

James Williamson

* City Council submission *
(Monday, March 18, 2013)

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~ also supplemental material at "17a" in the New York Times feature article from the Sunday NYT, March 17, 2013: "DAYS OF PROMISE FADE FOR ETHANOL"

(Item #1) (22)

Boston
Metro
March 18, 2013



Delays along Amtrak line after derailment

BOSTON. Amtrak service between New York and Boston was temporarily suspended yesterday because a freight train derailed in Connecticut. The Northeast Corridor service was suspended at about 5 a.m., and was restored at about 4 p.m., according to Amtrak. The freight train derailed in New Haven and blocked the tracks, disrupting service. ● METRO

Package of Material on:

[Redacted]

[Redacted]

[Redacted]

James M. Williamson
1000 Jackson Place
Cambridge, MA 02140
President - Jefferson Park
School Council

Continuing to ship by barge up the Andros Creek should be one of the "options" studied for any adequate "risk evaluation"

* We must have a hearing (DOT) on this matter in Cambridge! Thank you!

Study of the Safety Impacts of Ethanol Transportation by Rail

through Boston, Cambridge, Chelsea, Everett, Somerville, & Revere

Neighborhood Meeting
Argenziano School, Somerville

March 11, 2013



Agenda

1. Study Background
 - Bond Bill Legislation
 - Global Proposal
 - Designated Port Areas and Chapter 91
2. Ethanol Transportation
 - Ethanol Transportation By Rail
 - Rail Transportation Regulations
3. Rail and Ethanol Safety Evaluation
4. Report Findings
5. Next Steps
6. Questions / Discussion



Section 24 of Chapter 242 of the Acts of 2012

"Notwithstanding any general law or special law or rule or regulation to the contrary, the Massachusetts Department of Transportation shall commission a study to determine the impact on the public safety of transporting ethanol by train through the cities of Boston, Cambridge, Chelsea, Everett and Revere. Public safety issues to be studied shall include, but not be limited to, the proximity to residences, elderly housing complexes, schools, hospitals, health care facilities and other population and demographic characteristics and emergency response capabilities. The report shall be completed not later than 6 months after the effective date of this act, and copies of the report shall be provided to the house and senate committees on ways and means, the executive office of public safety and security and the department of environmental protection. The department of environmental protection shall not issue a license under chapter 91 of the General Laws for the transportation of ethanol through the cities of Boston, Cambridge, Chelsea, Everett and Revere until it has received the report."

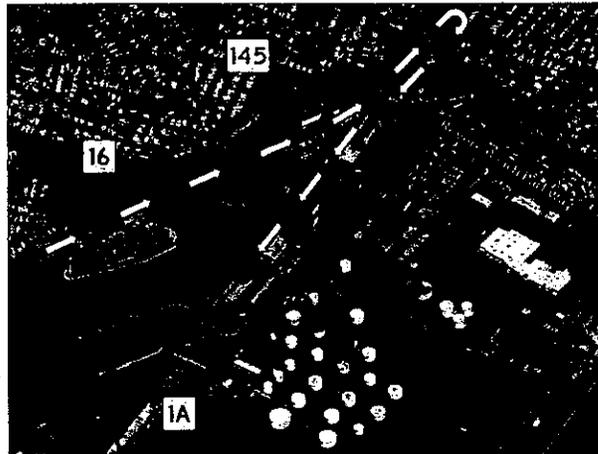
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Global Terminal Proposal

- Receive ethanol by train
- Expand from one existing railroad siding to two sidings to handle trains
- Build vapor recovery system for sidings
- New construction in filled tidelands/ designated port area, subject to MA Chapter 91



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Potentially Exposed Populations

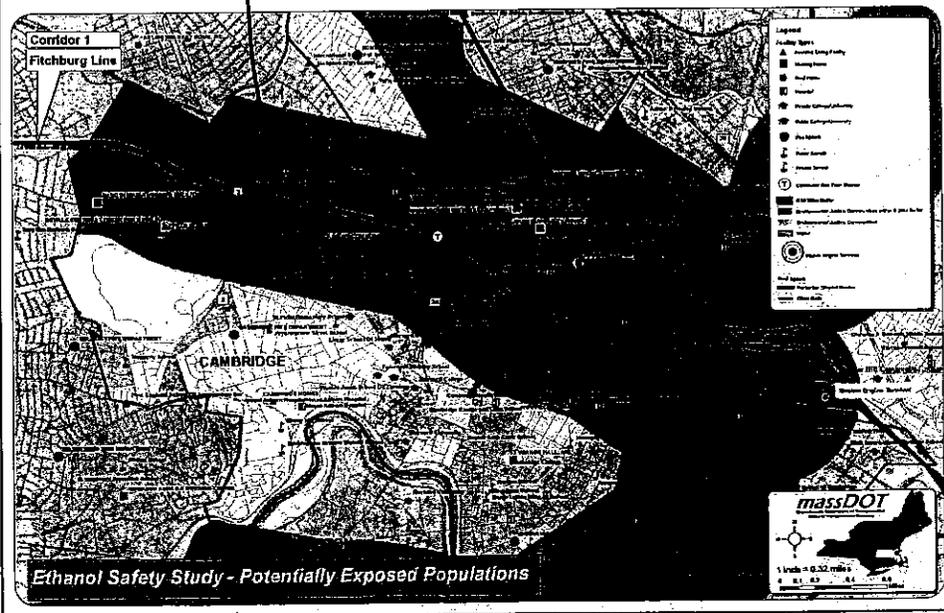
- Legislation requires a review of residences, elderly housing complexes, schools, hospitals, health care facilities and other population and demographic characteristics.
- Evaluation based on a number of parameters
 - Half-mile buffer around each route based on the recommendations of the US DOT Emergency Response Guidebook
 - ~100 railcars is maximum expected length of an ethanol train



