

ENVIRONMENTAL SYNOPSIS

The Chairman's Corner

Rep. Scott E. Hutchinson, Chairman



As you receive this newsletter, Pennsylvania will have recently completed its annual participation in the Great American Cleanup and "Pick It Up PA Days." Both events are reminders that each of us has a responsibility to – if nothing else – keep our own little corner of Pennsylvania clean of litter.

I mention this because the April Environmental Issues Forum sponsored by the Joint Legislative Air and Water Pollution Control and Conservation Committee (Committee) featured a report on and analysis of a series of illegal dumping surveys conducted by PA CleanWays throughout Pennsylvania. PA CleanWays is

a non-profit organization that helps people - through cleanups, adoptions and education - who are ready to take action against illegal dumping and littering in their communities. PA CleanWays has 15 chapters and five affiliates in Pennsylvania. That's a great start, but that means there are a lot of counties across Pennsylvania that do not yet have chapters and could step up to join the campaign to eliminate illegal dumping and littering.

The presentation on the findings of the illegal dumping surveys was illuminating. The Center for Rural Pennsylvania worked with PA CleanWays in analyzing the raw numbers from the 37 counties where surveys have been completed. Some of the raw numbers include:

- Surveys found 4,158 illegal dumpsites with an estimated 14,493 tons of trash.

- Seventy-eight percent of the dumpsites were active sites.

- Thirty-nine percent were in or within 100 feet of a waterway.

- Fifteen percent of the dumpsites contained 77 percent of the tonnage.

Further profiling of the dumpsites revealed some interesting data. The largest percentage of the dumpsites (48 percent) contained between one and 4.9 tons of trash, while 38 percent had less than a ton. Despite Pennsylvania's successful waste tire recycling program (legislation which the Committee spearheaded), illegally dumped tires continue to be a problem. Sixty-eight percent of the dumpsites contained tires – to the tune of 114,692 tires to be exact. Nearly three-quarters of the tire-containing dumpsites were located along municipal roadways.

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NOTES FROM THE DIRECTOR

CRAIG D. BROOKS, EXECUTIVE DIRECTOR



The Environmental Protection Agency (EPA) proposed three rules in March 2010 to require greenhouse gas emissions reporting for oil and gas wells, carbon sequestration facilities and facilities that produce and use fluorinated gases, such as hydrofluorocarbons (HFCs).

The oil and gas systems proposal would require oil and natural gas wells and associated equipment that emit more than the equivalent of 25,000 metric tons of carbon dioxide per year to report emissions. This would apply as well to offshore oil and gas wells, storage tanks and equipment to transfer the oil and gas onshore. The proposal would also apply to natural gas distribution systems that are regulated as public utilities or are municipally owned.

The proposal would require the largest emissions sources to conduct direct measurement of emissions.

According to EPA, other sources could use engineering estimates, emissions modeling software and emissions factors as appropriate, to calculate emissions.

Oil and gas facilities, carbon sequestration facilities and those that produce HFCs were not included in EPA's original economy-wide mandatory reporting rule for greenhouse gas emissions issued in October 2009. EPA estimates that the proposal would apply to about 3,000 facilities emitting 85 percent of the total greenhouse gas emissions from the U.S. petroleum and natural gas industry.

According to the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks, fugitive and vented emissions from this industry are the second-largest source of human-made methane emissions in the nation. EPA estimates that the total cost of reporting by oil and natural gas systems would be about \$60 million for the first year and \$25 million in following years. This translates to an estimated average cost of \$18,000 per facility for the first year and \$8,000 in the following years. The proposal would modify 40 CFR Part 98.230, Subpart W.

Facilities would be required to begin collecting data on January 1, 2011 and would submit reports to EPA annually. The first report would be due by March 31, 2012 for 2011 emissions.

The original economy-wide rule also omitted reporting requirements for underground carbon dioxide injection and carbon sequestration. However, the new EPA proposal would apply to both practices for enhanced oil and gas recovery. It would not apply to above ground or temporary underground carbon dioxide storage. Sources would be required to report the amount of carbon dioxide received, injected and the source of the carbon dioxide, if known.

