TIMELINE: IS VOLKSWAGEN'S 'BUG' AN EU FEATURE? [UPDATED]



[photo: macwagen via Flickr]

Reports this last week that Volkswagen deployed "defeat devices" — software designed to cheat diesel passenger vehicle emissions controls tests — revealed more than an automobile manufacturing group run amok. One might suspect European Union's emissions governance after looking at a timeline of events.

NOTE: This timeline is in progress and is subject to updating as new items are identified. [Update 7:00 pm EDT — note added about translation, and note added to citation [4]]

- 1970 -

February 1970 — The Council of the European Communities issued the *Council Directive* 70/156/EEC, which established a mutual baseline for technical specifications of vehicles sold across the member states. This included 3.2.20. Measures taken against air pollution.

- 1992 -

<u>July 1992</u> — The first standard for passenger vehicle emissions, Euro 1 through 6, is implemented. Level Euro 1 for new diesel-fueled vehicles limited emissions of carbon monoxide

(CO) to 2.72 grams per kilometer, with no initial limit on nitrous oxides (NOx) alone, but a combined limit of hydrocarbon+nitrous oxides (HC+NOx) at 0.97 g/km.

- 2004 - 2009 -

<u>Dates Vary</u> — Vehicle manufacturers phased in the remaining Euro 4 through 6 emissions standards.

<u>19 October 2004</u> — European Environment Agency published a press release, Poor European test standards understate air pollution from cars, which summarized the problem:

Inadequate test standards are underestimating emissions of harmful air pollutants from new cars and evidence indicates that many diesel car owners are making things worse by modifying their engines to increase power, the European Environment Agency warned today.

No specific orders or directions were offered to resolve the problem with emissions test standards.

- 2007 -

(Month TBD) - Volkswagen subsidiary Audi launched its "Truth in Engineering" ad campaign. This tagline remains in use to present.

- 2008 -

(Month TBD) - VW announced its "Clean Diesel"
(TDI model) technology, and began selling it
in 4-cylinder diesel Jetta, Beetle, Audi A3, and
Golf cars to the US market.

(Month TBD) — Green Car Journal named VW's 2009 Jetta TDI "Green Car of the Year."

– 2009 –

<u>September 2009</u> — European emission standard Euro 5a for diesel passenger vehicles enacted, limiting CO to 0.50 grams per kilometer, NOx to 0.180 g/km , and HC+NOx to 0.230 g/km.

These levels are a reduction from Euro 4 standard implemented in January 2005 (CO=0.05,

- 2011 -

<u>September 2011</u> — EU emission standard Euro 5b phased in, using same levels as 5a, but applying a specific particulate measure of $6\times10(11\text{th})$.

<u>December 2011</u> — Report in *Atmospheric Environment* [1] says,

> ...The lack of a decrease in the concentration of NOx and in particular NO2 is of concern given European air quality standards are set in law. The lack of decrease in the concentration of NOx and NO2 is also in clear disagreement with emission inventory estimates and projections. ... We find that there are significant discrepancies between current UK/European estimates of NOx emissions and those derived from the remote sensing data for several important classes of vehicle. In the case of light duty diesel vehicles it is found that NOx emissions have changed little over 20 years or so over a period when the proportion of directly emitted NO2 has increased substantially. For diesel cars it is found that absolute emissions of NOx are higher across all legislative classes than suggested by UK and other European emission inventories. Moreover, the analysis shows that more recent technology diesel cars (Euro 3-5) have clear increasing NOx emissions as a function of Vehicle Specific Power, which is absent for older technology vehicles. ... [emphasis mine]

- 2012 -

April 2012 — The International Council on Clean Transportation (ICCT), an independent nonprofit, published a report, Discrepancies between typeapproval and real-world fuel consumption and CO2 values in 2001-2011 European passenger cars. Its summary is rather benign, though it does suggest there are discrepancies in emissions reporting:

This paper compares fuel consumption / CO2 values of passenger cars from different sources and aims at quantifying the discrepancy between laboratory type-approval values and real-world values, including a retrospective analysis for the years 2001-2011 to determine if the gap between the two datasets has increased over time. Potential explanations for the discrepancies found are discussed and possible practical solutions for the future outlined.

The report expressed concerns about consumers' perceptions that fuel efficiency does not match figures reported at time of sale, and that consumers might resist emissions controls because efficiency does not yield an offset in fuel savings.

- 2013 -

November 2013 — An op-ed by Christian Wüst in Der Spiegel, Artists of the Dynamometer (Artisten des Prüfstands), criticized automakers for failing to install particulate filters costing an estimated 100 euros per each gasoline-powered vehicle. Though Wüst had training as a mechanic as well as education in journalism, he may have been fooled by reports on diesel-powered vehicle emissions tests, with regard to soot-particulate filters.

m. Die schon beim Diesel bewährten Filter hingegen könnten all diese Trickserei überflüssig machen. Sie fangen mehr als 99 Prozent der Partikel ein. Selbst auf Messfahrt bei Vollgas bliebe ein Benzinauto mit diesem Gerät weit unter dem zulässigen Grenzwert. ...