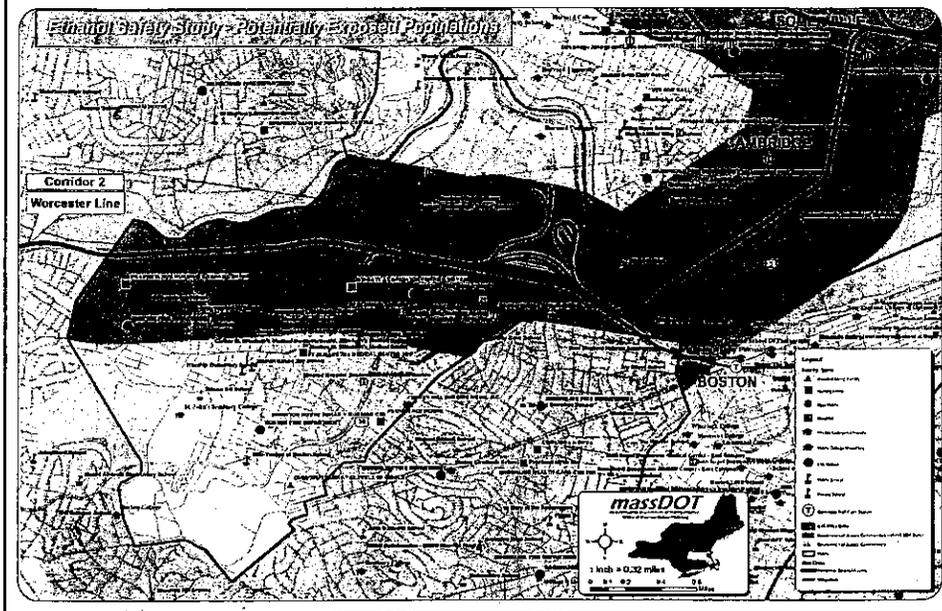
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currently "preferred" route!

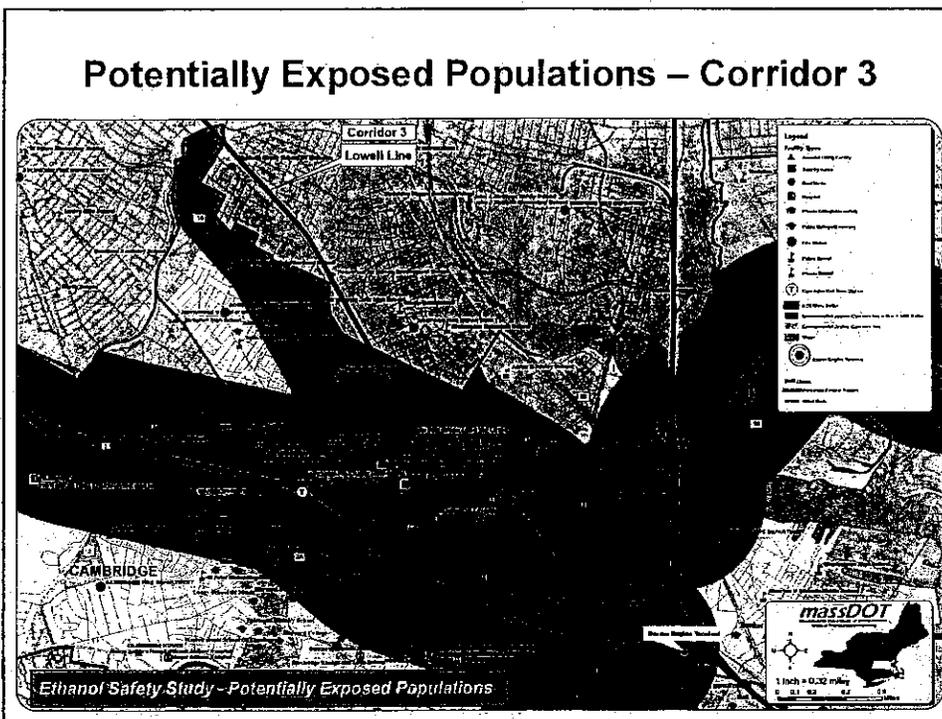
Potentially Exposed Populations – Corridor 1



Potentially Exposed Populations – Corridor 2



Potentially Exposed Populations – Corridor 3



Recommendations – Transportation of Ethanol

1. Railroad tracks should be maintained to a Class 3 standard (consistent w/ passenger service) along the possible ethanol routes, including the rehabilitated spur line to the Global facility.
2. The ethanol train speeds should be as slow as possible to reduce the energy of any crash or derailment.
3. The railroads should work with shippers to maximize the use of DOT-111 railcars for ethanol delivery that were constructed after October 1, 2011 to be compliant with the new American Association of Railroads (AAR) design guidelines.



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Recommendations – Transportation of Ethanol

4. Ethanol trains should be scheduled to avoid conflicts with any other trains (passenger or freight) that may cause them to be delayed or stored on sidings during transit to the Global facility.
5. Ethanol train schedules should be reported to community and state fire officials with sufficient notice.
6. Grade crossing safety equipment should be maintained and/or upgraded to prevent collisions with motor vehicles.
7. The railroads should utilize Department of Homeland Security (DHS) resources to update their security plans regularly to reflect changing conditions.



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? What if a driver falls asleep at the wheel?!!

(On Sherman Street?)
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Recommendations – Storage of Ethanol

1. The railroads and Global should secure the tracks and sidings outside the Global facility.
2. On-site fire suppression systems should be kept in working condition.
3. As part of the chemical sector of the DHS critical infrastructure, Global should utilize the DHS Voluntary Chemical Assessment Tool (VCAT) to update their security plans.

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Recommendations – Emergency Response

1. City fire departments and other emergency personnel should have proper training in the latest methods for fighting an ethanol fire. This training should include both classroom sessions and field exercises.
2. City fire departments and other emergency personnel should have proper training in the latest methods for responding to an ethanol spill, including containment strategies. This training should include both classroom sessions and field exercises.

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Report Findings – Emergency Response



- 3. Plans should be developed to address the need for emergency care at hospitals within the study area, including the potential need to transfer patients out of facilities near the potential ethanol routes.
- 4. Techniques should be cooperatively developed for fighting ethanol fires along the routes within the study area. These plans should include general guidelines such as: apparatus necessary to respond, protection of structures adjacent to the incident, and accessing the rail right-of-way.



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Recommendations – Emergency Response

- 5. Detailed plans should be developed using consequence modeling to respond to an ethanol incident at the following locations:
 - The New England Produce Center,
 - Burke Elementary School in Chelsea,
 - All potential siding locations such as the Boston Engine Terminal,
 - Houghton Chemical, Sunoco and any other entities that store hazardous materials, and
 - The MIT research reactor and other laboratories.

**Nuclear research reactor!*

These plans should include: whether to evacuate or shelter in place, identification of evacuation routes if necessary, and methods to communicate with environmental justice and business communities (e.g. Reverse 911).



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Recommendations – Emergency Response

6. Resources should be identified to procure the apparatus and supplies of foam necessary to fight ethanol fires. These resources should be identified on a regional basis as necessary. The amount of foam available should be in sufficient quantity to address a worst case unit train fire.
7. Global and the railroads should identify procedures for moving any stored railcars to isolate any incident and prevent the spreading of fire during an emergency on the confined tracks adjacent to the Global facility.

