I was unaware of the January 13th RGGI Advisory Group meeting and, once alerted to it by Senator Antoine Thompson's office, was only able to catch a few minutes. However, in that time I was able to glean that NYSERDA was proposing to spend $9 million in RGGI funds over the next three years on CCS projects. The only NYS CCS project that I am aware of is the new 50 MW coal plant proposed by the Jamestown BPU. For the last four years this project has been vigorously opposed 20 regional, statewide, and national environmental groups including EANY, Earthjustice, NRDC, Sierra Club and Physicians for Social Responsibility. On behalf of our coalition, I strongly urge NYSERDA to stop supporting this project and thus wasting valuable RGGI, SBC, or other funds on it if for no other reason than it is never going to be built.

Here are reasons why this deeply flawed and ill-conceived project is not going to be built:

- The JBPU's existing Carlson coal-fired power plant can and should be shut down without being replaced by a new power plant – thus a new coal plant is not needed
- The proposed new coal plant's output will be very expensive and significantly raise electric rates for Jamestown Board of Public Utilities ratepayers
- Cleaner alternatives are readily available and are much cheaper, e.g. energy efficiency, buying off the NYISO grid, and renewables like wind energy
- This project could never pass a fairly administered prudency test by the NYS Public Service Commission because of its high cost and the existence of much cheaper alternatives
- The proposed plant is five times larger than the 10% portion of JBPU ratepayer electric load which is not already met by low cost hydro power from the New York Power Authority (in 2008 NYPA power met 90% of the JBPU's ratepayer electric load)
- Selling the disproportionately expensive excess power from the new coal plant on the open market would likely to produce huge losses for the JBPU and put the city at financial risk (even if all CCS costs were covered by the federal government)
- Without on-going life-of-the-plant federal or state funding, the JBPU would likely abandon CCS as soon as the demonstration period was over in order to reduce operating costs and minimize expected losses
- The JBPU failed to secure enabling statewide legislation which would make CCS legal in New York
- The proposed but failed statewide legislation did not address critically important liability issues
- Test drilling failed to find geological reservoirs in which to bury CO2
- Key project backers -- Praxair, Inc. and the University of Buffalo -- quit the JBPU project team
- The Oxycoal technology proposed for this project does not lend itself to retrofit applications (which should be a priority at this time instead of building new coal plants) and it is highly inefficient especially in small plants (the 50 MW Jamestown oxycoal coal plant would have an output of just 30 MW)
- U.S. DOE has denied funding for this project twice in 2009

I have attached the following documents which I hope will be of interest:

- **"**Cost of Power for Jamestown Board of Public Utilities Electricity Supply Options: Proposed Coal-Fired Power Plant Is Most Expensive Option Even with Federal Subsidies," Clean Energy for Jamestown, September 17, 2009 (Study + Press Release attached)

- "U.S. Department of Energy Says 'No' to Jamestown, NY's Dirty Coal, Proposal: Environmental, Energy, and Health Groups Celebrate Decision to Deny Funding to Unnecessary Coal Plant," Clean Energy for Jamestown, December 14, 2009 (Press release)
- "A Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy," Clean Energy for Jamestown, December 22, 2009
- " Q&A: A Hard Look at the Oxycoal Project -- It's Time to Call it Quits and Move On," Clean Energy for Jamestown, January 5, 2010
- "End this Bad Idea," Buffalo News Editorial, January 5, 2010

As you know, we are facing a climate change crisis which demands that we spend available resources in the most effective way to bring about a maximum reduction of greenhouse gas emissions. It doesn't sense to waste RGGI or other clean energy funds on highly questionable projects that are not viable and are not going to be built. I strongly urge you to reassign and redirect this CCS funding and to support our "Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy," which is a positive forward-looking statement fully consistent with New York energy policy and NYSERDA goals that prioritize energy efficiency and renewable as the fundamental least-cost strategies for building a green economy while reducing greenhouse gas emissions.

Please let me know NYSERDA's current position on the Jamestown project, the intended use of the proposed $9 million CCS RGGI expenditure, and whether this budget item is being reconsidered. Incidentally, our opposition to the Jamestown project should not be interpreted as opposition to CCS. Many of the groups that are opposed to the Jamestown project (for all the reasons given above) are in favor of demonstrating and commercializing CCS technology.

If you have questions about Jamestown project and our opposition to it, please let me know. I would be glad to share and clarify our perspective, answer questions, and discuss.

Thank you.