[Translation: The already proven diesel filter on the other hand could make all this tricks* superfluous. They capture more than 99 percent of the particles. Even on test runs at full throttle, a gasoline car with this device is far below the allowable limit. ...]

(Month TBD) - West Virginia University's Center for Alternative Fuels, Engines & Emissions (CAFEE) researchers are commissioned by the ICCT to test Volkswagen diesel passenger car emissions.

- 2014 -

 $\underline{\text{May 2014}} - \text{WVU's CAFEE}$ researchers issue a Final Report [2] to ICCT.

(Month TBD) - VW began selling "Clean Diesel"
Passats in the US market.

<u>September 2014</u> – Emissions standard Euro 6 implemented, with CO limit unchanged at 0.50 g/km; NOX 0.080, HC+NOX 0.170, and particulate unchanged at $6\times10(11\text{th})$.

<u>28 September 2014</u> — ICCT published a report [3] updating previous work and extending "an analysis of the gap between official and realworld fuel consumption and CO_2 emissions for passenger cars in Europe, which reached 38% in 2013 and continues to grow at an accelerated pace." The report calls for implementation of "new Worldwide Harmonized Light Vehicles Test Procedure (WLTP), a more appropriate test that will produce more realistic type-approval values."

<u>11 October 2014</u> — ICCT published another report [4] — in summary:

Documents the discrepancy between typeapproval and real-world NOx emissions from new diesel passenger cars. On average, on-road NOx emissions from the vehicles tested for this analysis were about **seven times higher than the limits set** by the Euro 6 standard. [*emphasis mine*]

- 2015 -

(Month TBD) — VW's 2015 Passat TDI named by Cars.com the "Eco-friendly Car of the Year."

<u>18 September 2015</u> — U.S. Environmental Protection Agency issued to Volkswagen AG, Audi

AG, and Volkswagen Group of America, Inc., a Notice of Violation (NOV) of the Clean Air Act, alleging:

> ...four-cylinder Volkswagen and Audi diesel cars from model years 2009-2015 include software that circumvents EPA emissions standards for certain air pollutants. California is separately issuing an In-Use Compliance letter to Volkswagen, and EPA and the California Air Resources Board (CARB) have both initiated investigations based on Volkswagen's alleged actions. ...

- <u>20 September 2015</u> VW halted sales of some 4-cylinder diesel-powered vehicles in the U.S.
- <u>22 September 2015</u> VW admitted that 11 million vehicles had been fitted with the "defeat device" software to thwart accurate testing of emissions.
- 23 September 2015 VW's CEO Martin Winterkorn resigned; law firm Kirkland & Ellis, which represented BP after the Deepwater Horizon disaster in 2010, was retained by VW.

(If you have a point you believe is critical to this timeline, feel free to share it in comments for consideration.)

Initial Conclusion:

On first pass, it appears that the EU did not have adequate mechanisms in place to investigate the disparities between actual emissions and test emission levels reported over the course of the last handful of years. Until the U.S. regulatory body took action, the EU did not appear to respond at all beyond press release(s).

It's not clear what happened between the time ICCT received their commissioned report from WVU-CAFEE and the U.S. EPA gave VW its NOV. This gap in time may have been the normal bureaucratic lag from reporting a problem through the federal government's validation of

the problem — but this gap meant 16 months of additional air pollution and more new vehicles sold with the cheating software on board.

The lack of prompt, effective action despite years of evidence mirrors the EU's response to the refugee crisis. Both issues are at complete odds with the EU's response to Greece's economic crisis. This begs the question whether the EU has outsourced pollution monitoring to the U.S., and whether the EU itself has real function beyond policing economic policy and banking legislation.

We might ask if the disparity in EU reaction to different crises a bug or a feature, or is the EU merely asleep at the wheel? Whatever the case, thousands of U.S. and EU citizens have sickened or died prematurely because of exposure to air pollution, and climate change has only grown worse, setting up conditions for more crises ahead.

Note:

* Translation here in question. By all diese Trickserei überflüssig machen, did Wüst mean:

- all these tricks are made superfluous, or
- all this trickery is superfluous

In either case, you get the gist, I'm sure.

Citations:

- [1] Carslaw, D., Beevers, S., Tate, J., Westmoreland, E., & Williams, M. (2011). Recent evidence concerning higher NOx emissions from passenger cars and light duty vehicles.

 Atmospheric Environment, 45(39), 7053-7063.
- [2] Thompson, Dr. Gregory J., Daniel K. Carder, Marc C. Besch, Arvind Thiruvengadam, and Hemanth K. Kappanna. In-Use Emissions Testing of Light-Duty Diesel Vehicles in the United States. Report (PDF), May 15, 2014.
- [3] Mock, Peter, and Uwe Tietge, Vicente Franco, John German, Anup Bandivadekar (ICCT), Norbert Ligterink (TNO), Udo Lambrecht (IFEU), Jörg

Kühlwein (KISU), and Iddo Riemersma (Sidekick Project Support). From Laboratory to Road: A 2014 Update. *The International Council on Clean Transportation*. 28 Sept. 2014.