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Thank you!
Questions?

Website: Mass.Gov/MassDOT/EthanolSafety

Paul Nelson, Project Manager – paul.nelson@state.ma.us

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Editor [Chris Orchard](#) chris.orchard@patch.com

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Breaking: [Somerville Declares Snow Emergency Beginning 6 p.m. Monday »](#)

[Government](#), [Going Green](#)

Somerville, State Have Little Control Over Ethanol 'Bomb Trains'

"little control" ??

The Massachusetts Department of Transportation is studying public safety in regard to freight trains carrying ethanol but has little control over the trains themselves.

By [Chris Orchard](#) | [Email the author](#) | [March 12, 2013](#)

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Related Topics: [Business](#), [Ethanol Trains](#), [Going Green](#), and [Government](#)



Some Somerville residents fear what happened in Columbus, Ohio, could also happen here.

In Columbus, a freight train carrying ethanol derailed and exploded in July of 2012, causing authorities to evacuate a mile-wide area around the blast. One Columbus resident said it "looked like the sun exploded."

"The fireball was visible from like 10 miles away," said Somerville Ethan Contini-Field, who heard about the explosion from friends who lived in the Columbus area. People a quarter of a mile away "singed" their eyelashes, he said.

What's more, putting out flames from an ethanol explosion requires a special type of alcohol-resistant foam, which is, itself, environmentally hazardous. Besides, fire departments in the Somerville area don't currently have much of that foam. As Ned Codd from the [Massachusetts Department of Transportation](#) said, "There is a shortage of that material" in fire departments in and around Somerville.

Contini-Field and Codd spoke about ethanol trains at a public forum held at the [Argenziano School](#) Monday.

Through a confusing tangle of regulations and legislation, the Massachusetts Department of Transportation has been tasked with conducting a study into the impact on public safety of transporting ethanol by train through Somerville, Cambridge, Boston, Everett and Revere. Monday's meeting was about that study.

Ethanol headed by train to Revere

The state Department of Transportation is conducting the study because Global Petroleum Corp. has plans to expand its facility in Revere to handle shipments of ethanol, which is used as an additive to gasoline. (In fact, it's a [Congressionally mandated additive to gasoline, which has riled some in the agriculture and food industries](#), because ethanol is produced from corn, a food product.)

Get Patched In

Global's plans could send freight trains, each filled with up to 1.8 million gallons of ethanol, through Somerville, Cambridge, Revere, Boston and other communities two times a week, and deals sent to you daily and breaking news as it happens. [See more options](#)

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(7/18/22)

But, as Codd said at the meeting, "State and local governments do not have any power to regulate freight by rail." Such regulation, which includes the shipment of hazardous materials like ethanol, is regulated by the federal government, he said.

Why is the MassDOT conducting a study about something it has no power to regulate?

That gets back to the above-mentioned confusing tangle of regulations and legislation. Global Petroleum is on the Cheslea River, which means its plans to construct an expanded facility need to be approved by the Massachusetts Department of Environmental Protection as part of Chapter 91, "The Massachusetts Public Waterfront Act."

The state legislature, in 2012, passed a law saying the Department of Environmental Protection couldn't issue a license to Global Petroleum until the Massachusetts Department of Transportation conducted a study into ethanol trains and public safety—even though Chapter 91 has nothing to do with freight trains, and even though the transportation department and the cities whose public safety is being studied have no power to stop the trains.

That study is due on March 23. After that, the matter is in the hands of the Department of Environmental Protection, which must make a decision about Global Petroleum's plans based on Chapter 91, which is concerned with tidelands, rivers, ponds and traditional waterfront industries, not with freight trains.

Are the trains safe?

The study concluded that, despite the 2012 explosion in Columbus, and despite a 2009 derailment and explosion in Rockford, Ill., that killed one person and caused hundreds of homes to be evacuated, accidents involving ethanol trains are fairly rare.

Between 2008 and 2012, according to a presentation given Monday, there were 31 accidents in the United States involving the release of ethanol or unknown hazardous material, and in 2009, 0.0032 percent of ethanol shipments resulted in spills. That's a small percentage.

Shipping ethanol by freight is also safer than shipping it by truck on roads.

The study makes recommendations for improving safety. Those measures include maintaining railroad tracks to a "class 3" standard, keeping ethanol-train speeds slow, and working maximize the number of DDT-111 railcars built after Oct. 1, 2011, as those built before have thin shells that puncture during accidents, according to the Worcester Telegram.

The study makes further recommendations into the transport and storage of ethanol and into emergency preparedness.

That said, the recommendations, true to their name, are not binding.

Somerville resident Wig Zamore, who spoke Monday, said, "I don't expect a catastrophic accident." But if there were one, the aftermath would be messy, he said.

Who has the liability, and could the companies held liable cover their responsibility? he asked. "Their insurers would certainly be interested."

"How much foam do we need? ... We should already know that," he said.

"What changes have been made because of the environmental justice burden?" he asked, referring to the study, which maps out environmental justice populations near the proposed freight routes—there are several. "It's fine to have the map, but if no one does anything about the map, what good is it?"

In regard to security for the trains, he said, "Anywhere a graffiti artist can get, a terrorist can get."

Anyone interested can read more about the study here and send comments to paul.nelson@state.ma.us.

More information

Ethanol Trains Through Somerville Under Scrutiny, Meeting Wednesday Night

Ethanol 'Bomb Trains' That Might Travel Through Somerville Receive Nearby Opposition

Aldermen: Keep Your Ethanol-Filled Freight Trains Out of Somerville

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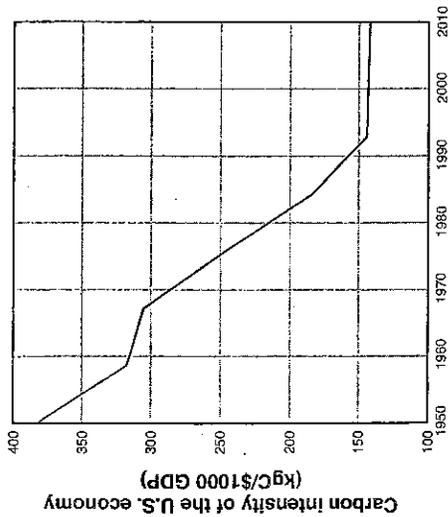
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FIGURE C-2
DECLINING CARBON INTENSITY OF THE U.S. ECONOMY, 1950-2010



SOURCES: Calculated from data in Marland et al. (2007) and U.S. Bureau of Economic Analysis (2008).

sequestration systems (such as expertise in compression, pumping, and pipeline transportations of liquids and gases), along with the theoretical assessments of feasibility based on preliminary appraisals of suitable sedimentary formations and several years of monitoring small-scale pilot projects, do not add up to an understanding sufficient to justify grandiose plans for an economically acceptable and technically reliable enterprise operating with annual throughputs rivaling those of the world's largest material-handling industries. If serious steps toward carbon sequestration are taken soon, they will represent yet another failure to appraise a promising technique carefully before committing to its large-scale commercial adoption.

