule will grant rezoning on demand on environmentally sensitive lands (see photo and maps below of Bald Mountain), which are presently zoned to preclude metallic mining. As written LUPC's rule is a "free pass". It simply allows metallic mining. LUPC doesn't seem to grasp that a rezoning of protected and sensitive ecosystems for cross country ski trails, hikers huts or a radio tower is not at all in the same public policy dimension as rezoning for metallic mining. What is so fundamental and obvious to a professional planner, is simply not on the radar at LUPC.

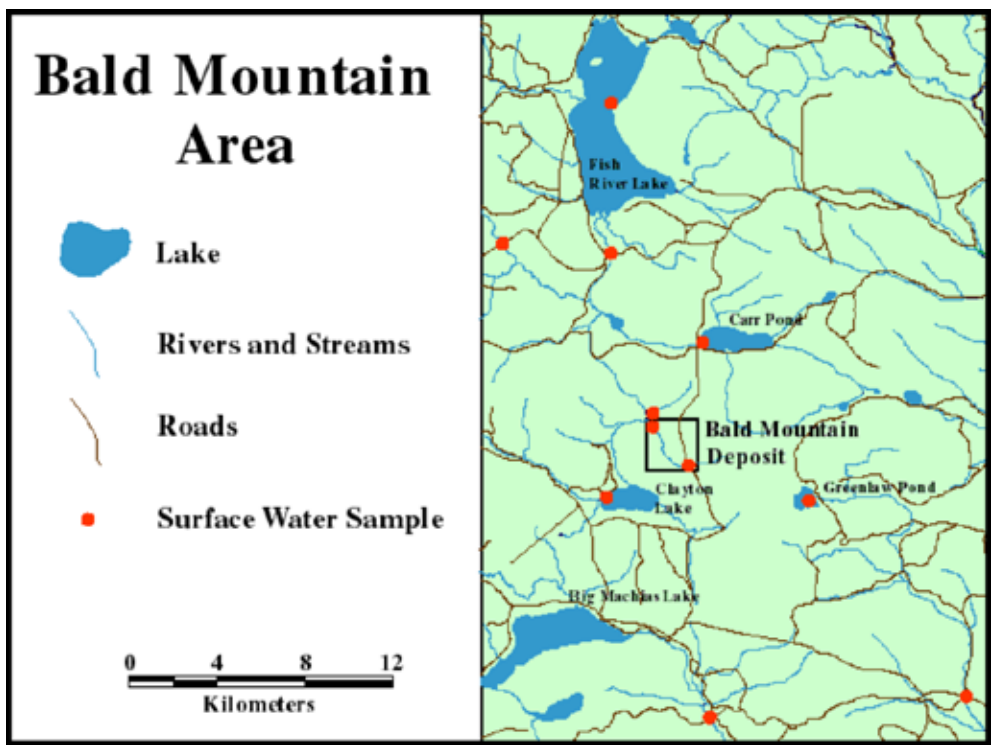
Bald Mountain, with Greenlaw Pond in the foreground, is owned by J.D. Irving of New Brunswick, which is considering mining the property for gold, silver and other deposits under rules the state is in the process of revising.
Photo from Natural Resources Council of Maine

This not a matter of incompetence but it certainly reflects LUPC's complete lack of experience with metal mining. Samantha Horn-Olsen, Managing Planner, is a competent and committed public service professional but LUPC managers and staff have almost no room to maneuver within the unwise statutory mandates of their recent reorganization and the directive of the mining statute which requires this rule change by January 2013.

At DEP things are pretty much on this same level. Their current rule will allow advanced explorations at half scale of full mining operations (5,000 tons of bulk sample), a level capable of setting off significant off-site acid drainage (ARD) which could destroy lakes, rivers, wetlands, habitat, fish, fowl, and wildlife if the ore at Bald Mountain exceeds 0.05% total sulphur. Tom Saviello, former Co-Chairman of the Joint Committee on Environment and Natural Resources and a continuing member in this legislative session is a major champion of the mining statute and of JD Irving's plans at Bald Mountain. He has been made aware of this hard, indisputable science and has apparently also simply chosen to ignore it as if proven science is merely on the same plane as uninformed opinion or the "greenwashing" myths Irving and the mining lobby are trafficking.

A sulfide ore mining operation

Contrary to what John Irving and the mining lobby sold to our legislature, there are no new technologies and no known technologies that make sulfide ore mining safe at levels above 0.05% total sulphur. Analysis of environmental impact statements for hardrock mines showed that 100 percent of mines predicted compliance with water quality standards before operations began. When researchers examined the track record of these mines after operations began, they found that 76 percent of them were actually discharging pollutants in excess of water quality standards. In addition, mitigation measures or those efforts taken to remedy the discovered pollution problems, failed to do the job 64 percent of the time.



"Pollution problems from sulfide mines are not just an issue of old mines using old technologies. Acid mine drainage and toxic metal contamination are problems from modern mines using the latest technology as well" (http://www.miningtruth.org/faq-sulfide-mining-minnesota-truth-report.pdf)

These two rules being rushed into existence to accommodate JD Irving's announced intentions of beginning advanced explorations at Bald Mountain in June 2013, are bad policy that flies in the face of science and experience both nationally and globally. Both are recklessly irresponsible. There is no other description for either rule.

The two central public policy issues attending metallic mining that are being completely ignored by both DEP and LUPC in their draft rules are (1) only in ore with a 0.05% Total Sulphur or less (TS) is there no record of eventual substantial off-site harm from sulphuric acid (ARD)which forms when these ores are exposed to air and water. (2) Cyanide contamination from cyanide leaching, the only feasible method of extracting gold from sulfide ores, persists for a long time. especially in cold climates like ours. It forms complex compounds that cause degrading off-site emissions at great distances.

George MacDonald, who is in charge of the rule making at DEP, is fully aware of this indisputable science and also fully aware of this uncontrollable three decades old acid drainage event that happened during far less extensive exploration operations in Minnesota than what Mr. MacDonald's draft rule allows:

"In the 1970s, a company called International Nickel (INCO) operated briefly, looking for nickel in an area southeast of Ely near Highway 1 and the Spruce Road. They drilled exploratory holes and, at one site, dug up a "bulk sample," essentially a "miniature open pit mine." Almost immediately, the site began discharging pollution.
"The Minnesota Pollution Control Agency required the company to correct the problem immediately, resulting in some re-contouring and re-seeding of the site. The following year, contaminated seepage was still found to be discharging from the site.... In 2010, the INCO bulk sampling site was found to still be leaching harmful runoff. Lab tests showed levels of copper, arsenic and other metals above state water quality standards". (http://www.miningtruth.org/faq-sulfide-mining-minnesota-truth-report.pdf -page 4)

Again, I think it is not a matter of incompetence at Mr. MacDonald's level but a question of having no room for leadership between the Commissioner of the agency (Patricia Aho) and the mandates of the statute itself. Our lobbyist-written mining statute makes no reference at all to these scientific realities or to the fact that allowing any kind of deep drilling, explosions or excavations in sulfide ores with greater than 0.05% total sulphur poses a high risk of off-site harm and raises the specter of the

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Global Warming's Terrifying New Math

Three simple numbers that add up to global catastrophe - and that make clear who the real enemy is

by Bill McKibben

If the pictures of those towering wildfires in Colorado haven't convinced you, or the size of your AC bill this summer, here are some hard numbers about climate change: June broke or tied 3,215 high-temperature records across the United States. That followed the warmest May on record for the Northern Hemisphere – the 327th consecutive month in which the temperature of the entire globe exceeded the 20th-century average, the odds of which occurring by simple chance were 3.7 x 10-99, a number considerably larger than the number of stars in the universe.

Meteorologists reported that this spring was the warmest ever recorded for our nation – in fact, it crushed the old record by so much that it represented the "largest temperature departure from average of any season on record." The same week, Saudi authorities reported that it had rained in Mecca despite a temperature of 109 degrees, the hottest downpour in the planet's history.