[4] Franco, Vicente, and Francisco Posada
Sánchez, John German, Peter Mock. Real-world
exhaust emissions from modern diesel cars. The
International Council on Clean Transportation.
11 Oct. 2014. [EDITED: Note this is PART 1:
AGGREGATED RESULTS of the entire study; PART 2:
DETAILED RESULTS has been requested as it is not
available online.]

JOHN GALT FACES PRISON FOR CONTAMINATING WEST VIRGINIA WATER

Back in January, John Galt proclaimed his independence from pesky regulatory oversight in West Virginia when he contaminated the drinking water supply of over 300,000 residents. Recall that Galt did his damage through his appropriately named corporation, Freedom Industries, where he was using the contaminant to magically make coal "clean". In a remarkable development, though, we learned yesterday that a federal grand jury has indicted six people associated with Freedom Industries:

A federal grand jury on Wednesday indicted four owners and operators of the company whose toxic chemical spill tainted a West Virginia river in January, forcing a prolonged cutoff of drinking water to nearly 300,000 residents in and around Charleston.

Each was charged with three counts of violating the Clean Water Act, which

bars discharges of pollutants without a permit. Their company, Freedom Industries, and its owners and managers did not meet a reasonable standard of care to prevent spills, the indictment stated.

One of those indicted, Gary L. Southern, the company's president, was also charged with wire fraud, making false statements under oath and bankruptcy fraud. Freedom declared bankruptcy days after the spill.

Actual prison time is at stake in these charges:

Besides Mr. Southern, of Marco Island, Fla., the indictment named three other owners and operators: Dennis P. Farrell, 58, of Charleston; William E. Tis, 56, of Verona, Pa.; and Charles E. Herzing, 63, of McMurray, Pa.

Two others were also charged: Robert J. Reynolds, 63, of Apex, N.C., and Michael E. Burdette, 63, of Dunbar, W.Va. Mr. Reynolds was Freedom's environmental consultant, and Mr. Burdette managed the tank farm. Mr. Herzing, Mr. Tis and Mr. Farrell sold the tank farm to a Pennsylvania company about a month before the accident.

All six were charged with the negligent discharge of a pollutant, negligent discharge of a refuse matter and violating an environmental permit. The violations carry a maximum penalty of three years in prison, according to a statement issued by the United States attorney for the Southern District of West Virginia.

Southern, on the other hand, faces up to 68 years when the additional ten charges he is facing are factored in.

This is a truly remarkable development. Recall that John Galt got away with killing Texans in the massive fertilizer plant explosion in West, Texas that caused over \$100 million in property damage in addition to killing 15 and injuring over 200. That investigation was stymied at almost every turn, and no criminal charges were ever filed unless you count the strange prosecution of one of the first responders for possession of homemade bomb-making materials.

But recall that this is Eric Holder's "Justice" Department that we are talking about here, so it is worth drilling down below the headlines. If we move to more local reporting on the charges, we find typical Holder behavior when it comes to how the company is being treated:

Also, U.S. Attorney Booth Goodwin charged Freedom Industries, the bankrupt company, with the same three counts of criminal water pollution violations. The company was charged through a document called an information, rather than an indictment, a move that usually indicates the defendant has reached a plea deal with prosecutors.

Mark Welch, Freedom's chief restructuring officer, confirmed that the company had entered into a plea agreement with federal authorities and said the move was aimed partly at limiting the possible fines and criminal defense costs if the company were to be indicted. Welch, in a prepared statement, said the plea agreement also stipulates that the U.S. Attorney's Office will not seek restitution from Freedom for victims of the company's crimes, because of the company's ongoing bankruptcy proceeding.

"This will permit Freedom to focus its time and limited resources on its environmental cleanup obligations and addressing the claims of its creditors," Welch said. In the world of Eric Holder (and John Galt), any claims by creditors who helped Freedom Industries to contaminate the Elk River have higher standing than any mere citizen who was harmed by Freedom.

JOHN GALT CONTAMINATES WEST VIRGINIA WATER SUPPLY BECAUSE INDUSTRIES DEMAND FREEDOM

Some of the more than 300,000 residents of West Virginia who could not drink or bathe in their tap water derived from the Elk River have been told that it is now safe to do so. Considering how flawed the process was for coming up with the standard for a safe level of the contaminant, 4-methylcyclohexane methanol (MCHM), it should come as no surprise that residents are not buying the claim that the water is now safe:

Eric Foster got the call last night. West Virginia American Water said the water at his South Charleston home is safe.

But that doesn't mean he's ready to use it again.

"The water smells like licorice, and I don't really think that's safe," Foster said. "I'll never drink it again."

Five days after a chemical spill into the Elk River left water unusable for 300,000 West Virginia American Water customers in nine counties, some residents are still wary of using the water even after officials say it's safe again.

Water company and state officials say the water consistently tested below 1 part per million of the chemical, and have been lifting the water-use ban zone by zone. Six zones, mostly in Charleston and South Charleston, had been lifted as of Tuesday evening.

Here's a summary of the flawed process for coming to that one part per million "safe" standard:

Unfortunately, the science behind this standard remains unclear. Based on what we do know, there are good reasons to believe that officials are overlooking significant health risks.