Except for enhanced oil and gas recovery sites, sources would be required to develop and implement an EPA-approved, site-specific monitoring, reporting and verification plan.

EPA estimates that the cost

for enhanced oil and gas recovery sites would be \$4,000 per year. For carbon sequestration sites, the cost would be \$300,000 per year.

The first annual report would be submitted to EPA by March 31, 2012 for injection that occurred in 2011.

Fluorinated gas emissions reporting requirements would apply to electronic production, fluorinated gas production, imports and exports of pre-charged equipment or closed cell foams containing fluorinated greenhouse gases. According to EPA, fluorinated gases account for two percent of the U.S. greenhouse gas emissions and are the most potent and persistent of the greenhouse gases. These gases are generally much more effective than carbon dioxide in trapping heat in the atmosphere and often remain in the atmosphere indefinitely. About 385 facilities would be required to report, at a cost of \$6.1 million in the first year and \$3.9 million in subsequent years. The reporting timeline would also begin in 2012 for emissions in 2011.

The EPA greenhouse gas reporting proposal would begin with data collection in 2011

RESEARCH BRIEFS

Each month, the committee's staff researches and prepares a number of "briefs" on several topics relevant to the Joint Conservation Committee's mission. Very often, these briefs include references to reports and further research on the topics so that readers may pursue issues on their own.

Pennsylvania Gets Good Grades for its Solar Energy Policies

-- Tony M. Guerrieri, Research Analyst

Eleven states – including Pennsylvania - can go to the head of the class for at least one of their solar energy policies, according to a report by two non-profit groups, the Network for New Energy Choices and the Vote Solar Initiative. The 11 received "A" grades in the 2009 edition of an annual report on net metering practices.

Conversely, nine states were given grades of "D" or "F" in the report, called *"Freeing the Grid: Best and Worst Practices in State Net Metering Policies and Interconnection Procedures."* Another eight states have no statewide policies on net metering and were not rated.

With net metering, solar owners receive credits when they overproduce electricity, with the credits to be applied during times when their systems cannot produce enough electricity. Under best practices, 1 kilowatt hour (kWh) generated by the customer has the exact same value as 1 kWh consumed by the customer.

Net metering is applied to monthly or annual utility billing cycles. If a customer's solar photovoltaic (PV) system is sized to produce a significant amount of the customer's annual electricity needs, it will typically produce an excess of solar electricity during summer months, and will produce less electricity than needed during the winter. A yearly bill may be "netted out" or "zeroed out" to calculate how much overproduction or underproduction occurred.

The sun was shining on Pennsylvania in a study comparing its statewide solar energy policies to other states

The factors involved can be complicated. Among them are the all-important rates at which customers are credited for the solar electricity they produce, the rolling over of credits monthly or annually, the types and sizes of solar systems allowed to participate in net metering, caps on the total amount of net metering that utilities must permit, fees levied, and others.

Forty-two states have statewide net metering programs, albeit of varying quality. States receiving "A" grades for net metering practices in 2009 (in alphabetical order) are Arizona, California, Colorado, Connecticut, Delaware, Florida, Maryland, New Jersey, Oregon, Pennsylvania and Utah. In 2008, only six states were awarded "A" grades.

States receiving grades of "D" in 2009 are New York, North Carolina, North Dakota, Oklahoma, West Virginia and Wisconsin. The report awarded "F" grades to Georgia, Idaho and Indiana.

The eight states which still have no statewide net metering programs are: Alabama, Alaska, Idaho, Mississippi, South Carolina, South Dakota, Tennessee and Texas (although Idaho, South Carolina and Texas have voluntary programs). In addition, Washington D.C. has its own program.

The nationwide report covers both net metering and grid interconnection standards

The report also examined states' grid interconnection standards – the technical and legal mandates involved in approving every new grid-connected solar installation. Among the factors affecting solar owners are requirements some states may have for insurance coverage, manual disconnects for solar arrays, permits and permit processing periods, connection fees and other charges.

