Submitted by Michigan Environmental Council
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4. What are the predicted costs of new energy generation by type in the future? How would a carbon tax, increased carbon regulation, and the elimination of specialized tax treatment impact those cost estimates?

Question 4 addresses both the cost of new energy generation going forward and the impacts that regulations and subsidies will have on those prices. The good news is that the price of renewable energy has dropped significantly over the last four years to a point at which its levelized costs are below the costs of existing or new non-renewable energy sources. The second half of the question raises the important issue of trying to minimize risk of future price fluctuations, or using Governor Synder's frame, how do we design a "no regrets" policy moving forward.

A recent report, "ELECTRICITY REGULATION: What Every State Regulator Needs to Know**,** *How State Regulatory Policies Can Recognize and Address the Risk in Electric Utility Resource Selection,"*[1] highlights the need to improve regulation in this area.

This report suggests an approach—"risk-aware regulation"—whereby regulators can explicitly and proactively seek to identify, understand and minimize the risks associated with electric utility resource investment.

Today's electric industry faces a stunning investment cycle. Across the country, the infrastructure is aging, with very old parts of the power plant fleet and electric and gas delivery systems needing to be replaced. The regulatory environment is shifting dramatically as rules tighten on air pollution from fossil-burning power plants. Fossil fuel price outlooks have shifted. New options for energy efficiency, renewable energy, distributed generation, and smart grid and consumer technologies are pressing everyone to think differently about energy and the companies that provide it.

At its heart, this report is a call for "risk-aware regulation." Regulators must focus unprecedented attention to risk—not simply keeping costs down today, but minimizing overall costs over the long term, especially in the face of possible surprises.

Carbon costs

Fossil fuel-based generation presents a significant risk of future cost increases if either carbon taxes are adopted by Congress or greater carbon regulation is proposed by the Environmental Protection Agency. This fact highlights a shortfall in our current regulatory program, which fails

[1] ELECTRICITY REGULATION: What Every State Regulator Needs to Know**,** *How State Regulatory Policies Can Recognize and Address the Risk in Electric Utility Resource Selection*, CERES Report (April 2012), http://www.ceres.org/files/press-files/risk-aware-planning-and-a-new-model-for-the-utility-regulator-relationship/at_download/file

to account for future risk when evaluating whether utility investments are reasonable and prudent from the perspective of ratepayers.

Under current regulatory practices, utilities are allowed to shift the risk of rate increases to ratepayers. If the price of fossil fuels increase, or costs to control emissions from fossil fuel combustion increase, those costs are simply passed through to ratepayers. In the case of pollution control equipment, utilities actually have a counter-productive incentive in that they earn a rate of return on capital costs of new equipment. So, instead of providing an incentive to reduce risk for ratepayers this actually rewards the utility for investment decision that increase the risk of rate increases by encouraging the continued use of coal-fired power in the future. The regulatory process needs to develop a mechanism that does a better job at rewarding utility behavior that reduces the risk of future price rate increases.

Renewable energy and energy efficiency provide low cost and low risk options for meeting future demand

The costs of renewable energy have been steadily declining. The 2013 MPSC report found that: "The most recent contracts approved by the Commission for new wind capacity have levelized costs in the $52 per MWh range which is about 10 percent less than the cheapest levelized contract prices from a year ago and half of the levelized cost of the first renewable energy contracts approved in 2009 and 2010." And "Almost all renewable energy contract prices are lower than the coal guidepost."

The price of renewable energy in Michigan has dropped from 11.5 cents/kWh in 2009 to 5-7 cents/kWh in 2012. Contracts are currently available that lock these low costs into long-term contracts with relatively small inflationary costs increases. The value of these contracts to stabilize electricity prices and reduce risk must be recognized by the regulatory process.

Energy efficiency is the most cost effective energy resource at less than $16 per megawatt-hour (MWh). The MPSC 2013 Report concludes that the "combined cost of both Subpart A (Renewable Energy Standard) and Subpart B (Energy Optimization Standard) of 2008 PA 295 is the $45.98 per MWh." This is a little more than one-third the estimated cost of new coal at $133 per MWh.