We know, for example, that the manufacturer's Material Safety Data Sheet (MSDS) that officials say they are using as their primary source lacks any information about chronic health impacts. The major federal databases we consulted suggest such data simply do not exist for this chemical.

It also appears that officials made significant leaps in their calculation of a "safe" exposure level — including assumptions that deviate from generally accepted practices. As a result, these estimates fail to adequately account for either acute or chronic health effects from ongoing exposure to water contaminated at the 1 ppm level.

At a bare minimum, the public deserves to know a lot more about the calculations behind officials' insistence that a 1 ppm level in drinking water is safe. But how did we get to this situation in the first place? The event that caused the ongoing contamination of the Elk River was a leak of thousands of gallons of MCHM from a facility owned by a company with the wonderfully Galtian name of Freedom Industries. Of course there is a bald eagle anchoring their website! Would you expect anything else?

How is the chemical used? It is used to perpetuate the myth of "clean coal". Our government is even a leading crusader for this myth and boasts a nifty gif to show us how coal can be "cleaned".

One of the main methods of producing "clean coal" is to remove particles of sulfur. From the DOE website with the nifty gif:

Take sulfur, for example. Sulfur is a yellowish substance that exists in tiny amounts in coal. In some coals found in Ohio, Pennsylvania, West Virginia and other eastern states, sulfur makes up from 3 to 10 percent of the weight of coal.

/snip/

One way is to clean the coal before it arrives at the power plant. One of the ways this is done is by simply crushing the coal into small chunks and washing it. Some of the sulfur that exists in tiny specks in coal (called "pyritic sulfur " because it is combined with iron to form iron pyrite, otherwise known as "fool's gold) can be washed out of the coal in this manner. Typically, in one washing process, the coal chunks are fed into a large water-filled tank. The coal floats to the surface while the sulfur impurities sink. There are facilities around the country called "coal preparation plants" that clean coal this way.

instead of water in this process. But even after this "washing", the coal is far from clean:

But coal has issues. Each lump can contain large amounts of sooty particulates, sulfur and nitrogen compounds (which cause acid rain), and traces of mercury and other toxic metals. Although coal-fired power plants are cleaner than they used to be, they are still bad news for the environment and human health. A recent study concluded that coal emissions contribute to 10,000 premature deaths in the United States each year. And coal is by far the largest single source of greenhouse gases in the U.S. So it is no surprise that coal has long been the primary target of proposals to cut air pollution and carbon-dioxide emissions.

In other words, the washing process falls far short of removing all of the toxic components of coal, and even if it did, the fact that the primary burning product of coal is carbon dioxide means that coal as an energy source is our largest producer of greenhouse gases. Perfectly clean coal would still be the primary route that we will destroy our environment through climate change.

So think about this for a moment. The myth of "clean coal" is destroying the planet through climate change. And in a charade of "cleaning" the coal, a company that apparently is subject to almost no regulatory oversight has contaminated the water for over 300,000 people.

Cincinnati is closing its water inlets on the Ohio River today as the contamination plume moves through that area. But House Speaker John Boehner, who "represents" Ohio, still favors his Galtian attitude of deregulation. Because industries demand freedom, obviously. Even when that freedom contaminates water and ruins the

APRIL SNOWS BRING MAY OUTRAGE: RECORD FLOODING AHEAD

In contrast to headline news today, the weather seems perfectly harmless — until one looks carefully at these maps.

Though increased soil moisture levels may be a big improvement over this past summer's drought, a serious problem remains: there's been too much late snow and it's going to melt quickly.

Based on the 21-MAR-2013 hydrologic map above, conditions along the Red River basin were quite bad; changes of major flooding were already predicted at that time. Since that report, the State Climatology Office at University of Minnesota recorded 4 inches of water (which includes 13 inches of snow) at their Twin Cities campus. This same station, however, received between 6-15 inches less snow over the last month than Fargo, North Dakota, located on the Red River.

The data used for the Percent Chance of Flooding map below is dated 15-APR-2013, before the final snowfall tally after The Weather Channel-branded winter storm "Xerxes" on 16-APR-2013. The area between Bismarck and Fargo received at least two feet of snow.

I'm no meterologist, climatologist, or hydrologist, but it sure looks to me like the chances of major flooding have increased from 80% to 100%. Just an uneducated guess on my part; I'll also speculate flooding will accelerate within the next week-10 days without doing any additional research into the subject. (Hint: It's called "spring.")

Fortunately some folks in Minn-Dak are watching this situation carefully; volunteers in Fargo have begun filling sandbags in preparation, for example.

The total number of bags to be filled by the end next Tuesday won't be adequate, though, against anticipated record water levels. A certain mess lies ahead.

While we have virtually nothing in the way of predictive tools to help us defend against disaffected youth intent on killing and maiming us, we do have tools to predict slow-moving challenges like annual flooding affecting millions of Americans.

Doesn't it seem like more of us would be aware of the risks and dangers so that we as individuals, businesses, and government agencies can take truly effective measures more than a week or two in advance? Shouldn't the age of Big Data offer us better information for local/state/federal budgeting in response to weather volatility and incipient natural disasters?