Of all 50 states, only Virginia received an "A" for its interconnection standards. The report gave 14 states a "B" for making it relatively easy and affordable to connect solar, wind or other types of systems to the grid.

Pennsylvania, which has been ahead of other states in adopting policies that are friendly to renewable energy, again scored well, adding a "B" for interconnection to its afore-mentioned "A" for net metering.

Twenty states were given grades of "D" or "F" and another ten are without interconnection standards. The "no-standard 10" are: Alabama, Alaska, Idaho, Maine, Mississippi, North Dakota, Oklahoma, Rhode Island, Tennessee and West Virginia.

According to the report, the states leading in "Solar Markets by Installed Grid Connect PV Capacity" were California (528 MW), New Jersey (70 MW), Colorado (36 MW), Nevada (34 MW), Arizona (25 MW), New York (22 MW), and Hawaii (14 MW).

Among the states topping the "Solar Markets by PV Installed per Person" category were California (14.6 W), Nevada (14.2 W), Hawaii (10.6 W), and New Jersey (8.1 W).

In addition to the lists, the report also provides an excellent summary, on a state-by-state basis, of net metering and grid interconnection standards and issues. In addition, recommendations are made for each state to improve their ranking.

The Network for New Energy Choices and the Vote Solar Initiative worked with the Interstate Renewable Energy Council, the Solar Alliance and the North Carolina Solar Center in preparing the report. The 112-page report is available at: <http://www.newenergychoices.org/uploads/FreeingTheGrid2009.pdf>.

EPA Reports Toxic Air Emissions, Criteria Pollutants Have Decreased

-- Craig D. Brooks, Executive Director

Ambient concentrations of six common air pollutants declined between 1990 and 2008, according to a report released by the Environmental Protection Agency (EPA). The report, "Our Nation's Air - Status and Trends Through 2008" also says that toxic air pollutant emissions decreased by 40 percent between 1990 and 2008. The six pollutants are ground-level ozone, particulate matter (PM_{2.5} and PM₁₀), lead, nitrogen dioxide (NO₂), carbon monoxide (CO) and sulfur dioxide (SO₂).

Air monitors across the country that measure air quality show improvement in air quality for the six contaminants since the Clean Air Act was amended in 1990. According to EPA, most pollutants show a steady decline throughout the time period from 1990 through 2008. Lead declined in the 1990s because all lead was removed from automotive gasoline. Stationary source control programs were also implemented to lower concentrations in areas above the national standard.

Nationally, according to the report, air pollution was lower in 2008 than in 1990 for the following:

- 8-hour ozone, by 14 percent;
- Annual PM_{2.5} (since 2000), by 19 percent;
- PM₁₀, by 31 percent;
- Lead, by 78 percent;
- NO₂, by 35 percent;

- 8-hour CO, by 68 percent;
- Annual SO₂, by 59 percent.

Ozone levels did not improve much in the eastern United States until 2002, after which there was a significant decline. According to the report, 8-hour ozone concentrations were 10 percent lower in 2008 than in 2001. This decline has been attributed to the reductions in nitrogen oxide emissions required by EPA's rule to reduce ozone in the East through the State Implementation Plan Call.

EPA's programs to reduce emissions of nitrogen oxides and sulfur dioxide have prevented the deposition of these pollutants in lakes and waterways and have resulted in improving water quality, according to the report. Reducing ambient concentrations of nitrogen oxides and sulfur dioxide have also led to less regional haze and acid rain formation.

EPA's Acid Rain Program has decreased annual emissions of sulfur dioxide by eight million tons (52 percent) since 1990. Sulfur dioxide emissions decreased 1.3 million tons between 2007 and 2008. As a result of the Acid Rain Program, wet sulfate deposition decreased by more than 30 percent in the Northeast and Midwest between 1989 and 2008.