Not that our leaders seemed to notice. Last month the world's nations, meeting in Rio for the 20th-anniversary reprise of a massive 1992 environmental summit, accomplished nothing. Unlike George H.W. Bush, who flew in for the first conclave, Barack Obama didn't even attend. It was "a ghost of the glad, confident meeting 20 years ago," the British journalist George Monbiot wrote; no one paid it much attention, footsteps echoing through the halls "once thronged by multitudes." Since I wrote one of the first books for a general audience about global warming way back in 1989, and since I've spent the intervening decades working ineffectively to slow that warming, I can say with some confidence that we're losing the fight, badly and quickly – losing it because, most of all, we remain in denial about the peril that human civilization is in.

When we think about global warming at all, the arguments tend to be ideological, theological and economic. But to grasp the seriousness of our predicament, you just need to do a little math. For the past year, an easy and powerful bit of arithmetical analysis first published by financial analysts in the U.K. has been making the rounds of environmental conferences and journals, but it hasn't yet broken through to the larger public. This analysis upends most of the conventional political thinking about climate change. And it allows us to understand our precarious – our almost-but-not-quite-finally hopeless – position with three simple numbers.

The First Number: 2° Celsius

If the movie had ended in Hollywood fashion, the Copenhagen climate conference in 2009 would have marked the culmination of the global fight to slow a changing climate. The world's nations had gathered in the December gloom of the Danish capital for what a leading climate economist, Sir Nicholas Stern of Britain, called the "most important gathering since the Second World War, given what is at stake." As Danish energy minister Connie Hedegaard, who presided over the conference, declared at the time: "This is our chance. If we miss it, it could take years before we get a new and better one. If ever."

In the event, of course, we missed it. Copenhagen failed spectacularly. Neither China nor the United States, which between them are responsible for 40 percent of global carbon emissions, was prepared to offer dramatic concessions, and so the conference drifted aimlessly for two weeks until world leaders jetted in for the final day. Amid considerable chaos, President Obama took the lead in drafting a face-saving "Copenhagen Accord" that fooled very few. Its purely voluntary agreements committed no one to anything, and even if countries signaled their intentions to cut carbon emissions, there was no enforcement mechanism. "Copenhagen is a crime scene tonight," an angry Greenpeace official declared, "with the guilty men and women fleeing to the airport." Headline writers were equally brutal: COPENHAGEN: THE MUNICH OF OUR TIMES? asked one.

The accord did contain one important number, however. In Paragraph 1, it formally recognized "the scientific view that the increase in global temperature should be below two degrees Celsius." And in the very next paragraph, it declared that "we agree that deep cuts in global emissions are required... so as to hold the increase in global temperature below two degrees Celsius." By insisting on two degrees – about 3.6 degrees Fahrenheit – the accord ratified positions taken earlier in 2009 by the G8, and the so-called Major Economies Forum. It was as conventional as conventional wisdom gets. The number first gained prominence, in fact, at a 1995 climate conference chaired by Angela Merkel, then the German minister of the environment and now the center-right chancellor of the nation.

The face of global warming - a victim of the Arctic's melting sea ice.

photo by Jay Janner

The face of global warming - a victim of the 2011 drought in Texas.

Some context: So far, we've raised the average temperature of the planet just under 0.8 degrees Celsius, and that has caused far more damage than most scientists expected. (A third of summer sea ice in the Arctic is gone, the oceans are 30 percent more acidic, and since warm air holds more water vapor than cold, the atmosphere over the oceans is a shocking five percent wetter, loading the dice for devastating floods.) Given those impacts, in fact, many scientists have come to think that two degrees is far too lenient a target. "Any number much above one degree involves a gamble," writes Kerry Emanuel of MIT, a leading authority on hurricanes, "and the odds become less and less favorable as the temperature goes up." Thomas Lovejoy, once the World Bank's chief biodiversity adviser, puts it like this: "If we're seeing what we're seeing today at 0.8 degrees Celsius, two degrees is simply too much." NASA scientist James Hansen, the planet's most prominent climatologist, is even blunter: "The target that has been talked about in international negotiations for two degrees of warming is actually a prescription for long-term disaster." At the Copenhagen summit, a spokesman for small island nations warned that many would not survive a two-degree rise: "Some countries will flat-out disappear." When delegates from developing nations were warned that two degrees would represent a "suicide pact" for drought-stricken Africa,

Massive Hurricane Sandy from late October 23012.

many of them started chanting, "One degree, one Africa."

Despite such well-founded misgivings, political realism bested scientific data, and the world settled on the two-degree target – indeed, it's fair to say that it's the only thing about climate change the world has settled on. All told, 167 countries responsible for more than 87 percent of the world's carbon emissions have signed on to the Copenhagen Accord, endorsing the two-degree target. Only a few dozen countries have rejected it, including Kuwait, Nicaragua and Venezuela. Even the United Arab Emirates, which makes most of its money exporting oil and gas, signed on. The official position of planet Earth at the moment is that we can't raise the temperature more than two degrees Celsius – it's become the bottomest of bottom lines. Two degrees.

The Second Number: 565 Gigatons

Scientists estimate that humans can pour roughly 565 more gigatons of carbon dioxide into the atmosphere by mid-century and still have some reasonable hope of staying below two degrees. ("Reasonable," in this case, means four chances in five, or somewhat worse odds than playing Russian roulette with a six-shooter.)

This idea of a global "carbon budget" emerged about a decade ago, as scientists began to calculate how much oil, coal and gas could still safely be burned. Since we've increased the Earth's temperature by 0.8 degrees so far, we're currently less than halfway to the target. But, in fact, computer models calculate that even if we stopped increasing CO2 now, the temperature would likely still rise another 0.8 degrees, as previously released carbon continues to overheat the atmosphere. That means we're already three-quarters of the way to the two-degree target.

How good are these numbers? No one is insisting that they're exact, but few dispute that they're generally right. The 565-gigaton figure was derived from one of the most sophisticated computer-simulation models that have been built by climate scientists around the world over the past few decades. And the number is being further confirmed by the latest climate-simulation models currently being finalized in advance of the next report by the Intergovernmental Panel on Climate Change. "Looking at them as they come in, they hardly differ at all," says Tom Wigley, an Australian climatologist at the National Center for Atmospheric Research. "There's maybe 40 models in the data set now, compared with 20 before. But so far the numbers are pretty much the same. We're just fine-tuning things. I don't think much has changed over the last decade." William Collins, a senior climate scientist at the Lawrence Berkeley National Laboratory, agrees. "I think the results of this round of simulations will be quite similar," he says. "We're not getting any free lunch from additional understanding of the climate system."

We're not getting any free lunch from the world's economies, either. With only a single year's lull in 2009 at the height of the financial crisis, we've continued to pour record amounts of carbon into the atmosphere, year after year. In late May, the International Energy Agency published its latest figures – CO2 emissions last year rose to 31.6 gigatons, up 3.2 percent from the year before. America had a warm winter and converted more coal-fired power plants to natural gas, so its emissions fell slightly; China kept booming, so its carbon output (which recently surpassed the U.S.) rose 9.3 percent; the Japanese shut down their fleet of nukes post-Fukushima, so their emissions edged up 2.4 percent. "There have been efforts to use more renewable energy and improve energy efficiency," said Corinne Le Quéré, who runs England's Tyndall Centre for Climate Change Research. "But what this shows is that so far the effects have been marginal." In fact, study after study predicts that carbon emissions will keep growing by roughly three percent a year – and at that rate, we'll blow through our 565-gigaton allowance in 16 years, around the time today's preschoolers will be graduating from high school. "The new data provide further evidence that the door to a two-degree trajectory is about to close," said Fatih Birol, the IEA's chief economist. In fact, he continued, "When I look at this data, the trend is perfectly in line with a temperature increase of about six degrees." That's almost 11 degrees Fahrenheit, which would create a planet straight out of science fiction.