Oh wait...that would require intelligent, rational actors in government instead of science-illiterate, reactionary anti-tax freaks in office who cannot countenance paying for baseline services from National Oceanographic and Atmospheric Administration and the National Weather Service — let alone adequately fund development and implementation of new and better predictive technologies for use by the same..

In the meantime you can anticipate the media will be shocked, SHOCKED! when they finally clue in.

It would be nice if a few more members of Congress would be equally shocked to the point that they clued in, too.

BUREAU OF PRISONS CAN'T DECIDE WHETHER THERE IS, OR IS NOT, A FIRST AMENDMENT

Apparently, when the Bureau of Prisons released environmental activist Daniel McGowan back to his halfway house last week (after having first detained him for writing a post at HuffPo), they made him sign something saying he wouldn't do anything radical like write another HuffPo post.

McGowan was forced to sign a document stating that "writing articles, appearing in any type of television or media outlets, news reports and/or documentaries without prior BOP approval is strictly prohibited." Violating that agreement, which he signed under duress, might mean going back to jail.

Well, now they seem to have rethought this whole Constitution thing, because when HuffPo called BOP on the document, BOP said McGowan could write something without being detained again.

When HuffPost contacted the Bureau of Prisons' regional office in Philadelphia, however, they quickly backtracked on the agreement.

"He's not prohibited from doing that, and we're going to address it with the (halfway house) contractor," said Lamine N'Diaye, a BOP public information officer. If McGowan wrote another HuffPost blog today, said N'Diaye, "he's not going to be punished."

Once upon a time foundational concepts like the First Amendment didn't used to be so confusing.

THE PRICE ONE PAYS TO POST AT HUFFPO

For a while, there was a big debate on the left on whether it was okay to post, for free, at HuffPo or not. Many argued that someone choosing to post at HuffPo without pay was being exploited, or exploiting others, by working for free.

Except now it appears that posting at HuffPo can get someone jailed for two months.

Daniel McGowan is one of the Environmental Liberation Front-tied activists branded as a terrorist for arson committed in Oregon in 2001. He wrote this post yesterday at HuffPo, describing his time in the Marion, IL Communication Management Unit, and his Center for Constitution Right lawsuit against the government for the CMUs.

What's also notable about the CMUs is who is sent there. It became quickly obvious to me that many CMU prisoners were there because of their religion or in retaliation for their speech. By my count, around two-thirds of the men are Muslim, many of whom have been caught up in the so-called "war on terror," others who just spoke out for their rights or allegedly took leadership positions in the Muslim community at other facilities. Some, like me, were prisoners who have political views and perspectives that are not shared by the Department of Justice.

[snip]

The following speech is listed in these memos to justify my designation to these ultra-restrictive units:

My attempts to "unite" environmental and animal liberation movements, and to "educate" new members of the movement about errors of the past; my writings about "whether militancy is truly effective in all situations"; a letter I wrote discussing bringing unity to the environmental movement by focusing on global issues; the fact that I was "publishing [my] points of view on the internet in an attempt to act as a spokesperson for the movement"; and the BOP's belief that, through my writing, I have "continued to demonstrate [my] support for anarchist and radical environmental terrorist groups."

The federal government may not agree with or like what I have to say about the environmental movement, or other social justice issues. I do not particularly care as the role of an activist is not to tailor one's views to those in power. But as Aref v. Holder contends, everything I have written is core political speech that is protected by the First Amendment. It may be true that courts have held that a prisoner's freedom of speech is more restricted than that of other members of the public. But no court has ever said that means that a prisoner is not free to express political views and beliefs that pose no danger to prison security and do not involve criminal acts. In fact, decades of First Amendment jurisprudence has refused to tolerate restrictions that are content-based and motivated by the suppression of

expression. And courts have recognized that when a prisoner is writing to an audience in the outside world, as I was, it's not just the prisoner's First Amendment rights that are at stake: the entire public's freedom of speech is implicated.

His lawyers have sent out a statement reporting that Marshalls detained him at the halfway house he was supposed to serve out the end of his sentence yesterday, reportedly because of his post.

Daniel McGowan is back in BOP custody. He was taken by federal marshals from his halfway house this morning, and brought to the Metropolitan Detention Center. We have received information that this was triggered by an opinion piece he published on the Huffington Post Monday, and we are currently trying to confirm this and learn more about the situation. We were unable to meet with him today because, we were informed, he was being processed. We will seek to meet with him tomorrow and follow all avenues to secure his release. The name of the piece is "Court Documents Prove I Was Sent to Communication Management Units (CMU) for My Political Speech." If this is indeed a case of retaliation for writing an article about the BOP retaliating against his free speech while he was in prison, it is more than ironic, it is an outrage.

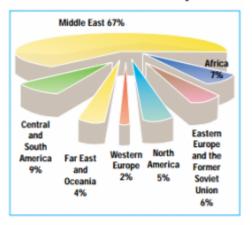
In his HuffPo bio, McGowan described himself as an environmentalist and former political prisoner.

It sure looks he spoke too soon.