Ground-level ozone and particulate pollution still present challenges in many parts of the country, but EPA expects improvements to continue

EPA also reported emissions of nitrogen oxides decreased by four million tons from 1990 levels. Wet nitrate deposition decreased by 30 percent in the Mid-Atlantic and Northeast and by 20 percent in the Midwest.

Despite these improvements, the report suggests that approximately 127 million people lived in counties that exceeded one or more national ambient air quality standards in 2008. According to the report, ground-level ozone and particulate pollution still present challenges in many areas of the country. However, EPA expects air quality to continue to improve as recent regulations are fully implemented and states work to meet current and recently revised national air quality standards.

Key regulations include the Locomotive Engines and Marine Compression-Ignition Engines Rule, the Tier II Vehicle and Sulfur Rule, the Heavy-Duty Highway Diesel Rule, the Clean Air Non-road Diesel Rule, and the Mobile Source Air Toxics Rule.

EPA's report and more information concerning these pollutant reductions are available at www.epa.gov/airtrends/2010/report/fullreport.pdf.

GAO Questions Interior's Collection of Energy Royalties

-- Tony M. Guerrieri, Research Analyst

The federal government's efforts to ensure accurate measurement of oil and gas being extracted from federal lands is "ineffective and inefficient," raising questions about whether energy companies are paying proper royalties, according to a report by the U.S. Government Accountability Office (GAO). The GAO report, *"Oil and Gas Management: Interior's Oil and Gas Production Verification Efforts Do Not Provide Reasonable Assurance of Accurate Measurement of Production Volumes"*, found that the Department of the Interior (Interior) has been lax in ensuring that taxpayers are receiving their fair share in return for oil and gas leases.

The GAO report faulted Interior for not updating some of its measurement standards in two decades, for falling behind current technologies, for failing to determine its authority over key oil and gas infrastructure, and for failing to meet inspection and calibration goals aimed at maintaining accurate measurements. The two agencies of the department that manage land-based leases (Bureau of Land Management) and offshore activities (Offshore Energy and Minerals Management Service) did not coordinate information and practices, and provided little oversight of officials making crucial decisions on measurement, the report said.

Both onshore and offshore leasing practices came under fire in the GAO report

That is important because such measurements are needed to ensure that producers are paying what they owe. Royalties from oil and gas production on federal lands are among the government's biggest sources of non-tax revenue, generating over \$6.5 billion in 2009. The report does not quantify the potential lost royalty revenue from onshore and offshore leases.

Over the past several years, reports by the GAO, Interior's Inspector General and others have highlighted problems with Interior's oil and gas royalty collection practices. But despite years of critical review, Interior recently lowered its own estimation of the risks of the onshore oil and gas program from medium to low, exempting it from more rigorous internal oversight, the GAO said.

The report found that onshore measurement regulations have not been updated in 20 years and do not address current measurement technologies. Further, the report said, Interior has ineffective and inefficient methods of developing and revising its measurement regulations for both onshore and offshore leases.

The department also has failed to determine the extent of its authority to oversee key elements of oil and gas infrastructure, including gas plants and pipelines, limiting its ability to inspect them and assess the accuracy of their measurements, the GAO said.

Another criticism is that onshore and offshore policies vary, resulting in inconsistent oil and gas measurement practices. Although onshore and offshore staffs face similar measurement issues, they have coordinated only infrequently and missed opportunities to take advantage of shared measurement expertise.

Interior's decentralized process for granting waivers from regulations and approving alternative measurement technologies allows officials to make key decisions with little oversight, the report said. The GAO identified several instances where production measurement staff works with limited oversight.

Some key production verification staff lack critical skills, in part because Interior has failed to provide training. For example, the department has provided training only once in the past 10 years for its onshore engineers, despite significant changes in technology use by industry. Interior's efforts to provide its inspection staff with tools to obtain real-time gas production data directly from producers and the ability to electronically document production inspection results in the field have shown few results, the GAO said.