So, new data in hand, everyone at the Rio conference renewed their ritual calls for serious international action to move us back to a two-degree trajectory. The charade will continue in November, when the next Conference of the Parties (COP) of the U.N. Framework Convention on Climate Change convenes in Qatar. This will be COP 18 – COP 1 was held in Berlin in 1995, and since then the process has accomplished essentially nothing. Even scientists, who are notoriously reluctant to speak out, are slowly overcoming their natural preference to simply provide data. "The message has been consistent for close to 30 years now," Collins says with a wry laugh, "and we have the instrumentation and the computer power required to present the evidence in detail. If we choose to continue on our present course of action, it should be done with a full evaluation of the evidence the scientific community has presented." He pauses, suddenly conscious of being on the record. "I should say, a fuller evaluation of the evidence."

So far, though, such calls have had little effect. We're in the same position we've been in for a quarter-century: scientific warning followed by political inaction. Among scientists speaking off the record, disgusted candor is the rule. One senior scientist told me, "You know those new cigarette packs, where governments make them put a picture of someone with a hole in their throats? Gas pumps should have something like that."

The Third Number: 2,795 Gigatons

This number is the scariest of all – one that, for the first time, meshes the political and scientific dimensions of our dilemma. It was highlighted last summer by the Carbon Tracker Initiative, a team of London financial analysts and environmentalists who published a report in an effort to educate investors about the possible risks that climate change poses to their stock portfolios. The number describes the amount of carbon already contained in the proven coal and oil and gas reserves of the fossil-fuel companies, and the countries (think Venezuela or Kuwait) that act like fossil-fuel companies. In short,

The devastating impact of Hurricane Sandy along the New Jersey coast.

A visualization of cumulative fires from Jan. 1 through Oct. 31, 2012, detected by the MODIS instrument on board the Terra and Aqua satellites. Bright yellow shows areas that are more intense and have a larger area that is actively burning, flaming and/or smoldering. Credit: NASA

it's the fossil fuel we're currently planning to burn. And the key point is that this new number – 2,795 – is higher than 565. Five times higher.

The Carbon Tracker Initiative – led by James Leaton, an environmentalist who served as an adviser at the accounting giant PricewaterhouseCoopers – combed through proprietary databases to figure out how much oil, gas and coal the world's major energy companies hold in reserve. The numbers aren't perfect – they don't fully reflect the recent surge in unconventional energy sources like shale gas, and they don't accurately reflect coal reserves, which are subject to less stringent reporting requirements than oil and gas. But for the biggest companies, the figures are quite exact: If you burned everything in the inventories of Russia's Lukoil and America's ExxonMobil, for instance, which lead the list of oil and gas companies, each would release more than 40 gigatons of carbon dioxide into the atmosphere.

Which is exactly why this new number, 2,795 gigatons, is such a big deal. Think of two degrees Celsius as the legal drinking limit – equivalent to the 0.08 blood-alcohol level below which you might get away with driving home. The 565 gigatons is how many drinks you could have and still stay below that limit – the six beers, say, you might consume in an evening. And the 2,795 gigatons? That's the three 12-packs the fossil-fuel industry has on the table, already opened and ready to pour.

We have five times as much oil and coal and gas on the books as climate scientists think is safe to burn. We'd have to keep 80 percent of those reserves locked away underground to avoid that fate. Before we knew those numbers, our fate had been likely. Now, barring some massive intervention, it seems certain.

Yes, this coal and gas and oil is still technically in the soil. But it's already economically aboveground – it's figured into share prices, companies are borrowing money against it, nations are basing their budgets on the presumed returns from their patrimony. It explains why the big fossil-fuel companies have fought so hard to prevent the regulation of carbon dioxide – those reserves are their primary asset, the holding that gives their companies their value. It's why they've worked so hard these past years to figure out how to unlock the oil in Canada's tar sands, or how to drill miles beneath the sea, or how to frack the Appalachians.

If you told Exxon or Lukoil that, in order to avoid wrecking the climate, they couldn't pump out their reserves, the value of their companies would plummet. John Fullerton, a former managing director at JP Morgan who now runs the Capital Institute, calculates that at today's market value, those 2,795 gigatons of carbon emissions are worth about $27 trillion. Which is to say, if you paid attention to the scientists and kept 80 percent of it underground, you'd be writing off $20 trillion in assets. The numbers aren't exact, of course, but that carbon bubble makes the housing bubble look small by comparison. It won't necessarily burst – we might well burn all that carbon, in which case investors will do fine. But if we do, the planet will crater. You can have a healthy fossil-fuel balance sheet, or a relatively healthy planet – but now that we know the numbers, it looks like you can't have both. Do the math: 2,795 is five times 565. That's how the story ends.

So far, as I said at the start, environmental efforts to tackle global warming have failed. The planet's emissions of carbon dioxide continue to soar, especially as developing countries emulate (and supplant) the industries of the West. Even in rich countries, small reductions in emissions offer no sign of the real break with the status quo we'd need to upend the iron logic of these three numbers. Germany is one of the only big countries that has actually tried hard to change its energy mix; on one sunny Saturday in late May, that northern-latitude nation generated nearly half its power from solar panels within its borders. That's a small miracle – and it demonstrates that we have the technology to solve our problems. But we lack the will. So far, Germany's the exception; the rule is ever more carbon.

This record of failure means we know a lot about what strategies don't work. Green groups, for instance, have spent a lot of time trying to change individual lifestyles: the iconic twisty light bulb has been installed by the millions, but so have a new generation of energy-sucking flatscreen TVs. Most of us are fundamentally ambivalent about going green: We like cheap flights to warm places, and we're certainly not going to give them up if everyone else is still taking them. Since all of us are in some way the beneficiaries of cheap fossil fuel, tackling climate change has been like trying to build a movement against yourself – it's as if the gay-rights movement had to be constructed entirely from evangelical preachers, or the abolition movement from slaveholders.

People perceive – correctly – that their individual actions will not make a decisive difference in the atmospheric concentration of CO2; by 2010, a poll found that "while recycling is widespread in America and 73 percent of those polled are paying bills online in order to save paper," only four percent had reduced their utility use and only three percent had purchased hybrid cars. Given a hundred years, you could conceivably change lifestyles enough to matter – but time is precisely what we lack.

A more efficient method, of course, would be to work through the political system, and environmentalists have tried that, too, with the same limited success. They've patiently lobbied leaders, trying to convince them of our peril and assuming that politicians would heed the warnings. Sometimes it has seemed to work. Barack Obama, for instance, campaigned more aggressively about climate change than any president before him – the night he won the nomination, he told supporters that his election would mark the moment "the rise of the oceans began to slow and the planet began to heal." And he has achieved one significant change: a steady increase in the fuel efficiency mandated for automobiles. It's the kind of measure, adopted a quarter-century ago, that would have helped enormously. But in light of the numbers I've just described, it's obviously a very small start indeed.

At this point, effective action would require actually keeping most of the carbon the fossil-fuel industry wants to burn safely in the soil, not just changing slightly the

Forest fire in the Gila National Forest, New Mexico in June 2012.

speed at which it's burned. And there the president, apparently haunted by the still-echoing cry of "Drill, baby, drill," has gone out of his way to frack and mine. His secretary of interior, for instance, opened up a huge swath of the Powder River Basin in Wyoming for coal extraction: The total basin contains some 67.5 gigatons worth of carbon (or more than 10 percent of the available atmospheric space). He's doing the same thing with Arctic and offshore drilling; in fact, as he explained on the stump in March, "You have my word that we will keep drilling everywhere we can... That's a commitment that I make." The next day, in a yard full of oil pipe in Cushing, Oklahoma, the president promised to work on wind and solar energy but, at the same time, to speed up fossil-fuel development: "Producing more oil and gas here at home has been, and will continue to be, a critical part of an all-of-the-above energy strategy." That is, he's committed to finding even more stock to add to the 2,795-gigaton inventory of unburned carbon.