DICK CHENEY'S BIGGEST STRATEGIC FAILURE

Dick Cheney's biggest failures are surely moral. The hundreds of thousands of Iraqis killed, senselessly. The thousands of Americans killed, senselessly. The hundreds of thousands,

Proven World Oil Reserves in January 2000



The world's proven crude oil reserves remain relatively concentrated. The Middle East holds 664 billion barrels, or roughly two-thirds of the world's conventional oil reserves, followed by the Western Hemisphere (14%) and Africa (7%).

perhaps over a million, on both sides, maimed and poisoned and scarred both physically and mentally.

Senselessly.

See Juan Cole and Tomas Young (who will shortly die from wounds suffered in the Iraq War) for an accounting of that cost.

But there has been far too little accounting of the cost of Dick Cheney's strategic choices.

Dick Cheney spent the first several months of the Bush Administration assessing where the US would get its energy in future years and how that would sustain our hegemonic role in the world. In his autobiographical novel, published in 2011, he had this to say about his Energy Task Force.

The report is one I am very proud of. I commend it to anyone looking to understand America's energy challenges still today.

[snip]

The environmental groups that criticized the report are all too often, in my

experience, opposed to any increase in the production of conventional sources of energy. They don't want to drill anyplace. They don't want to mine coal anyplace. They seem to believe we can depend on alternative sources of energy, such as solar or wind. It's my view and it's the view reflected in the report — that while we should develop alternative sources, in the final analysis, we can't effectively address our energy problems in the near term nor can we remain competitive in the global economy unless we also produce more energy from conventional, domestic sources.

Right now, none of the alternative sources of energy can compete economically with petroleum and coal and other conventional sources. It's also the case that time and time again, we have found that developing alternative sources has undesirable, unanticipated consequences. The push for ethanol fuel produced from corn, for example, resulted in driving the price of a bushel of corn up significantly. This had a huge impact on people who used corn for purposes other than fuel purposes that weren't subsidized. Cattleman, for example, were suddenly faced with significantly higher feed prices. [my emphasis]

While Cheney's report did have a chapter on "Nature's Power," (which is not, interestingly, one of the two he accused critics of having not read), just one paragraph on any alternative source of power but hydropower shows up on the chapter on "Energy for a New Century."

Hydropower is, to date, the most successful form of renewable energy. However, some forms of renewable energy generation—wind, geothermal, and biomass— have the potential to make more

significant contributions in coming years, and the cost of most forms of renewable energy has declined sharply in recent years. The most important barrier to increased renewable energy production remains economic; nonhydropower renewable energy generation costs are greater than other traditional energy sources. The following chapter discusses renewable and alternative energy in greater detail

Never mind that Cheney's understanding of the competitiveness of alternatives by 2011, particularly with coal, which the report boosted aggressively, was badly mistaken.

He argued in 2011 — 10 years after 9/11 and 7 years after the Iraq War had descended into a clusterfuck — that alternative energy has some nasty unintended consequences (he might have a point if he talked about how Ethanol contributed to increase food insecurity for actual human beings, which contributes to political instability, but apparently he sees feeding Americans cheap grain fed beef to be a higher priority).

And of course, the nasty unintended consequence that is climate change did not show up in this discussion in the least.

On May 16, 2001, Dick Cheney released a report declaring (based partly on a shortage in CA artificially caused by Enron) an energy crisis, and proposing recommendations to bring more fossil fuels online quickly, as well as nuclear power.

America in the year 2001 faces the most serious energy shortage since the oil embargoes of the 1970s.

[snip]

This imbalance, if allowed to continue, will inevitably undermine our economy, our standard of living, and our national

security.

[snip]

Present trends are not encouraging, but they are not immutable. They are among today's most urgent challenges, and well within our power to overcome. Our country has met many great tests. Some have imposed extreme hardship and sacrifice. Others have demanded only resolve, ingenuity, and clar ity of purpose. Such is the case with energy today.

We submit these recommendations with optimism. We believe that the tasks ahead, while great, are achievable. The energy crisis is a call to put to good use the resources around us, and the talents within us. It summons the best of America, and offers the best of rewards — in new jobs, a healthier environment, a stronger economy, and a brighter future for our people.

Four months later, 19 Arabs, 15 of whom were Saudis, destroyed the World Trade Center and damaged the Pentagon. All of them were motivated, in part, by America's increasing presence in the Middle East.

The Bush Administration would suppress a good deal of evidence showing that not just those 15 Saudi hijackers but some highly placed members of the Saudi elite had ties to the attack. And while occasionally Bush Administration figures would suggest the Iraq War would enable Iraq to serve as a counterpoint to the Saudis and their ties to terror, the real reason was oil.

We went to war in Iraq because long before Bush won office, Cheney and his friends decided the US needed to put Iraqi production in hands more amenable to American wishes. And that unexamined decision prevented Cheney from seeing just how short-sighted such a policy would be.

In the decade since Dick Cheney decided to go to war in Iraq because renewable resources were too expensive and had some nasty unintended consequences, the US has spent \$2 trillion on that war. Along the way, we have created an entire generation of new enemies, partly because of the incompetence and arrogance with which the war was waged.