Walter Simpson
Clean Energy for Jamestown Campaign

Clean Energy for Jamestown

Alliance for Clean Energy New York + American Lung Association in New York + Campus Climate Challenge, SUNY Fredonia + Catholic Care for Creation Committee of Buffalo + Citizens Campaign for the Environment + Clean Air Coalition of Western New York + Earthjustice + Environmental Advocates of New York + Global Warming Action Network, Syracuse + Great Lakes United + Jamestown Area Concerned Citizens + Natural Resources Defense Council + New York Interfaith Power & Light + New York Public Interest Research Group + Northeast Sustainable Energy Association + Physicians for Social Responsibility, Washington, D.C. + Sierra Club, National Beyond Coal Campaign, Atlantic Chapter, and Niagara Group + UB Environmental Network + WNY Climate Action Coalition + WNY Sustainable Energy Association

For Immediate Release: September 17, 2009

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NEW REPORT: POWER FROM "CLEAN" JAMESTOWN COAL PLANT COULD COST 10 TIMES NYPA RATE

Environmental Groups Release "Plan B," Recommend Cheaper Alternatives, Including Energy Efficiency, Clean Energy

(BUFFALO, NY)—Over twenty environmental groups today released a study that reveals the likely high cost of electricity from Jamestown, New York's proposed new $400 to 500 million 50 megawatt (MW) coal-fired power plant and compares that cost to those from alternative means of meeting ratepayer electric needs. Part of the Clean Energy for Jamestown Campaign, the groups released their own "Plan B" for Jamestown, an alternative strategy for meeting ratepayer electric needs at significantly lower economic and environmental costs.

"The proposed 50 MW Jamestown coal plant has been problematic from the start because of its indefensible economics, now documented by this cost of power study," said Ashok Gupta, Senior Energy Economist for Natural Resources Defense Council. "The good news is that Jamestown can easily meet its electricity needs and do so inexpensively by investing in all cost-effective energy efficiency and renewable energy—an approach which is also best for the environment."

The report, "Cost of Power for Jamestown Board of Public Utilities Electricity Supply Options: Proposed Coal-Fired Power Plant Is Most Expensive Option Even with Federal Subsidies," reveals that electricity produced by the proposed coal plant could be as costly as $0.27/kilowatt hour with carbon capture and storage (CCS). Even if all costs associated with CCS were covered by others (through federal and state subsidies), the report concludes that the cost of electrical power from the proposed plant would be as much as

$0.19/kWh or nearly 10 times more costly than New York Power Authority (NYPA) hydropower (Jamestown's primary source of electricity), five times more costly than meeting electric needs with energy efficiency, and two to three times more costly than generating it with wind power. The full report is available at: http://www.eany.org/issues/reports/costofpower_09172009.pdf and http://www.cleanenergyforjamestown.com/

"Proponents of the Jamestown coal plant have based their support for this project on unsubstantiated claims that it will produce low cost power while nothing could be further from the truth," said coalition leader Walter Simpson. "Our report shows that this project will produce very expensive electricity—much more expensive than the clean energy alternatives that the Jamestown Board of Public Utilities has been ignoring all along. Instead of economic development, the new coal plant would be an economic disaster."

Critics of the coal plant, who believe energy efficiency and wind energy can easily and more cheaply meet Jamestown's electric needs, have pressed the Jamestown Board of Public Utilities (JBPU) to publicly release its own cost of power figures for the proposed coal plant but the JBPU has refused to do so, claiming that it is too early to know what those costs would be. Clean Energy for Jamestown then commissioned its own study funded by the national Sierra Club's Beyond Coal Campaign. Research for the study was provided by Lake Effect Energy, a Buffalo-based environmental consulting firm.

"This study reveals what we are seeing across the country. Coal is simply a poor investment," said Bruce Nilles, Director of the Sierra Club's Beyond Coal Campaign. "In these tough economic times we should be investing wisely, putting resources into cleaner options like energy efficiency and renewables that can meet energy needs without the risks-- financial, health and environmental-- of coal."

The cost of power study uses information provided by a JBPU study (obtained earlier this year through a Freedom of Information Act request) as the basis for the range of costs projected for electricity from the proposed coal plant. The chart below, taken from the report, shows cost of power estimates for various energy supply options. The lowest cost option is NYPA hydropower ($0.022/kWh delivered), which is already the JBPU's primary source of electricity. The JBPU could access more low-cost hydropower by reducing peak demand. Among the next lowest cost sources of power are energy efficiency ($0.03/kWh), purchases off the grid ($0.06/kWh), and wind energy ($0.08 - $0.093/kWh)—all options readily available but dismissed by the Jamestown's municipal power authority.