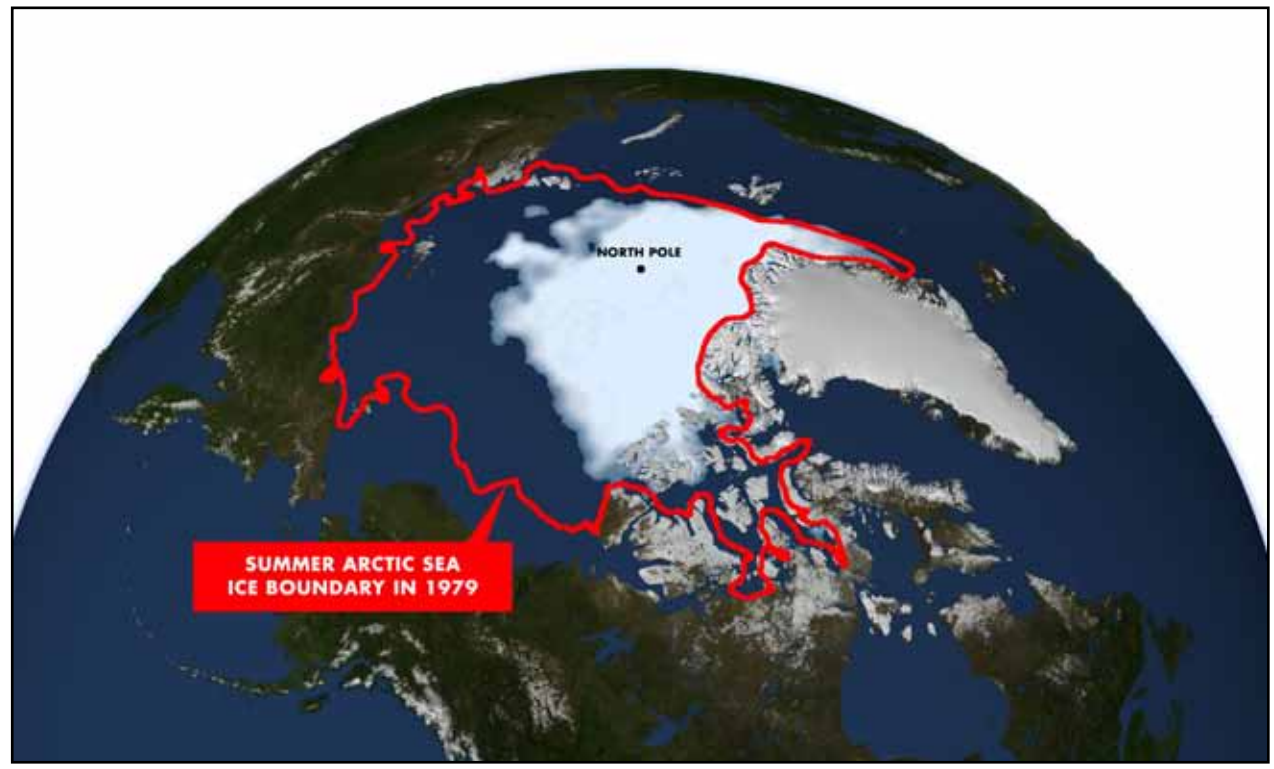
Sometimes the irony is almost Borat-scale obvious: In early June, Secretary of State Hillary Clinton traveled on a Norwegian research trawler to see firsthand the growing damage from climate change. "Many of the predictions about warming in the Arctic are being surpassed by the actual data," she said, describing the sight as "sobering." But the discussions she traveled to Scandinavia to have with other foreign ministers were mostly about how to make sure Western nations get their share of the estimated $9 trillion in oil (that's more than 90 billion barrels, or 37 gigatons of carbon) that will become accessible as the Arctic ice melts. Last month, the Obama administration indicated that it would give Shell permission to start drilling in sections of the Arctic.

Almost every government with deposits of hydrocarbons straddles the same divide. Canada, for instance, is a liberal democracy renowned for its internationalism – no wonder, then, that it signed on to the Kyoto treaty, promising to cut its carbon emissions substantially by 2012. But the rising price of oil suddenly made the tar sands of Alberta economically attractive – and since, as NASA climatologist James Hansen pointed out in May, they contain as much as 240 gigatons of carbon (or almost half of the available space if we take the 565 limit seriously), that meant Canada's commitment to Kyoto was nonsense. In December, the Canadian government withdrew from the treaty before it faced fines for failing to meet its commitments.

The same kind of hypocrisy applies across the ideological board: In his speech to the Copenhagen conference, Venezuela's Hugo Chavez quoted Rosa Luxemburg, Jean-Jacques Rousseau and "Christ the Redeemer," insisting that "climate change is undoubtedly the most devastating environmental problem of this century." But the next spring, in the Simon Bolivar Hall of the state-run oil company, he signed an agreement with a consortium of international players to develop the vast Orinoco tar sands as "the most significant engine for a comprehensive development of the entire territory and Venezuelan population." The Orinoco deposits are larger than Alberta's – taken together, they'd fill up the whole available atmospheric space.

So: the paths we have tried to tackle global warming have so far produced only gradual, halting shifts. A rapid, transformative change would require building a movement, and movements require enemies. As John F. Kennedy put it, "The civil rights movement should thank God for Bull Connor. He's helped it as much as Abraham Lincoln." And enemies are what climate change has lacked.

But what all these climate numbers make painfully, usefully clear is that the planet does indeed have an enemy – one far more committed to action than governments or individuals. Given this hard math, we need to view the fossil-fuel industry in a new light. It has become a rogue industry, reckless like no other force on Earth. It is Public Enemy Number One to the survival of our planetary civilization. "Lots of companies do rotten things in the course of their business – pay terrible wages, make people work in sweatshops – and we pressure them to change those practices," says veteran anti-corporate leader Naomi Klein, who is at work on a book about the climate crisis. "But these numbers make clear that with the fossil-fuel industry, wrecking the planet is their business model. It's what they do."



The record low extent of Arctic Sea ice in September 2012.

According to the Carbon Tracker report, if Exxon burns its current reserves, it would use up more than seven percent of the available atmospheric space between us and the risk of two degrees. BP is just behind, followed by the Russian firm Gazprom, then Chevron, ConocoPhillips and Shell, each of which would fill between three and four percent. Taken together, just these six firms, of the 200 listed in the Carbon Tracker report, would use up more than a quarter of the remaining two-degree budget. Severstal, the Russian mining giant, leads the list of coal companies, followed by firms like BHP Billiton and Peabody. The numbers are simply staggering – this industry, and this industry alone, holds the power to change the physics and chemistry of our planet, and they're planning to use it.

They're clearly cognizant of global warming – they employ some of the world's best scientists, after all, and they're bidding on all those oil leases made possible by the staggering melt of Arctic ice. And yet they relentlessly search for more hydrocarbons – in early March, Exxon CEO Rex Tillerson told Wall Street analysts that the company plans to spend $37 billion a year through 2016 (about $100 million a day) searching for yet more oil and gas.

There's not a more reckless man on the planet than Tillerson. Late last month, on the same day the Colorado fires reached their height, he told a New York audience that global warming is real, but dismissed it as an "engineering problem" that has "engineering solutions." Such as? "Changes to weather patterns that move crop-production areas around – we'll adapt to that." This in a week when Kentucky farmers were reporting that corn kernels were "aborting" in record heat, threatening a spike in global food prices. "The fear factor that people want to throw out there to say, 'We just have to stop this,' I do not accept," Tillerson said. Of course not – if

A corn plant struggling to survive in a drought-stricken farm field near Shawneetown, Illonois.

he did accept it, he'd have to keep his reserves in the ground. Which would cost him money. It's not an engineering problem, in other words – it's a greed problem.

You could argue that this is simply in the nature of these companies – that having found a profitable vein, they're compelled to keep mining it, more like efficient automatons than people with free will. But as the Supreme Court has made clear, they are people of a sort. In fact, thanks to the size of its bankroll, the fossil-fuel industry has far more free will than the rest of us. These companies don't simply exist in a world whose hungers they fulfill – they help create the boundaries of that world.