Additionally, the MPSC 2013 report concluded: "**Commission Staff anticipates that the cost of renewable energy will continue to decline, while the benefits from energy optimization savings and emission reductions from offset generation will continue to increase.** The extended tax credit will undoubtedly provide further opportunity for Michigan ratepayers to continue benefiting from reduced renewable energy costs."

Subsidies

Part of question 4 asks about the impact that the elimination of special tax treatment would have a cost estimates. Unfortunately, market manipulation by government entities has altered energy markets for at least the past one hundred years. Those subsidies come in a variety of forms, including research and development assistance, special tax treatment, and regulatory programs

that allow utilities to pass costs such as health care impacts onto residents without accounting taking them into consideration in the decision making process.

Direct Subsidies – A number of subsidies exist at both the state and federal levels for both renewable and non-renewable sources. A study by the Environmental Law Institute, **Estimating U.S. Government Subsidies to Energy Sources: 2002-2008** reviewed the federal subsidies for non-renewable energy versus renewable energy.[2] That report documents subsidies for fossil fuels of over $70 billion dollars, versus $12 billion for renewable resources over the six-year time period.

Although, the level of renewable subsidies have increased since 2008, the same is also true for the fossil fuel industry especially in the area of favorable tax treatment for non-conventional natural gas exploration. Another recent report issued by the Union of Concerned Scientist documents the significant ongoing subsidies received by the nuclear power industry.[3] That report makes the striking finding that

> "[S]ubsidies to the nuclear fuel cycle have often exceeded the value of the power produced. This means that buying power on the open market and giving it away for free would have been less costly than subsidizing the construction and operation of nuclear power plants. Subsidies to new reactors are on a similar path." (pg.1)

Production Tax Credit

The focus of much discussion recently has focused on the relatively recent subsidies for renewable power such as the production tax credit and similar programs. It is important to note that these assistance programs are usually for just the first ten years of the expected life of a facility. Recent estimates showed that elimination of this tax credit (currently scheduled to run through 2013) would add approximately $7 per megawatt hour to the levelized cost of a renewable energy project. Therefore, new contracts signed in Michigan in the $45-$52 range would rise to the $52-$59 range – still lower than the non-renewable alternatives.

State Subsidies

At the state level, the utilities receive a state subsidy for pollution control equipment that in 2011 amounted to over $50 million dollars and an additional $120 million in local tax relief.[4] These subsidies are in the form of exemptions from personal property taxes and sales and use taxes. The companies receive these tax breaks for putting in pollution control equipment necessary to meet federal law. In some cases, these tax breaks are actually harming public health in that they are used to justify continued operations of older, less efficient generating capacity that could be replaced with facilities that would significantly reduce emissions of pollutants.

Indirect subsidies

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[2] http://www.elistore.org/Data/products/d19_07.pdf

[3] Nuclear Power: Still not viable without subsidies, Union of Concerned Scientist (2011), http://www.ucsusa.org/assets/documents/nuclear_power/nuclear_subsidies_report.pdf

[4] http://www.michigan.gov/documents/treasury/AirPCYearlyActivityList2012_410631_7.pdf

The largest single subsidy in the power generation field is the failure of our current regulatory system to consider public health impacts of power generation. In Michigan, our nine oldest coal-fired power plants are estimated to cause $1.5 billion dollars in health care costs and damages to Michigan residents each year. Those same facilities are responsible for an additional $3.9 billion in impacts to residents in other states (total of $5.4 billion annually).[5] If these costs were included in the cost of coal-fired generations in Michigan, the cost of existing generation would increase approximately $25/MWh just to reflect the impacts to Michigan residents. If we considered the impacts to residents across the country that number would rise to $90/MWh.

[5] Public Health Impacts of Old Coal-Fired Power Plants in Michigan, Environmental Health and Engineering, Inc. (2011) http://environmentalcouncil.org/mecReports/PublicHealthImpactsofOldCoal-FiredPowerPlantsinMichigan.pdf (attached)