The audit also found that Interior's production-inspection programs are not consistently setting or meeting goals for inspecting oil and gas leases and do not sufficiently address key factors affecting measurement accuracy, including how gas samples are collected. Offshore inspectors met program goals only once between fiscal 2004 and 2008, and onshore inspectors met program goals about one-third of the time over the past 12 years, the GAO said.

The offshore and onshore inspection programs differ, with only the offshore program establishing goals for witnessing meter calibrations, a key control for accurate measurement, the report said. The offshore program lacks the ability to independently verify gas volume calculations, it added.

The GAO report contains a number of recommendations for Interior to make the system better, including:

- improving the consistency and timely updating of measurement regulations and policies;
- clarifying jurisdictional authority over gas plants and pipelines; and
- providing appropriate and timely training for key measurement staff.

The 130-page GAO report is available at: <http://www.gao.gov/new.items/d10313.pdf>.

Move Toward Fuel-Efficient Vehicles Could Mean More U.S. Jobs, Study Says

-- Craig D. Brooks, Executive Director

Efforts to build more fuel efficient vehicles have the potential to provide jobs for thousands of Americans – provided the federal government adopts policies that encourage manufacturers to create those jobs, according to a recent report.

The report, *“Driving Growth: How Clean Cars and Climate Policy Can Create Jobs”*, suggests that the way in which Congress chooses to address clean energy and climate change will ultimately shape sustained economic growth and jobs.

The U. S. adopted standards in 2007 to increase the fuel efficiency of the new vehicle fleet. This measure, contained in the Energy Independence and Security Act of 2007 increased the fuel economy of the new fleet to 35 miles per gallon (mpg) by 2020.

This standard was increased in May 2009 through a program that combined fuel economy with greenhouse gas tailpipe standards. Under this program, new vehicles will be required to achieve on average, 35.5 mpg and achieve a significant reduction in CO₂ equivalent per mile. This would result in a 30 percent reduction in fuel consumption from 2012 to 2016.

The report predicts a total of 190,000 jobs will be created by 2020 as regulations on vehicle fuel efficiency take effect. This forecast is based on estimated car sales of 15.7 million in 2014 and takes into account the adoption of various technologies currently being used to make fuel efficient engines. Of the anticipated 190,000 jobs, approximately 150,000 could be in the U. S.

There’s no question that the development of new technologies will be necessary to meet fuel efficiency requirements. According to the report, incentives that attract companies to invest in the development of fuel efficiency will be a factor in determining where the jobs are created.

Programs such as the Advanced Technology Vehicle Manufacturing (ADVM) incentive program, which provides low-interest loans for the development of fuel-efficient cars, have been effective in helping companies establish new

domestic industries, and need to continue. Federal incentives through the ADVM have helped fund the development of lithium ion batteries, a key component of plug-in hybrid and electric vehicles. The report suggests that due to these incentives, the U. S. could become a leading producer of these batteries in fewer than five years.

The report assesses the economic benefits, focusing on job creation, associated with growing demand for fuel saving technologies. The forecasts are based on 2014 market size (substantially higher than the current market size), and assume that 13.3 million cars and light trucks will be assembled in North America in both 2014 and 2020, with nine million being produced in the U. S.

Some of the forecasts are outlined below:

- By 2014, the light-duty vehicle fleet will achieve 31.5 mpg. This will add about \$848 to the manufacturing cost of each car and light truck assembled in North America. If this cost is applied across 13.3 million North American assemblies, \$11.3 billion more in content will be added to North American-built vehicles.
- This will create 62,000 additional jobs, of which 20,000-54,000 will be in the U. S. Just under 40 percent of these jobs will be in the auto and auto parts sector. The remaining 60 percent will either be in the broader manufacturing supply chain, including raw materials such as steel or intermediate goods (stamped, machined, molded, cast or forged parts), or in non-manufacturing jobs elsewhere in the economy.
- Achieving 40.2 mpg by model year 2020 would add an additional \$1,152 to the manufacturing cost of each vehicle, for a total of \$2,000 more than in 2008.
- The wide variation in jobs created is due to the unknown potential of the U. S. to capture the production of these advanced technologies. However, our short record so far indicates that policies supporting the domestic manufacture of advanced technology vehicles can be successful.