Left to our own devices, citizens might decide to regulate carbon and stop short of the brink; according to a recent poll, nearly two-thirds of Americans would back an international agreement that cut carbon emissions 90 percent by 2050. But we aren't left to our own devices. The Koch brothers, for instance, have a combined wealth of $50 billion, meaning they trail only Bill Gates on the list of richest Americans. They've made most of their money in hydrocarbons, they know any system to regulate carbon would cut those profits, and they reportedly plan to lavish as much as $200 million on this year's elections. In 2009, for the first time, the U.S. Chamber of Commerce surpassed both the Republican and Democratic National Committees on political spending; the following year, more than 90 percent of the Chamber's cash went to GOP candidates, many of whom deny the existence of global warming. Not long ago, the Chamber even filed a brief with the EPA urging the agency not to regulate carbon – should the world's scientists turn out to be right and the planet heats up, the Chamber advised, "populations can acclimatize to warmer climates via a range of behavioral, physiological and technological adaptations." As radical goes, demanding that we change our physiology seems right up there.

Environmentalists, understandably, have been loath to make the fossil-fuel industry their enemy, respecting its political power and hoping instead to convince these giants that they should turn away from coal, oil and gas and transform themselves more broadly into "energy companies." Sometimes that strategy appeared to be working – emphasis on appeared. Around the turn of the century, for instance, BP made a brief attempt to restyle itself as "Beyond Petroleum," adapting a logo that looked like the sun and sticking solar panels on some of its gas stations. But its investments in alternative energy were never more than a tiny fraction of its budget for hydrocarbon exploration, and after a few years, many of those were wound down as new CEOs insisted on returning to the company's "core business." In December, BP finally closed its solar division. Shell shut down its solar and wind efforts in 2009. The five biggest oil companies have made more than $1 trillion in profits since the millennium – there's simply too much money to be made on oil and gas and coal to go chasing after zephyrs and sunbeams.

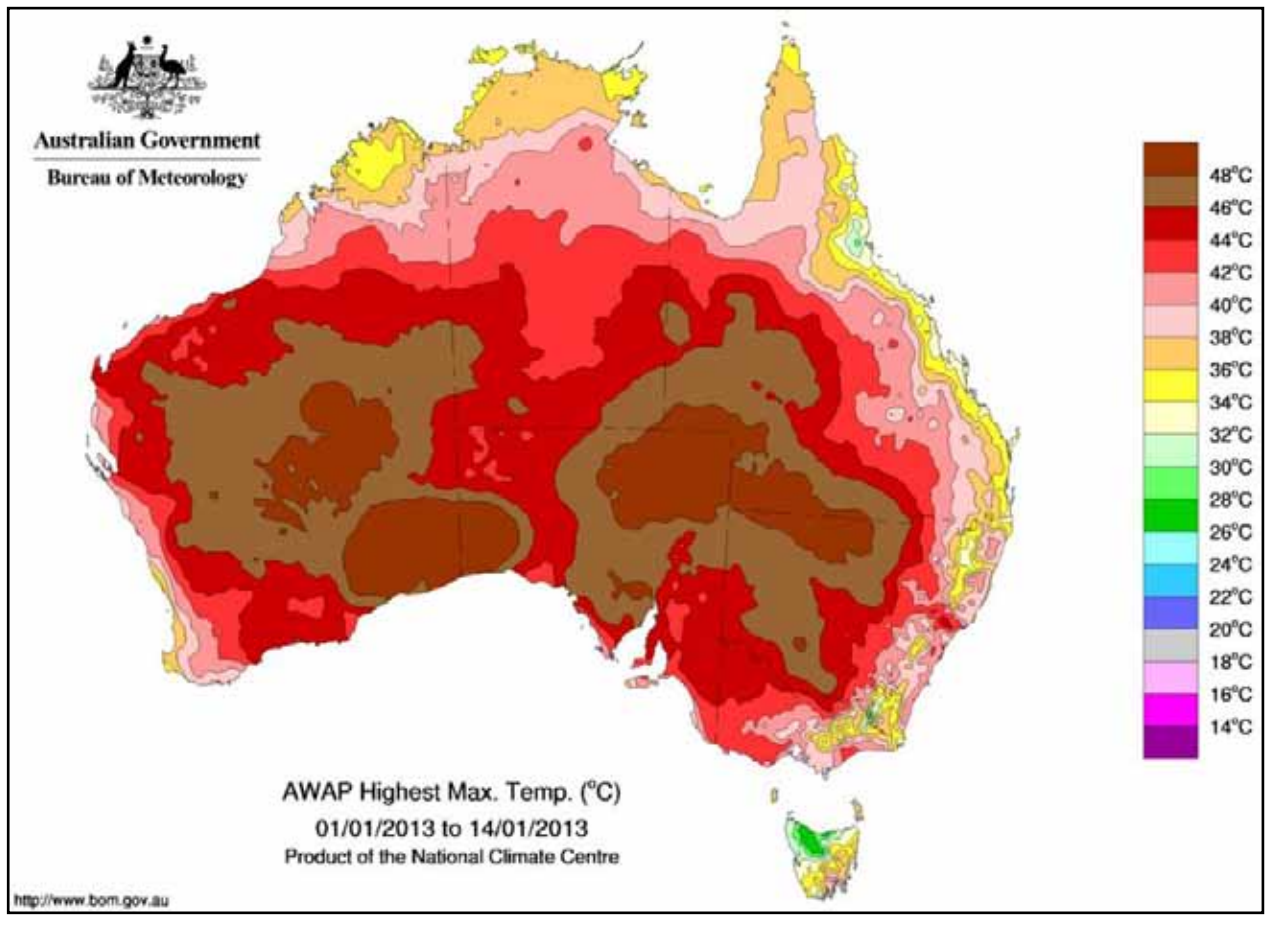
photo by Jay Janner

A farmer in Garfield, Texas contemplates his drought-stricken fields.

Much of that profit stems from a single historical accident: Alone among businesses, the fossil-fuel industry is allowed to dump its main waste, carbon dioxide, for free. Nobody else gets that break – if you own a restaurant, you have to pay someone to cart away your trash, since piling it in the street would breed rats. But the fossil-fuel industry is different, and for sound historical reasons: Until a quarter-century ago, almost no one knew that CO2 was dangerous. But now that we understand that carbon is heating the planet and acidifying the oceans, its price becomes the central issue.

If you put a price on carbon, through a direct tax or other methods, it would enlist markets in the fight against global warming. Once Exxon has to pay for the damage its carbon is doing to the atmosphere, the price of its products would rise. Consumers would get a strong signal to use less fossil fuel – every time they stopped at the pump, they'd be reminded that you don't need a semi-military vehicle to go to the grocery store. The economic playing field would now be a level one for nonpolluting energy sources. And you could do it all without bankrupting citizens – a so-called "fee-and-dividend" scheme would put a hefty tax on coal and gas and oil, then simply divide up the proceeds, sending everyone in the country a check each month for their share of the added costs of carbon. By switching to cleaner energy sources, most people would actually come out ahead.

There's only one problem: Putting a price on carbon would reduce the profitability of the fossil-fuel industry. After all, the answer to the question "How high should the price of carbon be?" is "High enough to keep those carbon reserves that would take us past two degrees safely in the ground." The higher the price on carbon, the more of those reserves would be worthless. The fight, in the end, is about whether the industry will succeed in its fight to keep its special pollution break alive past the point of climate catastrophe, or whether, in the economists' parlance, we'll make them internalize those externalities.



Australian weather map from January 2013 with the two new colors employed to handle the country's unprecedented heat wave.

It's not clear, of course, that the power of the fossil-fuel industry can be broken. The U.K. analysts who wrote the Carbon Tracker report and drew attention to these numbers had a relatively modest goal – they simply wanted to remind investors that climate change poses a very real risk to the stock prices of energy companies. Say something so big finally happens (a giant hurricane swamps Manhattan, a megadrought wipes out Midwest agriculture) that even the political power of the industry is inadequate to restrain legislators, who manage to regulate carbon. Suddenly those Chevron reserves would be a lot less valuable, and the stock would tank. Given that risk, the Carbon Tracker report warned investors to lessen their exposure, hedge it with some big plays in alternative energy.