Crop-Based Ethanol

Rapid expansion of crop-based ethanol production is an unfortunate but all-too-perfect example of a new energy choice driven by overemphasis on a few positive aspects of a technical innovation, combined with inexplicable

neglect of many of its negative consequences. A steady income for corn growers, investment in domestic energy production and technical innovation, and a reduction in oil imports cannot make up for the enormous environmental impacts of expanded and intensified fuel-crop cultivation, for higher national and global food prices, or for the enormous subsidies that will be required—especially as crop-derived ethanol can have only a marginal effect on the quest for a higher degree of energy self-sufficiency.

Indeed, the costs of crop-derived ethanol greatly outweigh the benefits, as the economic, social, and environmental costs will greatly surpass all those relatively minor and inevitably ephemeral benefits in the long run. Perhaps the most important generic lesson to be derived from the recent U.S. experience with ethanol is that we need to separate completely all decisions on long-term energy policies from any short-term corporate interests⁵ and from all dubious partisan promises, especially those made as a part of political campaigns, where unrealistic expectations of rapid renewable ascendance ignore many environmental, engineering, and economic realities.

Finally, the embrace of biofuels as strategic game changers or as tools of green politics illustrates the dangers of concentrating on dubious secondary solutions while ignoring many factors that are incomparably more important and more decisive. America's long-term strategic posture would be far better served by sound fiscal and consumption policies—that is, balanced federal and state budgets and an end to runaway trade deficits—and by a strong commitment to continuous technical innovation that could realistically double the average efficiency of today's vehicle fleet than by spending billions to convert Midwestern corn to ethanol.

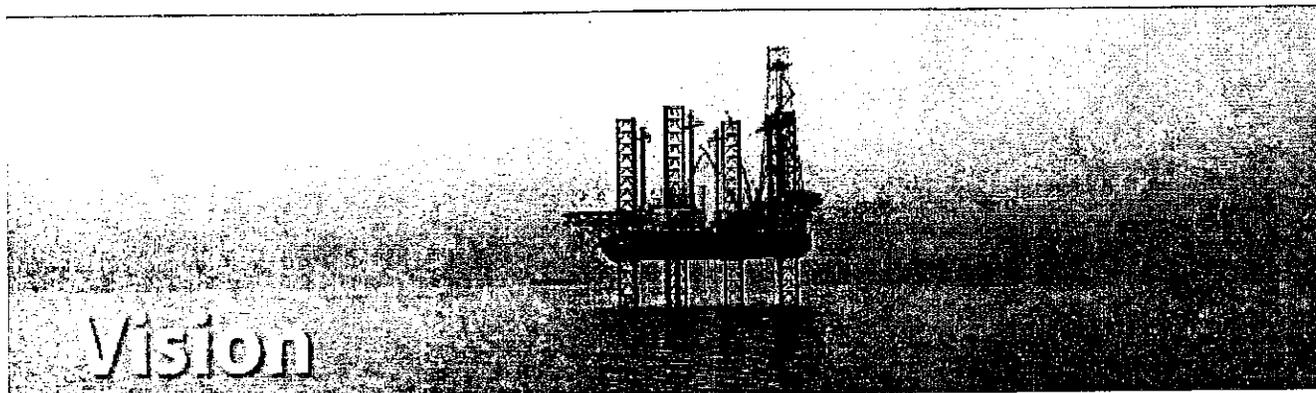
Wind-Powered Electricity Generation

As in ethanol's case, recent exaggerated expectations for rapid, reliable, and sustained contributions made by wind-powered generation are based on a selective reading of the evidence. The resource is undoubtedly large, but the power that could be harnessed economically (that is, an equivalent of wind reserves) is considerably smaller, most likely less than 10 percent of the theoretical capacity. Moreover, windy sites best suited for the most profitable generation have a highly uneven spatial distribution, a reality that restricts

(8922)

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Global Partners LP



A publicly traded master limited partnership, Global Partners LP is a midstream logistics and marketing company. Global is a leader in the logistics of transporting Bakken and Canadian crude oil and other energy products via rail, establishing a 'virtual pipeline' from the mid-continent region of the U.S. and Canada to refiners and other customers on the East and West coasts. Global owns, controls or has access to one of the largest terminal networks of petroleum products and renewable fuels in the Northeast, and is one of the largest wholesale distributors of gasoline, distillates, residual oil and renewable fuels to wholesalers, retailers and commercial customers in New England and New York. With a portfolio of approximately 1,000 locations in nine states, the Partnership is also one of the largest independent owners, suppliers and operators of gasoline stations and convenience stores in the Northeast. In addition, the Partnership is a distributor of natural gas. Global is No. 182 in the Fortune 500 list of America's largest corporations. Global Partners trades on the New York Stock Exchange under the ticker symbol "GLP."

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* From the 'National Academy of Sciences' Report released today, (10-22-13)
 Monday, March 18, 2013.

The report identified several scenarios that could meet the more demanding 2050 greenhouse gas goal. Each combines highly efficient vehicles with at least one of three alternative power sources -- biofuel, electricity, or hydrogen. Natural gas vehicles were considered, but their greenhouse gas emissions are too high for the 2050 goal. However, if the costs of these vehicles can be reduced and appropriate refueling infrastructure created, they have great potential for reducing petroleum consumption.

While corn-grain ethanol and biodiesel are the only biofuels to have been produced in commercial quantities in the U.S. to date, the study committee found much greater potential in biofuels made from lignocellulosic biomass -- which includes crop residues like wheat straw, switchgrass, whole trees, and wood waste. This "drop-in" fuel is designed to be a direct replacement for gasoline and could lead to large reductions in both petroleum use and greenhouse gas emissions; it can also be introduced without major changes in fuel delivery infrastructure or vehicles. The report finds that sufficient lignocellulosic biomass could be produced by 2050 to meet the goal of an 80 percent reduction in petroleum use when combined with highly efficient vehicles.