The report is available at <http://www.nrdc.org/energy/drivinggrowth.asp>.

Check Out Our New Website

Visit Us at <http://jcc.legis.state.pa.us> To See Our New Look

The Committee’s redesigned website is up and running. Please visit the new website at <http://jcc.legis.state.pa.us>.

We are hopeful that you will find it easier to navigate the site and make use of it, and that you will find the new look more attractive.



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ON THE HORIZON...

A LOOK AT UPCOMING EVENTS

No events are scheduled at this time.

Check the Committee website at <http://jcc.legis.state.pa.us> for events that may be added to the schedule.

A REVIEW OF SOME
MEMORABLE COMMITTEE
EVENTS

COMMITTEE CHRONICLES...



As detailed in The Chairman's Corner beginning on page one, the Joint Legislative Air and Water Pollution Control and Conservation Committee's (Committee) April Environmental Issues Forum featured a presentation on a series of illegal dumping surveys performed by PA CleanWays, and analyzed by the Center for Rural Pennsylvania.

In the photo at top left, PA CleanWays President Shannon Reiter speaks to the audience about the findings of the surveys taken in 37 counties of the commonwealth.



At top right, Center for Rural PA Senior Policy Analyst Jonathan Johnson takes a question from the audience about what some of the findings mean.



In the photo at left, Committee Chairman Rep. Scott Hutchinson (center) discusses the impact of the surveys with Johnson (left) and Reiter at the completion of the program.

More than 40 percent were in a waterway or wetland, which is not good for water quality and encourages the presence of pests, like West Nile Virus-bearing mosquitoes.

While being found in 68 percent of the dumpsites made tires the single most common item found, household trash (found in 67 percent of the dumpsites) was close behind, followed by recyclables (57 percent), construction and demolition waste (54 percent), bagged trash (49 percent), yard waste (41 percent), furniture and mattresses (38 percent), vehicle parts (30 percent) and appliances (29 percent).

To learn more about PA CleanWays and view the illegal dumping survey results, visit the PA CleanWays website at www.pacleanways.org

Municipal officials would be interested to know that by far, the largest number of illegal dumpsites can be found in townships of the second class, where 79 percent of the dumpsites were located. Cities were a distant second at nine percent, and boroughs and first class townships tied for third with six percent apiece. Those municipalities with more road miles had more dumpsites. Municipalities with a municipal or regional police force had fewer dumpsites, percentage wise, versus those municipalities that had no local or regional police (33.6 percent versus 66.4 percent).

Factors such as average population, median household value and household income, and poverty rate seemed to make little difference in whether or not a municipality would have a dumpsite(s). However, factors such as population density, changes in population, the percentage of senior citizens, percentage of vacant houses, the homeownership rate, adults with college degrees, commuting times, municipal zoning, taxes per capita and full-time employees per capita (along with the aforementioned police and road miles) did make for a statistically significant difference in whether or not dumpsites were present. Also, a higher percentage of municipalities that had no trash collection and/or curbside recycling services had dumpsites.

As might be expected, the survey results seemed to indicate that illegal dumpers were lazy. They liked sites near municipal roadways and on flat or gently sloping terrain (57 percent of the sites).

The findings and analysis of the surveys have several potential uses for counties and local municipalities. They could be used to:

- ☞ help develop county solid waste plans;
- ☞ prioritize and raise funds for cleanup and litter/dumping abatement plans;
- ☞ educate the public about the problem;
- ☞ assist in enforcing existing laws against littering and dumping; and
- ☞ create new local ordinances if needed.

Working to prevent illegal dumping is something every Pennsylvanian can help with. PA CleanWays is continuing its surveys, so even if your home county has not yet been surveyed, contact PA CleanWays to find out how to volunteer to help. If we all "pick it up" in Pennsylvania every day, we all will benefit.

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