We remain as reliant on our Saudi allies as we were at the start of the Iraq War.

By the end of November the US had already imported more than 450m barrels of crude from Saudi Arabia, more than it imported from Riyadh in the whole of 2009, 2010 or 2011, according to figures from the US energy department. For the first time since 2003, Saudi imports accounted for more than 15 per cent of total US oil imports. The Gulf as a whole accounted for more than 25 per cent, a nine-year high.

That's true, in part, because our foreign policy continues to be dominated by dangerous plans — this time, some way to put Iranian oil resources in friendlier hands — to get more oil.

And throughout the 12 years since Cheney's energy report, throughout the 10 years since he decided to go to war against Iraq rather than invest all that treasure into more effective solutions, we have been inching closer and closer to the tipping point at which climate change will spiral out of control.

Cheney was absolutely right to reevaluate where and how the US gets its energy in 2001. But he came to all the wrong conclusions from that reevaluation, and he pursued the worst possible strategy to deal with it.

He bears utmost responsibility for all the lives wasted. But he also needs to be held responsible for the opportunities wasted as well.

THE COST OF BULLSHIT: CLIMATE CHANGE, NATIONAL SECURITY, AND INACTION

While we're waiting for Congress and the White House to do something productive together for once, let's recap:

- The Department of Defense said climate change is a critical strategic concern with regard to its operations and its impact on defense efforts, based on its legislatively-mandated Quadrennial Defense Review (QDR) published two-plus years ago in 2010;
- The State Department also said climate change is a serious threat to our national security, noted in its inaugural Quadrennial Diplomacy and Development Review (QDDR)*, also published two-plus years ago in 2010;
- A who's who of defense and diplomacy expressed their concerns about climate change and the need for urgent action, as Marcy noted two days ago; apparently whatever action has been taken so far has not impressed these experts as responsive to the threat climate change poses.

Yet if asked, the average American likely could not point to a single action taken by the U.S. government to reduce the impact of climate change.

In other words, all the effort expended and resources spent on drafting the components of the QDR and QDDR* are wasted, the words published mere bullshit—more wasted government employees' time and taxpayer money.

How much has this wordy inaction cost us?

Here's a more specific opportunity to save taxpayer money:

...Of all military spending, energy accounts for a small proportion, roughly less than 2% of total military expenditures and 2% of total US energy usage—but is 93% of all US government energy consumption. In fact, the US military is the single biggest consumer of energy in the nation, at about 932 trillion BTU in 2009, resulting in 4% of all US carbon emissions.

Oil accounts for 78.5% of all US military energy usage (54% of that is jet fuel); electricity is 11%, direct use of natural gas comes in a bit under electricity. Direct use of coal and other sources of energy are small fractions of total usage. ...

[source: TreeHugger.com, 05-MAY-2011]

The amount spent on energy surely hasn't declined since these numbers were published in 2009.

Yet Congress and the White House have been locking horns over the sequester for some time now, looking for places to cut costs. Doesn't it seem like any item should be ripe for examination and audit for cost-cutting if the government is the largest consumer?

Further:

...The United States is far and away the largest military spender on the planet—but you probably already knew that. How much more? In 2010 the US accounted for 42.8% of all military spending in the world (and has doubled military spending since 2001). The next nearest competitor, China, accounts for 7.3% of global military spending. The UK, France, and Russia each spend roughly 3.7%. Japan, Saudi Arabia,

Germany and Italy round out the top ten. All other nations spending 25.3% combined.

In dollar terms, the grand total spent on military offense and defense in 2010 was \$1.6 trillion. So based on those calculations, done by a Swedish think tank, the US outspent China by 5.86 times. ...

[source: TreeHugger.com, 05-MAY-2011]

If the U.S. is the largest military spender, its energy expenditures must likewise be the largest globally. This means the U.S. military could provide the largest impact globally on climate change by urgently and robustly changing its fossil fuel consumption.

Which begs the question: are we going to stop wasting time and money on reports like the QDR and the QDDR when we're clearly making no effort to follow the recommendations they contain by responding to climate change and its inherent national security risks?

Or are we going to save some serious money on downsizing our military's fossil fuel consumption AND make immediate, widespread impact on climate change and national security at the same time?

We really need an answer because this bullshit is costing us a fortune in taxes and lost societal opportunities. (Hurricane Sandy cost the federal government at least \$180 million dollars; it's not yet clear how much February's blizzard cost in tax dollars. Toronto CAN, however, spent CA\$4 million on cleanup and repairs, and it was not the municipality hardest hit by the storm.)

And with each drought and mega-storm, the lack of response is costing us even greater treasure in loss of personal opportunities, homes and lives.

(* edited from QQDR to QDDR/~Rayne)

SUNDAY BUFFET: DOMESTIC DRONES, COSMIC CLOUTS, AND MORE

Here's an assortment of goodies that crossed my tablet over the last 24 hours or so. Which of these tidbits fires you up?

• The Verge reported Friday that a new bipartisan privacy bill sponsored by representatives Ted Poe (R-TX) and Zoe Lofgren (D-CA) targets the use of drones in the US.