Vehicles powered by electricity will not emit any greenhouse gases, but the production of electricity and the additional load on the electric power grid are factors that must be considered. To the extent that fossil resources are used to generate electricity, the report says that the successful implementation of carbon capture and storage will be essential. These vehicles also rely on batteries, which are projected to drop steeply in price. However, the report says that limited range and long recharge times are likely to limit the use of all-electric vehicles mainly to local driving. Advanced battery technologies under development all face serious technical challenges.

(see following
 blog entry
 by Andrew Revkin
 of The NYTimes,
 March 18, 2013.)

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The New York Times

Dot Earth

ANDREW REVKIN

MARCH 18, 2013, 3:56 PM

With a Big If, Science Panel Finds Deep Cuts Possible in Auto Emissions and Oil Use

By ANDREW C. REVKIN

A panel convened by the National Academy of Sciences has concluded that deep cuts in oil use and emissions of greenhouse gases from cars and light trucks are possible in the United States by 2050, but only with a mix of diverse and intensified research and policies far stronger than those pursued so far by the Obama administration.

Sadly, much of the report has a "same as it ever was" feel, including a push for "feebates" on efficient vehicles balanced by a surcharge on gas guzzlers (something I wrote about in my 1992 book on global warming):

"Feebates," rebates to purchasers of high-fuel-economy (i.e., miles per gallon [mpg]) vehicles balanced by a tax on low-mpg vehicles is a complementary policy that would assist manufacturers in selling the more-efficient vehicles produced to meet fuel economy standards.

The report also describes the merits of a gasoline tax or "price floor" on petroleum-based fuels:

Several types of policies including a price floor for petroleum-based fuels or taxes on petroleum-based fuels could create a price signal against petroleum demand, assure producers and distributors that there is a profitable market for alternative fuels, and encourage consumers to reduce their use of petroleum-based fuels. High fuel prices, whether due to market dynamics or taxes, are effective in reducing fuel use.

For related reading, see "A Conservative's Case for a Gas Tax" (2011), "Fuel Taxes Must Rise, Harvard Researchers Say" (2010; Rush Limbaugh didn't like this one), "A 2-Cent Solution to Help Fuel an Energy Quest" (2010) and "Selling Fuel-Sipping Cars Despite \$2 Gas" (2009). [This news article is very relevant: "Days of Promise Fade for Ethanol."]

Here's an excerpt from the National Academies news release:

A new National Research Council report finds that by the year 2050, the U.S. may be able to reduce petroleum consumption and greenhouse gas emissions by 80 percent for light-duty vehicles -- cars and small trucks -- via a combination of more efficient vehicles; the use of alternative fuels like

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biofuels, electricity, and hydrogen; and strong government policies to overcome high costs and influence consumer choices. While achieving these goals will be difficult, improving technologies driven by strong and effective policies could make deep reductions possible.

"To reach the 2050 goals for reducing petroleum use and greenhouse gases, vehicles must become dramatically more efficient, regardless of how they are powered," said Douglas M. Chapin, principal of MPR Associates, and chair of the committee that wrote the report. "In addition, alternative fuels to petroleum must be readily available, cost-effective and produced with low emissions of greenhouse gases. Such a transition will be costly and require several decades. The committee's model calculations, while exploratory and highly uncertain, indicate that the benefits of making the transition, i.e. energy cost savings, improved vehicle technologies, and reductions in petroleum use and greenhouse gas emissions, exceed the additional costs of the transition over and above what the market is willing to do voluntarily."

Improving the efficiency of conventional vehicles is, up to a point, the most economical and easiest-to-implement approach to saving fuel and lowering emissions, the report says. This approach includes reducing work the engine must perform -- reducing vehicle weight, aerodynamic resistance, rolling resistance, and accessories -- plus improving the efficiency of the internal combustion engine powertrain.

Improved efficiency alone will not meet the 2050 goals, however. The average fuel economy of vehicles on the road would have to exceed 180 mpg, which, the report says, is extremely unlikely with current technologies. Therefore, the study committee also considered other alternatives for vehicles and fuels, including:

- hybrid electric vehicles, such as the Toyota Prius;
- plug-in hybrid electric vehicles, such as the Chevrolet Volt;
- battery electric vehicles, such as the Nissan Leaf;
- hydrogen fuel cell electric vehicles, such as the Mercedes F-Cell, scheduled to be introduced about 2014; and
- compressed natural gas vehicles, such as the Honda Civic Natural Gas.

Although driving costs per mile will be lower, especially for vehicles powered by natural gas or electricity, the high initial purchase cost is likely to be a significant barrier to widespread consumer acceptance, the report says. All the vehicles considered are and will continue to be several thousand dollars more expensive than today's conventional vehicles. Additionally, particularly in the early years, the report predicts that alternative vehicles will likely be limited to a few body styles and sizes; some will rely on fuels that are not

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readily available or have restricted travel range; and others may require bulky energy storage that will limit their cargo and passenger capacity. Wide consumer acceptance is essential, however, and large numbers of alternative vehicles must be purchased long before 2050 if the on-road fleet is to meet desired performance goals. Strong policies and technology advances are critical in overcoming this challenge.

The report identified several scenarios that could meet the more demanding 2050 greenhouse gas goal. Each combines highly efficient vehicles with at least one of three alternative power sources -- biofuel, electricity, or hydrogen. Natural gas vehicles were considered, but their greenhouse gas emissions are too high for the 2050 goal. However, if the costs of these vehicles can be reduced and appropriate refueling infrastructure created, they have great potential for reducing petroleum consumption.

While corn-grain ethanol and biodiesel are the only biofuels to have been produced in commercial quantities in the U.S. to date, the study committee found much greater potential in biofuels made from lignocellulosic biomass -- which includes crop residues like wheat straw, switchgrass, whole trees, and wood waste. This "drop-in" fuel is designed to be a direct replacement for gasoline and could lead to large reductions in both petroleum use and greenhouse gas emissions; it can also be introduced without major changes in fuel delivery infrastructure or vehicles. The report finds that sufficient lignocellulosic biomass could be produced by 2050 to meet the goal of an 80 percent reduction in petroleum use when combined with highly efficient vehicles. [*Read the rest.*]

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The New York Times

March 16, 2013

Days of Promise Fade for Ethanol

By JOHN ELIGON and MATTHEW L. WALD

MACON, Mo. — Five years ago, rural America was giddy for ethanol.