"It's time for the City of Jamestown and its Board of Public Utilities to recognize reality. The proposed new coal plant is not needed and would break the back of ratepayers and damage our local economy by producing very expensive electricity at a time when much cheaper alternatives are readily available," said Ron Melquist, a leader of the Jamestown Area Concerned Citizens.

"This study confirms what we've known all along. This coal plant is bad for the environment and prohibitively expensive for New York ratepayers," said Jackson Morris, Air & Energy Program Director, Environmental Advocates of New York. "Energy efficiency and clean energy are both cheaper and cleaner than this big ticket boondoggle. These cost comparisons should be the final nail in the coffin for Jamestown's dirty coal experiment."

Other findings of the cost of power report include:

- The JBPU could suffer $22.7 million in annual losses trying to sell 80 percent of the proposed power plant's costly electricity[1] to the New York Independent System Operator (NYISO) grid whose prices now average below $0.06/kWh
- Ongoing annual losses of this magnitude could bankrupt the JBPU
- The proposed coal plant could increase average ratepayer electricity costs by more than $1,000 per year and increase the cost of each kilowatt hour of electricity purchased by ratepayers by four cents compared to the least-cost alternatives advocated by environmental groups

"This 'clean coal' project was never anything more than a wolf in sheep's clothing, and this report exposes it's true, excessive costs and dangerous implications," said Brian Smith, WNY Program Director, Citizens Campaign for the Environment. "It's time to drop this ill-conceived proposal and start implementing cleaner, cheaper and sustainable solutions. The facts are clear, and the JBPU needs to listen."

Clean Energy for Jamestown's "Plan B" outlines an alternative lowest-cost energy solution for Jamestown. Plan B, available at http://www.cleanenergyforjamestown.com/, recommends:

1. Permanently shuttering the existing coal-burning facility.
2. Meeting the 10 percent of the JBPU's ratepayer electric load not now met by low cost NYPA hydropower with a combination of:
   - Energy efficiency
   - Wind energy (only a few turbines would be required)
   - Occasional purchases off the NYISO Western Zone grid if necessary

3. Providing heat to Jamestown's district heating loop by alternative means, e.g. the existing natural gas turbine operated with single or combined cycle heat recovery, one or more natural gas package boilers, or a small biomass boiler or cogenerator utilizing regionally sourced scrap wood that would otherwise be landfilled.

"Subsidies to fossil fuels must be redirected towards energy efficiency and renewable energy projects," said Annie Wilson, Energy Committee Chair of the statewide Atlantic

[1] The proposed 50 MW plant's capacity is far in excess of the JBPU's 5.8 MW ratepayer load not already being met by NYPA power – hence JBPU's need to sell most of the power plant's output to non-ratepayers and the NYISO grid.

Chapter of Sierra Club. “Ratepayers, taxpayers, and our environmental and social health can not afford the costs of imprudent decision-making by utilities and our elected officials.”

“The Jamestown project is an example of how dirty so-called ‘clean coal’ can be,” said Nicola Coddington, Executive Director of New York Interfaith Power & Light. “Even with carbon capture and storage, this plant will spew greenhouse gas emissions equal to 35,000 cars and trucks and cause significant environmental destruction through the mining of coal the plant will consume, an impact which Jamestown is not addressing in any way.”

The Jamestown coal plant project has been under fire from environmental groups for more than four years. Initially, the JBPU planned to build a conventional coal plant without any control on its carbon dioxide emissions that cause global climate change. In response to criticism, the project evolved into a carbon capture and storage demonstration project in 2007, and garnered Governor David Paterson’s support in 2008.

The CCS project is opposed by environmental groups because the power plant is not needed, is too costly, would produce prohibitively expensive electricity (and thus is not a prudent investment for ratepayers or an effective engine for regional economic development), and would be environmentally dirtier than the recommended alternatives. The groups have repeatedly pointed out that Jamestown ratepayer electric needs can be met more economically through energy efficiency and clean energy. Jamestown already receives 90 percent of its electricity from NYPA. The remaining small increment of ratepayer load can be easily met by efficiency and renewables—energy alternatives that the JBPU has refused to evaluate or consider.

The project suffered a series of setbacks this summer. In June, environmentalists prevented project-enabling state legislation drafted by the Paterson Administration from being passed in the State Assembly. In August, it was reported that the U.S. Department of Energy rejected the project’s grant application for $200 to 300 million in “clean coal” stimulus money, causing the project’s principal corporate backer, Praxair, Inc., to pull its support for the project.