"The regular process of economic evolution is that businesses are left with stranded assets all the time," says Nick Robins, who runs HSBC's Climate Change Centre. "Think of film cameras, or typewriters. The question is not whether this will happen. It will. Pension systems have been hit by the dot-com and credit crunch. They'll be hit by this." Still, it hasn't been easy to convince investors, who have shared in the oil industry's record profits. "The reason you get bubbles," sighs Leaton,

Damage in Vermont from Hurricane Irene in August 2011.

"is that everyone thinks they're the best analyst – that they'll go to the edge of the cliff and then jump back when everyone else goes over."

So pure self-interest probably won't spark a transformative challenge to fossil fuel. But moral outrage just might – and that's the real meaning of this new math. It could, plausibly, give rise to a real movement.

Once, in recent corporate history, anger forced an industry to make basic changes. That was the campaign in the 1980s demanding divestment from companies doing business in South Africa. It rose first on college campuses and then spread to municipal and state governments; 155 campuses eventually divested, and by the end of the decade, more than 80 cities, 25 states and 19 counties had taken some form of binding economic action against companies connected to the apartheid regime. "The end of apartheid stands as one of the crowning accomplishments of the past century," as Archbishop Desmond Tutu put it, "but we would not have succeeded without the help of international pressure," especially from "the divestment movement of the 1980s."

The fossil-fuel industry is obviously a tougher opponent, and even if you could force the hand of particular companies, you'd still have to figure out a strategy for dealing with all the sovereign nations that, in effect, act as fossil-fuel companies. But the link for college students is even more obvious in this case. If their college's endowment portfolio has fossil-fuel stock, then their educations are being subsidized by investments that guarantee they won't have much of a planet on which to make use of their degree. (The same logic applies to the world's largest investors, pension funds, which are also theoretically interested in the future – that's when their members will "enjoy their retirement.") "Given the severity of the climate crisis, a comparable demand that our institutions dump stock from companies that are destroying the planet would not only be appropriate but effective," says Bob Massie, a former anti-apartheid activist who helped found the Investor Network on Climate Risk. "The message is simple: We have had enough. We must sever the ties with those who profit from climate change – now."

Movements rarely have predictable outcomes. But any campaign that weakens the fossil-fuel industry's political standing clearly increases the chances of retiring its special breaks. Consider President Obama's signal achievement in the climate fight, the large increase he won in mileage requirements for cars. Scientists, environmentalists and engineers had advocated such policies for decades, but until Detroit came under severe financial pressure, it was politically powerful enough to fend them off. If people come to understand the cold, mathematical truth – that the fossil-fuel industry is systematically undermining the planet's physical systems – it might weaken it enough to matter politically. Exxon and their ilk might drop their opposition to a fee-and-dividend solution; they might even decide to become true energy companies, this time for real.

Even if such a campaign is possible, however, we may have waited too long to start it. To make a real difference – to keep us under a temperature increase of two degrees – you'd need to change carbon pricing in Washington, and then use that victory to leverage similar shifts around the world. At this point, what happens in the U.S. is most important for how it will influence China and India, where emissions are growing fastest. (In early June, researchers concluded that China has probably underreported its emissions by up to 20 percent.) The three numbers I've described are daunting – they may define an essentially impossible future. But at least they provide intellectual clarity about the greatest challenge humans have ever faced. We know how much we can burn, and we know who's planning to burn more. Climate change operates on a geological scale and time frame, but it's not an impersonal force of nature; the more carefully you do the math, the more thoroughly you realize that this is, at bottom, a moral issue; we have met the enemy and they is Shell.

Meanwhile the tide of numbers continues. The week after the Rio conference limped to its conclusion, Arctic sea ice hit the lowest level ever recorded for that date. Last month, on a single weekend, Tropical Storm Debby dumped more than 20 inches of rain on Florida – the earliest the season's fourth-named cyclone has ever arrived. At the same time, the largest fire in New Mexico history burned on, and the most destructive fire in Colorado's annals claimed 346 homes in Colorado Springs – breaking a record set the week before in Fort Collins. This month, scientists issued a new study concluding that global warming has dramatically increased the likelihood of severe heat and drought – days after a heat wave across the Plains and Midwest broke records that had stood since the Dust Bowl, threatening this year's harvest. You want a big number? In the course of this month, a quadrillion kernels of corn need to pollinate across the grain belt, something they can't do if temperatures remain off the charts. Just like us, our crops are adapted to the Holocene, the 11,000-year period of climatic stability we're now leaving... in the dust.

Bill McKibben is Schumann Distinguished Scholar at Middlebury College and co-founder of 350.org. His most recent book is Eaarth: Making a Life on a Tough New Planet.

Metallic Mining Disaster

continued from page 31

associated $billions in unfunded liabilities for taxpayers.

Here is what our mining statute says about harm to fisheries & habitat:
Sec. 15. 38 MRSA §480-D, sub-§3,
3. Harm to habitats; fisheries.
"....In determining whether mining, as defined in section 490-MM, subsection 11, will comply with this subsection, the department shall review an analysis of alternatives submitted by the applicant. For purposes of this subsection, a practicable alternative to mining, as defined in section 490-MM, subsection 11, that is less damaging to the environment is not considered to exist. ..."

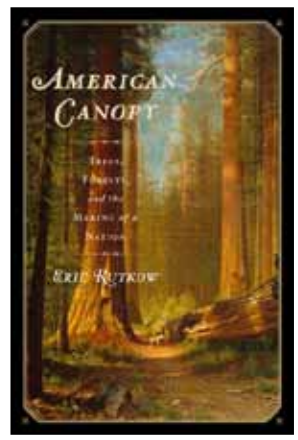
Translation? If metals are known to exist, the highest and best use of the land is extraction.
A look at this USGS map of Bald Mountain, which must be known to DEP, Saviello and LUPC makes it plain as day that this policy makes no sense at all. With no disturbance at all to the sulfide ores at Bald Mountain, just natural weathering is creating sub-surface run-off of acid, sulphur, and metals as far as 12 kilometers away.

". Preliminary results indicate a significant atmospheric contribution of sulfate in the lakes around Bald Mountain". (http://pubs.usgs.gov/info/seal1/)

Politicians and politically appointed commissioners sometimes respond more quickly to public pressure and backlash than to cold hard science. So please, let DEP Commissioner Patricia Aho (patricia.aho@maine.gov), DEP Manager George MacDonald (George.MacDonald@maine.gov), and LUPC Managing Planner Samantha Horn Olsen (Samantha.Horn-Olsen@maine.gov) know what you think about these two rules. Copy your correspondence to your legislative representatives, and do please write to Senator Tom Saviello (drtom16@hotmail.com), who remains a strong advocate for mining, with copies to the current co-chairs, Joan Welch and James Boyle. My sense is that the newly reformed joint committees do not yet understand the possibly disastrous impact of these two interim rules.

The Forest Ecology Network Bookshelf

American Canopy: Trees, Forests, and the Making of a Nation



by Eric Rutkow
Paperback: 416 pages
April 2013
Scribner
ISBN-10: 1439193584

Every book has its quirks. In the case of the newly published history "American Canopy: Trees, Forests, and the Making of a Nation," the prevailing eccentricity is that it's not primarily about trees. The leitmotif of author Eric Rutkow is wood, chiefly how North American virgin forest gave rise to a new nation, and how the U.S. has reduced that resource from close to a billion acres of ancient woodland to what is now more like 750 million acres of often young trees.

As Rutkow tells it, timber is so basic to the American story that it even drove colonization. Seventeenth century Britain needed massive old pines to sustain its tall ship navy. "Pilgrims and Puritans may have arrived in America to discover an uncorrupted life," Rutkow notes, "but that didn't mean their backers shared this enthusiasm." Soon the Eastern seaboard colonies were rotten with shipwrights. American independence did nothing to stall consumption; a young nation ran through pristine woodland at such a rate that by the1840s in Concord, Mass., when Henry David Thoreau retreated from civilization to contemplate nature, whistles of Boston-bound trains echoed across Walden Pond.