Backed by government subsidies and mandates, hundreds of ethanol plants rose among the golden fields of the Corn Belt, bringing jobs and business to small towns, providing farmers with a new market for their crops and generating billions of dollars in revenue for the producers of this corn-based fuel blend.

Those days of promise and prosperity are vanishing.

Nearly 10 percent of the nation's ethanol plants have stopped production over the past year, in part because the drought that has ravaged much of the nation's crops pushed commodity prices so high that ethanol has become too expensive to produce.

A dip in gasoline consumption has compounded the industry's problem by reducing the demand for ethanol.

The situation has left the fate of dozens of ethanol plants hanging in the balance and has unsettled communities that once prospered from this biofuel.

"It's a more somber mood," said Todd Sneller, the administrator of the Nebraska Ethanol Board. "The growth opportunity that existed some years ago is still out there in theory, but the reality that it's going to take an awful lot of time, money and political battles to realize that opportunity" is causing consternation.

Thousands of barrels of ethanol now sit in storage because there is not enough gasoline in the market to blend it with — and blends calling for a higher percentage of ethanol have yet to catch on widely in the marketplace. Advanced biofuels from waste like corn stalks and wood chips have also yet to reach commercial-level production as some had predicted they would by now.

Referring to the plants that have been idled, Eric Lee, a commodities expert at Citibank, said: "Is that going to be temporary or permanent? It's hard to say."

Not only do the plants employ residents of these small communities, but they also provide a market for farmers to sell their crops and buy grain to feed their livestock. They attract a

(15/06/22)

steady flow of trucks whose drivers use truck stops and patronize other local businesses. Contractors visiting the plants stay in local hotels. And the plants hold large accounts with local banks.

"It's been quite an ordeal, honestly," Mayor Christopher Jackson of Walhalla, N.D., said of the closing of an Archer Daniels Midland ethanol plant there last April.

About a dozen families who had moved to Walhalla, a town of about 1,000, to work at the plant have left, he said. Many of the 61 people who worked there have since found new jobs, but the salary and benefits are not nearly as good, he said. Mr. Jackson manages his family's bar in town, and he said Friday end-of-week gatherings did not happen as much because people had less to spend.

"It's been hard on every business up and down Main Street," he said. "I don't know that people realized how big of an impact that plant closing had on the community. Now we're a year into it; everybody's feeling the pinch."

Congress set out to create an ethanol industry that would produce enough to make up 10 percent of every gallon of gas pumped into a car, but the lawmakers assumed that demand for fuel would grow. Instead, it has shrunk to 8.7 million barrels a day from 9.7 million in 2007, said Larry Goldstein, an economist and a director of the Energy Policy Research Foundation. And with corporate average fuel economy rules now in place to double the number of miles that the average car gets per gallon by 2025, "you know we're on a trend," he added.

As the gasoline market got smaller, so did the amount of ethanol it could absorb, because most service stations are set up to sell fuel with an ethanol content of only up to 10 percent. Owners' manuals of most cars call for fuel blends of no more than 10 percent ethanol. The industry calls this the "blend wall," and it has won Environmental Protection Agency approval for some cars to run on blends of up to 15 percent, but thus far that fuel has not caught on with consumers.

Millions of cars are "flex-fuel vehicles" and can run on blends of up to 85 percent, known as e85, but that fuel is not popular and is not even widely offered outside a few corn-producing states.

But the ethanol producers were encouraged to build because the federal government had mandated that refiners use their product, and it established a tax credit of 45 cents per gallon of ethanol. The tax credit was allowed to expire on Dec. 31, 2011, but not before it had stimulated construction of ethanol plants.

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The value of ethanol has also sagged. Its price is created in part by the price of the gasoline it displaces, and gasoline prices have been relatively modest for the past few months.

Mr. Sneller and others in the industry remain optimistic that technological innovations and sound public policy will keep the industry afloat.

Indeed, people here in Macon, in northeastern Missouri, are not as grim about the future of their plant, which is operated and partly owned by POET, an ethanol producer with more than two dozen plants nationwide. The plant has vowed to reopen, and it has retained all 44 of its employees to do maintenance work as it undergoes more than \$13 million worth of renovations that it hopes will make it more efficient and able to produce ethanol more cost-effectively.

Signs of transition are evident at the plant. The growling factory motors, pumps and boilers are silent. But a sweet, acidic smell lingers, and signs of construction are everywhere: skid loaders sitting on fresh dirt, wooden planks cut for frames and dusty corners sectioned off with orange cones.

The plant, which President Obama visited three years ago, is adding equipment to allow it to produce corn oil that will provide additional income. It is also instituting technology that can produce ethanol without having to use heat, a move that will save on energy costs.

With the new technology, operators hope they will produce an extra three-tenths of a gallon of ethanol per bushel of corn.

Residents also understand why the plant halted operations.

The drought was particularly brutal here last year, leaving farmers with little to no corn. Don Mutter, who farms in nearby Cairo, said he produced about 25,000 bushels of corn last year, just 5.5 percent of his usual yield. Without corn nearby to purchase, the plant had to spend extra to haul it in from elsewhere. For several months it was operating at a loss. It ceased operations at the end of January.

"We are going to start back up, this year most likely," said Steve Burnett, who has been the manager since the plant opened in 2000.

For the people around here, ethanol is invaluable. The plant had been buying 16.5 million bushels of corn per year and producing 46 million gallons of ethanol.

Before the plant opened, Mr. Mutter, one of more than 300 investors in a company that owns a majority of the plant, used to sow about 300 acres of corn each year. Now he plants