"As written, it would ban police from operating unmanned aerial vehicles armed with weapons of any kind, and any drone surveillance operation would require a warrant notifying the target within 10 days, except when the notice would "jeopardize" an investigation. It also requires they make efforts to "minimize" the amount of data collected or shared, to avoid violating privacy unnecessarily. ...

...Fears over the use of drones have increased lately as both President Obama and his counterterrorism chief John Brennan refused to answer whether lethal strikes could be used against American citizens on US soil. ..."

When drones can be remotely operated by iPhone or Android cellphones and cost less than \$300, we're way past time for this bill. It might not hurt citizens to act locally as Charlottesville, Virginia has, enacting a ban on their use in their municipality. Think a drone couldn't possibly slip by you to monitor you without permission? This one pictured here is only 22

inches long, comes equipped with a 720p high-def camera on board—imagine it hovering and peering in your bedroom window, or your kid's room, its video output watched from an iPhone miles away.

- Friday's meteorite-asteroid-meteorite triple whammy certainly shook up the globe. What? You didn't hear about the third one? Apparently when the smaller meteorite passed over California about 7:42 pm PST, the media had already used up its allotment of cosmic-related coverage for the week. Or year. Anyhow, objects hit our planet all the time that we don't notice or publicize widely; it was the rare confluence of a nearmiss asteroid and a larger-than-average meteorite within a 24-hour window that only made us think earth's pummeling by space debris is unusual. Given that meteorites and asteroids are not all that rare, it seems like we'd do more to be prepared for impacts-especially since we've had pretty decent guesstimates about the damage space objects could inflict.
- Speaking of science, science writer Philip
 Ball looks at the discovery of the microscope
 and its dramatic impact on science and religion.
 Technology that allowed us to look at our world
 at meta-scale has also had an impact on our
 perspective; the famous "blue marble" photo*
 from an Apollo mission is credited with
 increasing public interest in ecological
 studies, environmental protection, and space
 exploration. What technology will encourage us
 to get our tails in gear on climate change?
- Finally, this photo-dense piece gives me pause. I was two years old when these were taken; what an incredible year that was. I wish I'd been old enough to remember any of these events, and yet, I'm glad some of them were well behind us by the time I was school-aged. Some of these photos remind me how little things have changed. Just Google "church arson" or "race hate crime" and you'll see what I mean.

By the way, I'm open to suggestions as to naming these collections of newsy bits and pieces. Leave me your thoughts in comments. Thanks! * When I first drafted this post, I didn't know today marked the anniversary of the similarly important "pale blue dot" photo. How time flies.

WEEPING FOR THE SCARECROW

As you may have heard by now, friend of this blog, and our friend at Firedoglake, John Chandley, aka "Scarecrow", has died. Let the record reflect that I am freaking tired of being on the memorial duty. Seriously tired. If you are a participant in the discussion at this blog, or a related friend thereto, quit dying. Please. Enough.

John Chandley was a man. He stood firm and resolute on his own, in spite of being known probably to you only for blogging at Firedoglake under the pseudonym of "Scarecrow". But Scarecrow was much more that that; never a merely a straw creature, but one who definitively stood firm for that which was righteous in the income inequality wars:

Scarecrow on a wooden cross Blackbird in the barn

Four hundred empty acres that used to be my farm

I grew up like my daddy did My grandpa cleared this land

When I was five I walked the fence while grandpa held my hand

Rain on the scarecrow Blood on the plow This land fed a nation This land made me proud

And Son I'm just sorry there's no legacy for you now

Rain on the scarecrow Blood on the plow Rain on the scarecrow Blood on the plow

The crops we grew last summer weren't

Couldn't buy the seed to plant this spring and the Farmers Bank foreclosed

Called my old friend Schepman up to auction off the land

He said John it's just my job and I hope you understand

Hey calling it your job ol' hoss sure don't make it right

But if you want me to I'll say a prayer for your soul tonight

enough to pay the loans

"Like a scarecrow in the rain". Aren't we all. That is the meter of life, and it is transient. Funny thing was, the real John Chandley, at least so far as I even knew him, was not transient in the least; but came out of the Berkeley swamps, cool and slow, like John Chandley's friend and colleague at the time at Berkeley (John/Scarecrow was present at Berkeley in the moment), Mario Savio, with a backbeat hard to master.

The musical imagery here is mine; I am not sure what would be the preferred cocktail de jour of John. Before I leave, let me offer up one more paean of my own to the life of the one, and only, Mr. John "Scarecrow" Chandley":

The world's goin' crazy and
Nobody gives a damn anymore.
And they're breakin' off relationships
and
Leavin' on sailin' ships for far and
distant shores.
You're my brother,
Though I didn't know you yesterday.
I'm your brother.
Together we can find a way.

Scarecrow would have, by every right that I knew him, been trepidatious in regards for our future; yet hopeful for the success and greatness that may await us all.

It is hard to tell where we all go in the

living, much less where we go beyond. But never let it be said this blog does not care about the voices who were its friends and colleagues. And certainly not tonight.

RIP John "Scarecrow" Chandley.