Meanwhile, the railroads driving westward expansion steadily chewed through genuine wilderness. Among their myriad uses, America's timberlands were felled for railway carriages, bridges and track ties. Husbandry was a foreign concept. By the early 20th century, it was estimated that as much as 45% of America's felled forests had been wasted in off-cuts and sawdust.

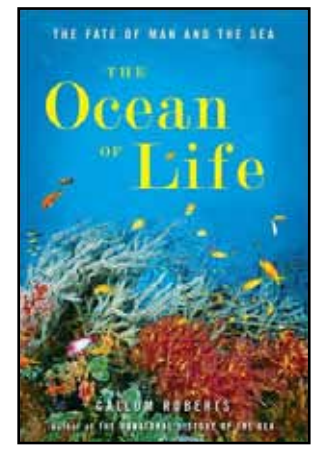
As logging industrialized, poor men became rich, and a rich landscape became poor. After arriving in America in 1852 as an 18-year-old German immigrant, Frederick Weyerhaeuser later controlled a logging empire valued at $70 million. Apart from canny purchasing of timberlands around the Great Lakes, his masterstroke was forming a syndicate of formerly rival lumber companies. By breaking logjams of wood being floated down the Mississippi, everyone's production improved; at the same time, cut land around the Great Lakes became a tinderbox. In 1871, Wisconsin's Peshtigo fire seared 2,000 square miles and claimed more than a thousand lives. In the Badger State alone, more fires followed in 1891, 1894, 1897, 1908, 1910, 1923, 1931 and 1936. "Losing half a million acres in a year was almost commonplace," Rutkow observes.

As Weyerhaeuser's saws turned from the Great Lakes to the Pacific Northwest, rival timber barons began working the Southern pine belts in Virginia, Florida, Alabama, Mississippi, Louisiana, southern Arkansas and eastern Texas. The more timber cut and milled by American lumbermen, the more ways an evolving wood industry devised to use it. By the 1870s, newspapers once called "rags" because they were printed on recycled cloth were increasingly printed on wood pulp, a cheap new material about to make the fortunes of Joseph Pulitzer and William Randolph Hearst.

Rutkow credits pulp with no less than democratizing reading, transforming food storage and revolutionizing personal hygiene. As always, the losers were the trees. However, by the turn of the 20th century, rapacious cutting finally forced the creation of protected timber reserves that became America's national forests. But, as Rutkow's book concludes, the coming threats are not necessarily the old problem of cut-and-run logging but climate change, fire, disease and pestilence. If the book's unbearably vivid accounts of past ravages of chestnut blight and Dutch elm disease are anything to go by, forest management is even more urgent today.

review by Emily Green - Los Angeles Times

The Ocean of Life: The Fate of Man and the Sea



by Callum Roberts
Hardcover: 416 pages
May 2012
Viking
ISBN-10: 067002354X

University of York marine conservationist Roberts (*The Unnatural History of the Sea*) offers an engrossing survey of the relationship between man and the sea for readers living through the greatest environmental changes in 65 million years.

In 1998 a rise in sea temperatures caused by El Niño, a periodic eastward surge of warm Pacific water, caused a mass bleaching of the world's coral reefs, the permanent or temporary home of perhaps a quarter of all marine species. Up to 90% of the Indian Ocean's technicoloured reefs turned to skeletal wastes, largely devoid of life. Had this happened to rainforests—coral's terrestrial equivalent—a sea-change in attitudes to the environment could have been expected. But because this change occurred in the sea, the calamity drew remarkably little comment.

Traditional attitudes towards the sea, as something immutable and distant to humanity, are hugely out of date. The temperature change that harmed the corals was not caused by human activity; yet it was a foretaste of what man is now doing to the sea. The effects of overfishing, agricultural pollution and anthropogenic climate change, acting in concert, are devastating marine ecosystems. Though corals are returning to many reefs, there is a fair chance that in just a few decades they will all be destroyed, as ocean temperatures rise owing to global warming. The industrial pollution that is cooking the climate could also cause another problem: carbon dioxide, absorbed by the sea from the atmosphere, turns to carbonic acid, which is a threat to coral, mussels, oysters and any creature with a shell of calcium carbonate.

The enormity of the sea's troubles, and their implications for mankind, are mind-boggling. Yet it is equally remarkable how little this is recognised by policymakers—let alone the general public. Killer sharks are a more appealing subject than algal blooms; though they are much less deadly. There is also a dearth of good and comprehensive books on a subject that can seem too complicated and depressing for any single tome. Callum Roberts, a conservation biologist, has now provided one.

He starts with a bold claim: that anthropogenic stresses are changing the oceans faster than at almost any time in the planet's history. That may be putting it too strongly. Yet there is no quibbling with the evidence of marine horrors that Mr Roberts presents.

Take overfishing. The industrialisation of fishing fleets has massively increased man's capability to scoop protein from the deep. An estimated area equivalent to half the world's continental shelves is trawled every year, including by vast factory ships able to put to sea for weeks on end. Yet what they are scraping is the bottom of the barrel: most commercial species have been reduced by over 75% and some, like whitetip sharks and common skate, by 99%. For all the marvellous improvements in technology, British fishermen, mostly using sail-power, caught more than twice as much cod, haddock and plaice in the 1880s as they do today. By one estimate, for every hour of fishing, with electronic sonar fish finders and industrial winches, dredges and nets, they catch 6% of what their forebears caught 120 year ago.

Overfishing is eradicating the primary protein source of one in five people, many of them poor. It also weakens marine ecosystems, making them even more vulnerable to big changes coming downstream.

For example, there is the matter of chemical pollution, mostly from agricultural run-off. This has created over 400 dead-zones, where algal tides turn the sea anoxic for all or part of the year. One of the biggest, at the mouth of the Mississippi Delta in the Gulf of Mexico, covers 20,000 square km (7,700 square miles) of ocean. An annual event, mainly caused by the run-off of agricultural fertilisers from 40% of America's lower 48 states, it makes the one-off Deepwater Horizon oil-spill look modest by comparison.

Global warming is another problem. Hitherto, the sea has been a buffer against it: because the heat capacity of water is several times that of air, the oceans have sucked up most of the additional heat, sparing the continents further warming. Yet this is now starting to change—faster than almost anyone had dared imagine.

One effect of the warming ocean, for example, is to increase the density difference between the surface and the chilly deep, which in turn decreases mixing of them. That means less oxygen is making it down to the depths, reducing the liveability of the oceans. Off America's west coast, the upper limit of low-oxygen water is thought to have risen by 100 metres. Where strong winds bring this water nearer to the surface, there are mass die-offs of marine life. Such events will proliferate as the climate warms.

This is a poor lookout for already put-upon fish. "Fish under temperature and oxygen stress will reach smaller sizes, live less long and will have to devote a bigger fraction of their energy to survival at the cost of growth and reproduction," writes Mr Roberts. And that is before he gets to the effects of ocean acidification, which could be very bad indeed. Without dramatic action to reverse these processes, he predicts a catastrophe comparable to the mass extinctions of the Palaeocene-Eocene Thermal Maximum, when carbon-dioxide levels, temperature and ocean acidity all rocketed. He writes: "Not for 55m years

has there been oceanic disruption of comparable severity to the calamity that lies just a hundred years ahead." That would be hard to prove; it would be better not to try.

So what is to be done? Mr Roberts provides a hundred pages of answers, occupying roughly a third of the book. They range from the obvious—curbing carbon emissions—to technical fixes, like genetic improvements to aquaculture stocks. None is impossible; and Mr Roberts, almost incredibly, describes himself as an optimist. He writes, "We can change. We can turn around our impacts on the biosphere." We had better do so.

review from The Economist

Onward to 450

by Paul Donahue

In February 2013 researchers at NOAA's Mauna Loa Observatory, an atmospheric baseline station on Mauna Loa Volcano on the big island of Hawaii, recorded 396.80 parts per million (ppm) of atmospheric carbon dioxide (CO_2). This was an increase of 3.26 ppm over February 2012, and represents the second largest annual increase since data collection began there in 1956. This is not good news.