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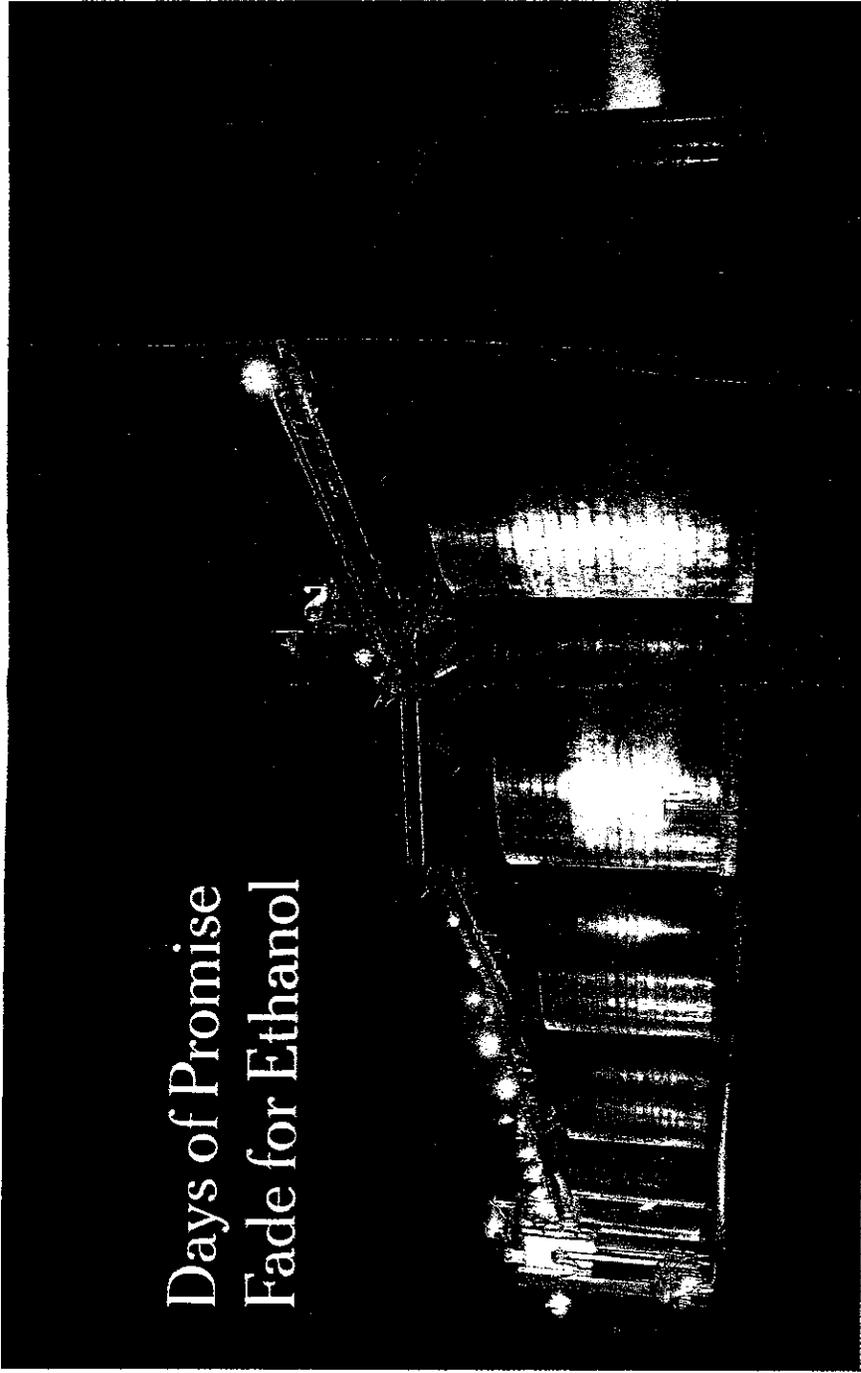
2,500 acres. His investment in the plant has paid off fivefold, he said. His farming business grew so much that he was able to buy seven semis and start a trucking company.

"It was the greatest thing for around here," he said of the plant.

(see also,
"17a"
Supplement:
hard copy of
the Sunday
New York Times
article, 3/17/2013)

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Days of Promise Fade for Ethanol



Corn storage at the ethanol plant in Macon, Mo., which stopped operating in January. Officials have vowed to reopen it, and it is undergoing renovations. More photos at nytimes.com/national.

Drought's Impact and Dip in Gasoline Consumption Have Plants Closing and Communities Struggling

By JOHN ELIGON
and MATTHEW L. WALD

MACON, Mo. — Five years ago, rural America was giddy for ethanol. Backed by government subsidies and mandates, hundreds of ethanol plants rose among the golden fields of the Corn Belt, bringing jobs and business to small towns, providing farmers with a new market for their crops and generating billions of dollars in revenue for the producers of this corn-based fuel blend.

Those days of promise and prosperity are vanishing.

say in local hotels. And the plants hold large accounts with local banks.

“It’s been quite an ordeal, honestly,” Mayor Christopher Jackson of Wallhalla, N.D., said of the closing of an Archer Daniels Midland ethanol plant there last April.

About a dozen families who had moved to Wallhalla, a town of about 1,000, in work at the plant have left, he said. Many of the 61 people who worked there have since found new jobs, but the salary and benefits are not nearly as good, he said. Mr. Jackson manages his



ethanol producer with more than two dozen plants nationwide. The plant has vowed to reopen, and it has retained all 44 of its employees to do maintenance work as it undergoes more than \$12 million worth of renovations that it hopes will make it more efficient and able to produce ethanol more cost-effectively.

Signs of transition are evident at the plant. The growing factory motors, pumps and boilers are silent. But a sweet, acidic smell lingers, and signs of construction are everywhere: skid loaders sitting on fresh dirt, wooden planks

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Ethanol transport raising concerns

By John Laidler

Globe Correspondent / August 4, 2011

(Referendum in Revere, 2011 - !)

But Doherty said that as a safety matter, he believes shipping by rail is a better option than transporting by tanker truck.

"It's the lesser of two evils. If I had my druthers, I would rather have [fewer] tanker trucks traveling the roads of the community versus rail cars coming at night at a slow speed, off-loading and getting out. . . . Tanker trucks on the road, that is a huge problem," he said, pointing as an example to the July 23 tanker truck crash on Route 1 in Saugus, which killed the driver and caused an explosion.

Mayor Thomas G. Ambrosino said that the city "doesn't have a whole lot of regulatory authority over" the proposed rail shipments. "This is governed by federal rules."

X (He said, however, the city "will be looking to gather more information over the course of the ensuring year about their plans," noting that Global Partners has indicated it would set up a meeting with the city and Pan Am Railways when more details are available.

"The city is always concerned when flammable materials are traveling through its borders," Ambrosino said.

City Council president John Powers said the rail plan is "something we don't have any control over," but that he voted to place the question on the ballot because "I felt the people have the right to be heard." ?

"I would like to see no ethanol coming into the city. . . . But it's a reality, and the main thing we have to do is to make sure the city is protected as much as possible," he said. "That will be done by the fire chief."

* (In a statement, US Representative Edward J. Markey, a Malden Democrat, said, "Serious questions remain about Global Partners' proposal to use commuter rail lines to transport ethanol along Chelsea Creek in Revere."

He said those include "how much ethanol will be transported through the region; how will the safety of residents of Revere and the surrounding areas be ensured in the case of an accident; how will the introduction of trains carrying ethanol affect commuter rail travel in the area; and how are stakeholders at the local city and state level being integrated into discussions on Global Partners proposal."