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See next page for Electrical Production Cost Comparison chart

Electrical Production Cost Comparison for JBPU Supply Options

Electricity Source	Cost $/kWh	Comments
Low Cost NYPA	$0.022 (delivered)	In 2008, an average of 55.2 MW was purchased by the JBPU. Up to 72.28 MW is available to the JBPU, depending on JBPU load factor
Energy Efficiency	$0.030	Based on the national experience for efficiency programs which provide incentives to ratepayers
NYISO Grid	$0.06	Off-the-grid purchase of electricity from the New York Independent System Operator (NYISO) system; average less than $0.060/kWh in 2007 and 2008
Biomass	$0.070 to $0.090	Based on national averages
Wind Energy	$0.080 to $0.093	Based on various assumptions explained in report
Natural Gas	$0.110 to $0.160	Using existing gas turbine; wide variation in cost due to volatile natural gas pricing and expected CO_2 regulation
Coal (Base Plant)	$0.140 to $0.190	Proposed new coal facility; wide variation in cost due to fluctuating coal prices
Coal with CCS	$0.220 to $0.270	Additional design, construction and operating costs add significantly to power cost; see discussion in report

CO$T OF POWER

for Jamestown
Board of Public Utilities
Electricity Supply Options

Proposed Coal-Fired Power Plant
Is Most Expensive Option
Even with Federal Subsidies

September 17, 2009

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Clean Energy for Jamestown

Clean Energy for Jamestown is a coalition of environmental organizations opposed to the construction of a new 50 MW coal-fired power plant in Jamestown, New York. The coalition believes that Jamestown ratepayer electric needs can be met through a combination of Jamestown's existing New York Power Authority hydropower allocation, energy efficiency, renewable energy, and occasional purchases off the regional electric grid as needed.

Contact: Clean Energy for Jamestown, c/o Walter Simpson, 4 Meadowstream Court, Amherst, New York 14226; 716-839-0062; enconser@buffalo.edu; http://www.cleanenergyforjamestown.com/

Sierra Club Beyond Coal Campaign

The Sierra Club's Beyond Coal Campaign is committed to (1) stopping the construction of dirty, new coal plants by educating investors and decision makers about the economic and environmental risks of investing in new coal, (2) retiring old plants that are the worst contributors to health-harming soot and smog pollution and replace them with clean energy solutions, and (3) working with communities to protect our mountains, lands and waters by keeping our vast coal reserves in the ground.

Contact: Beyond Coal Campaign, Sierra Club National Headquarters, 85 Second Street, San Francisco, CA 94105; 415-977-5500;www.sierraclub.org/coal/.

Lake Effect Energy

Lake Effect Energy, LLC, is a Buffalo, New York-based environmental consulting firm specializing in wind and renewable energy assessment and project development.

Contact: Lake Effect Energy, LLC, 716-238-1308; www.LakeEffectEnergy.com

COST OF POWER

For Jamestown Board of Public Utilities Electricity Supply Options

Proposed Coal-Fired Power Plant Is Most Expensive Option Even with Federal Subsidies

Executive Summary

This report examines electricity supply options available to the Jamestown Board of Public Utilities (JBPU) for meeting its ratepayers'[1] electric needs as it takes steps to close down its existing, aged coal-fired Samuel J. Carlson plant. Our analysis demonstrates that energy efficiency, wind energy, and buying off the regional electric grid are much less expensive options than constructing a new $400 - 500 million 50 megawatt (MW) coal-fired power plant with carbon capture and storage (CCS) capability to meet the small increment of power required by JBPU ratepayers over and above what is already being provided by the New York Power Authority (NYPA). The cost of power to JBPU ratepayers for electricity from the proposed coal plant with CCS could be as high as $0.250 per kilowatt-hour (kWh) – more than 10 times as costly as NYPA hydropower, 5 times more costly than meeting JBPU ratepayer electric needs with efficiency, 4 times more costly than purchasing electricity off the regional grid, and 3 times more costly than generating the needed power with wind turbines. (See Table A on page 12.)

The proposed power plant represents the most expensive supply option available and could result in losses to the JBPU of over $20 million a year and an increase in ratepayer electric rates of 4 cents per kilowatt hour over electric rates that would result from use of the lower cost electricity supply options assessed in this report. If the proposed coal-fired power plant is built, JBPU ratepayers will experience an average annual electricity cost increase of $1000.