Not many years ago we talked about atmospheric CO_2 increasing at the rate of about two ppm per year. Now it's increasing at over three ppm per year. At this rate of increase, in 15 years or so atmospheric CO_2 will have reached a concentration of 450 ppm. That's a significant number on two accounts. First of all, it's a full 100 ppm of CO_2 above and beyond the 350 ppm researchers tell us we need to remain below if we want to avoid catastrophic climate change. Second, the last time in Earth's history that atmospheric CO_2 was at 450 ppm for any length of time, all of the ice on the planet melted - ALL of the ice.

In case you are wondering, the current volume of ice on the planet represents 75 METERS of sea level rise. That's a lot. Unless you are looking forward to the day when you'll have an ocean view from the front porch of your cottage in the Appalachians, then, clearly, 75 meters of sea level rise would not be a good thing. Virtually every major coastal city in the world would disappear, plus all of Florida and the US Gulf Coast, the lower Mississippi Valley, the Amazon Basin, etc., etc. Granted, that level of rise won't be happening anytime soon, but if the concentration of atmospheric CO_2 remains high, the rise is inevitable.

So, obviously, with the world facing catastrophic climate change (hurricanes, tornados, severe thunderstorms, floods, droughts, wildfires, food shortages) and a serious rise in sea level, not to mention the acidification of the oceans and the collapse of marine food webs, our so-called leaders must be doing everything in their power to change course, right? If they didn't take seriously the dire warnings emanating from virtually every climate scientist in the world, then a reasonable person might assume that the climate-related disasters of just the past year would have been enough to get the attention of the politicians. But no, the criminally negligent and corrupt political class is still taking its marching orders from the fossil fuel corporations.

The US is the world's second largest emitter of CO_2 (China is number one), but the US government has done virtually nothing to lower the country's emissions. The Republican Bush administration did nothing, and now the Democratic Obama administration is doing nothing. The parties change, the allegiance to the fossil fuel corporations does not. Internationally, the US government's position on climate change continues to be the main stumbling block to the nations of the world reaching meaningful agreement at the annual UN climate meetings, and, here at home, it's full on development of ever more supplies of fossil fuels - more and more deepwater drilling in the Gulf of Mexico, offshore drilling in the Arctic Ocean, shale oil development in the US West, and fracking for natural gas everywhere.

Last year we went through a presidential election season in which climate change was barely mentioned. Instead of discussing what scientists tell us will be the biggest challenge humankind has faced, Obama and Romney sparred over which one of them was going to promote the most drilling. Obama actually gave a campaign speech in Oklahoma while standing in front of a stack of oil pipe in the TransCanada Pipe Yard - pipe waiting to be laid in the southern leg of the Keystone XL Pipeline. When the candidates were not talking about drilling, they were talking about their plans for economic growth, ignoring the direct connection between increased economic activity and increased emissions of greenhouse gases.

As I write this essay, environmentalists around the country are anxiously awaiting Obama's long-delayed decision on the northern leg of the Keystone XL Pipeline, which would carry 850,000 barrels a day of dirty oil from Alberta's tar sands to refineries along the US Gulf coast. This is potentially one of the most important issues on which his administration will rule. If the pipeline is not approved, it could well mean the beginning of the end for further investment in the development of the tar sands, the most environmentally destructive project on the planet. If the pipeline is approved, it will mean continued development of the tar sands, one of the largest pools of carbon on the planet, and that, in the words of prominent climate researchers and activists, could well mean "game over" for the climate.

I really hope that I am wrong, but, in my view, I think there is very little doubt that Obama, the great prevaricator, will approve the pipeline. The signs are not good. As the pipeline will cross an international border, it is actually the US State Department that will make the final determination. For his second term, Obama's first pick for Secretary of State was Susan Rice, US Ambassador to the UN. Both she and her husband are heavily invested in TransCanada, the company building the Keystone XL Pipeline. John Kerry, the person who finally assumed the position of Secretary of State, owns stock in two Canadian oil companies that have pushed for approval of the pipeline.

On February 17th, while 40,000 activists were on the National Mall protesting the Keystone XL Pipeline, Obama was golfing in Florida on a private resort with a pair of Texans who are key oil, gas, and pipeline players. Recently the US State Department released a newly updated draft of its Supplementary Environmental Impact Statement for the proposed pipeline. Despite all evidence to the contrary, the report concludes that the pipeline will "not likely result in significant adverse environmental effects." This report was based, in part, on research conducted by two firms with financial ties to companies invested in the development of the tar sands.

Most recently, in speaking to the press, a White House spokesperson claimed, "Thousands of miles of pipelines have been built since President Obama took office inside the U.S., and it hasn't had a measurable impact on climate change."

Only the terminally optimistic could find hope in this situation.

But then again, maybe I'm wrong. After all, I'm not exactly known for my cheery and hopeful view of the world, and maybe I'm misreading the situation. Maybe, shortly after this newspaper goes to press, Obama will reverse course and finally do something positive for the world and the future of humanity. If so, we can all rejoice in that step back from the brink. If not, then it looks like full steam ahead to 450 ppm.

Barack Obama giving a campaign speech in Oklahoma in March 2012 while standing in front of a stack of oil pipe in the TransCanada Pipe Yard - pipe waiting to be laid in the southern leg of the Keystone XL Pipeline.

THE LAST WORD

2012 - A Year of Extreme Weather

2012 was the hottest year on record in the continental U.S.

During the spring, snow cover across North America and Eurasia dropped to the lowest level ever seen.

The month of March was the warmest on record in the lower 48 states. The average temperature for the month was 8.6° F higher than the 20th-century average. Daily temperature records were hit in every state. The average springtime temperature in the lower 48 was so far above the 1901-2000 average - 5.2°F, to be exact - that the country set a record for the largest temperature departure for any season on record.

July 2012 was the hottest month in U.S. history. An unrelenting heat wave smashed thousands of records from the High Plains to the Northeast. July 2012 topped the Dust Bowl-era month of July 1936 for the title of the warmest month since U.S. weather records began in 1895. In total, there were 4,420 daily record-high temperatures set or tied in the U.S. during July.

Much of the U.S. experienced a severe drought, one that is continuing into 2013. At times during 2012 drought conditions covered more than 70 percent of the land area of the continental U.S. with over half of all U.S. counties listed as disaster areas. Kansas, Nebraska, and Texas were among the areas hardest hit. As of January 2013, the US Dept of Agriculture was still listing 597 counties in 14 states as primary natural disaster areas. Estimates for the damage from crop losses due to the drought vary from $35 to $100 billion.

Thanks to the warmest temperatures on record for the continental U.S. and the worst drought since the 1950s, wildfires scorched nearly 9.2 million acres of forest, brushland and grassland across the nation. The Waldo Canyon fire near Colorado Springs, Colorado consumed more than 18,000 acres in June and early July. The fire killed two people and damaged some 347 homes and, making it the most destructive wildfire in state history in terms of houses lost. The previous record was set just weeks earlier, when the High Park fire, near Fort Collins, burned 87,000-plus acres, destroyed 259 homes and killed one person. In Oregon, the Long Draw fire was the largest in more than a century, scorching more than 557,000 acres, while the Holloway fire burned 461,000 acres.

In 2012, ice coverage of the Arctic Ocean reached a new low, and not by a small amount, either. As of September 16, according to the National Snow and Ice Data Center, just 1.32 million square miles (2.41 million square kilometers) of ice were left floating in the Arctic Ocean, a whopping 18 percent less than the previous record low of 1.61 million square miles (4.17 million square kilometers), set in 2007.

Hurricane Sandy, one of the most powerful storms in U.S. history struck the East Coast. The storm claimed the lives of at least 125 people in the U.S. More than 8 million households lost electrical power. The storm caused an estimated $100 billion in damages.

2013 is already off to a scary start. Already Australia has experienced a record-breaking heat wave. and the northeastern U.S. has seen a record-breaking snowstorm. The Australian heat wave was unusual in its high temperatures, its duration, and its geographic extent. The weather was so extreme that the weather bureau had to come up with two new colors for their weather maps.