Markey said he planned to write to Global Partners "requesting answers to these questions, and how they plan to address the concerns of Revere residents."

A Federal Railroad Administration spokesman said via e-mail that the agency is "closely monitoring Pan Am Southern's plans for future ethanol shipments" to the Revere terminal. "Pan Am is registered with the United States Department of Transportation to carry hazardous materials, and is upgrading track for this purpose, including three new tracks in the unloading facility."

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The railroad administration spokesman said the Massachusetts Department of Fire Services “is also aware of the future ethanol shipments and from what we understand, has participated in emergency response exercises [and prepared] a briefing paper on critical response issues. In addition, FRA will participate in a field exercise with responding agencies to test command, control, coordination, and communications.”

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The New York Times

March 15, 2013

Ethanol Surplus May Lift Gas Prices

By MATTHEW L. WALD

WASHINGTON — A glut of ethanol in the gasoline supply is threatening to push up prices at the pump and may have exacerbated the growing cost gap between regular gasoline and premium, some oil experts say.

Refiners have been trading so-called ethanol credits furiously in an effort to meet federal environmental mandates, helping to significantly push up the cost of those credits — a jump to more than \$1 from a few pennies in the last several days, and drivers are feeling the effects, experts say.

Prices for premium gas are now about 30.2 cents over the price of regular, according to Trilby Lundberg of the Lundberg Survey. That is up from 24.1 cents in 2010 and 18.2 cents in 2000. Any increases could affect about a third of this year's car models, because premium fuel is required or recommended for them, according to Edmunds.com.

Experts disagree on the reasons for a widening gap between the costs of regular and premium gas. Reasons for the ethanol surplus are even more broadly in dispute, between producers and the oil companies. Gas companies are required under federal law to blend a certain number of gallons of ethanol into the fuel. But refiners argue that some cannot reach that requirement because they are nearing or at the so-called blend wall, the maximum percentage of ethanol in gasoline that most gas stations can handle, 10 percent. They also note that is the maximum level recommended by auto manufacturers for most cars.

Refiners blame Congress, arguing that the ethanol quota was set at a time when gasoline demand was expected to rise steadily. Instead, demand has declined, and refiners, obligated to blend more ethanol than they can actually use, have resorted to buying a lot of ethanol credits, known as renewable identification numbers (or RINs), to meet the mandated levels.

Ms. Lundberg described this as “buying forgiveness from the government.” The credits' popularity has driven up the price nearly tenfold since January.

On the other side of the debate are the ethanol producers, who say prices are pushed lower because their product is cheaper than gasoline. This is true on a gallon-per-gallon basis, although ethanol provides less energy per gallon.

(2/8/22)

The argument over ethanol and gas prices highlights the politics of the Renewable Fuel Standard, set by a 2007 law. The ethanol lobby accuses the oil companies of ratcheting up the demand for fuel credits as a way of applying pressure on lawmakers to reduce the alternative fuel mandates. Congress could change the rules, or the Environmental Protection Agency, which set up the electronic marketplace where ethanol credits are traded, could adjust them.

The ethanol credits, like some other kinds of environmental credits, can be banked as well as bought and sold. Some companies have a surplus. But those without them have rushed into a market that is thinly traded, driving the spike in prices, according to the American Fuel and Petrochemical Manufacturers, a trade association.

“The market’s broken, because the Renewable Fuel Standard has been broken since the day it was enacted,” said Charles T. Drevna, president of the group. The refiners rely on a certain amount of ethanol as a way to increase octane, but they have been fighting the standard since it was created, partly because it requires them to use advanced biofuels that are not actually in commercial production.

Oil refiners also warn that higher prices for the credits will encourage fraud, something the ethanol trading system has encountered in the past.

There are two ways the ethanol credit issue could drive gas prices higher. Mr. Drevna said that refiners would probably seek to recover the cost of the credits, which were a mere seven cents or so at the beginning of this year, in the prices they charge. And Eric G. Lee, an analyst at Citi Research, said that some refiners might seek to avoid the ethanol requirement by exporting their gas, which could tighten supplies in the United States.

According to Mr. Lee, large refiners spent \$100 million to \$300 million each for credits in 2012, when prices were about 4 cents. “At \$1 a gallon levels, the numbers become astronomical very quickly,” he said Wednesday.

But at the Renewable Fuels Association, Bob Dinneen, the president, said that the refiners were the sellers of the credits as well as the buyers, so that it was a flow of money among the oil companies. Ethanol companies make the fuel, he said, and sell it to refiners, who either use it themselves to meet their obligations, or use it but spin off the credit for sale to someone else.

“When I see volatility like that in any market, it’s not market fundamentals at work, it’s probably something else all together,” he said. “It’s more like the oil companies trying to

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create a little hysteria to support the notion that the Renewable Fuel Standard is broken, but I think it's working just fine."

He said oil companies should be investing in stations so that they can sell e85, the blend that is 85 percent ethanol and 15 percent gas, which millions of "flex fuel" cars can use, or e15, the 15 percent blend. The E.P.A. has approved e15 for most cars but the manufacturers advise against using it, and most service stations would need substantial investments in new equipment to sell it.

Using ethanol once was a cheap way to increase octane to make premium fuel, said an oil expert, Lawrence J. Goldstein, of the Energy Policy Research Foundation, because it has an octane of 113. But refiners have reached the limit of the amount they can blend, he said.

In addition, he said, an increase in American oil production, mostly from shale, allows refiners to use domestic crude instead of imported crude, but some of the new domestic supply has fewer high-octane ingredients than the African crudes it is replacing. And some refiners may increase their exports of gas in response to high credit prices, experts said. If the gasoline is exported, it does not have to meet the American ethanol requirement.

The long-term outlook for premium fuel is uncertain. Auto companies can build cars that get more miles per gallon if they use high-octane fuel, and the auto companies have agreed to double the average fuel economy of their cars and light trucks by 2025.

At Edmunds.com, analyst Bill Visnic said the demand for premium would be higher except that carmakers had learned to use an alternate technology, direct injection of fuel, combined with turbocharging, to get higher mileage.

But the number of cars that use high-octane fuel is substantial.

Michael Webber, of the Center for International Energy and Environmental Policy at the University of Texas at Austin, said he asked his students how many of them drove cars that needed premium fuel. "Out of 100 people, 10 hands went up," he said. These were probably not mostly luxury cars, he said. "Grad students normally aren't rich," he said.