The proposed new coal-fired power plant is not a prudent investment for ratepayers or an economically viable option. Contrary to claims made by proponents of this plant, it will not be an engine of economic revitalization and job creation for the area. This study demonstrates that the reverse is much more likely. The coal plant's construction, even if CCS is fully subsidized, could bankrupt the JBPU and devastate the already depressed local economy.

[1] This report contrasts JBPU ratepayers with all of the JBPU's customers which include JBPU ratepayers (who are customers located within the JBPU service territory) and non-ratepayers (who are customers located outside of or external to the JBPU service territory). While the JBPU provides electricity to ratepayers and non-ratepayers alike, its sole statutory grant of authority is to supply power to its ratepayers. NYS General Municipal Law, Section 360(2).

Background & Overview

The JBPU, a municipal utility, supplies the City of Jamestown and some surrounding communities with electricity and other municipal services. In 2008, the JBPU served 16,515 residential, 2,336 commercial, and 127 industrial electrical customers within its 23 square mile district as the local electrical transmission monopoly and as the generator of a small increment of its ratepayer electric load.

As a result of the 1957 Niagara Redevelopment Act, the JBPU is entitled to receive low cost hydroelectric power (i.e. $0.022/kWh delivered) from the New York Power Authority (NYPA). The amount of low cost hydropower the JBPU can purchase from NYPA is based on this formula: 72.28 KW x load factor.[2] In 2008, the JBPU received an annual average of 55.2 MW (or 55,200 KW) from NYPA.[3] This represented over 90.5 % of the electricity consumed by JBPU ratepayers that year. The remaining electricity required by JBPU ratepayers, an annual average of 5.8 MW (or 5,800 KW), was supplied by self-generation at the JBPU's Samuel J. Carlson Plant and occasional purchases off of the regional power grid. Because so much of the power sold by the JBPU to its ratepayers is NYPA low cost hydro-power as opposed to the much more costly JBPU self-generated power, JBPU ratepayers have enjoyed relatively low electric rates. For example, in 2008, average residential electric rates were $0.0684/kWh which is much less than most New York residential customers were charged for electricity.

The JBPU presently operates an old coal-burning facility with four boilers and a relatively new gas turbine, all of which are housed within the Carlson Power Plant complex. This plant generates power that is sold to ratepayers and non-ratepayers. Coal is the Carlson Plant's mainstay. Due to increases in natural gas prices (peaking in the summer of 2008), the electricity generated by the gas turbine is very expensive compared to regional electric market pricing, and the gas turbine is rarely used – despite its $35 million initial cost in 2001-2002 and the on-going need for the JBPU to pay its debt service.[4]

In 2008, the JBPU sold an annual average of 10.1 MW of self-generated power from the Carlson plant to non-ratepayers. JBPU's cost to generate that power in 2008 by burning coal was $0.085/kWh. In 2008, the average New York Independent System Operator (NYISO) West Zone price was $0.059/kWh, which is a full $0.025/kWh less than the JBPU's coal-fired power generation cost. There is no public information from which anyone can ascertain the timing of JBPU electric sales to the NYISO and thus compare NYISO hourly pricing to JBPU hourly generation costs. The large price differential

[2] "Load factor" is defined as average electrical demand divided by peak electrical demand.
[3] The average 55.2 MW of NYPA power received by the JBPU in 2008 includes electricity from the JBPU's 72.28 MW allotment of NYPA power plus NYPA expansion power delivered by the JBPU to certain businesses within the JBPU territory. NYPA expansion power is industrial power from the Niagara Power Project that is reserved for Western New York businesses under New York State law.
[4] In 2008, the JBPU gas turbine's average output was less than 700 KW or less than 2% of its rated capacity of 43 MW (43,000 KW).

between the JBPU's average cost to generate electricity and the annual average NYISO West Zone price, however, raises the question of whether the JBPU may be selling its self-generated electricity at a loss or blended with the low-cost NYPA hydro-power in order to avoid showing losses from these "off-system" power sales to non-ratepayers. If the latter is the case, JBPU ratepayers are subsidizing sales to external customers (non-ratepayers), which is clearly contrary to the JBPU's statutory mandate *and* means the JBPU is in violation of its contract with NYPA because recipients of the low-cost NYPA hydro-power are not permitted to resell that power.

Plans for a New Coal-Fired Power Plant

In 2004, the JBPU publicly announced that it intended to build a new coal-fired power plant to replace two of the four fifty-year old coal boilers and associated generating equipment in the Carlson Plant. Initial plans were to construct a new plant, which would use circulating fluidized bed (CFB) coal combustion technology,[5] which the JBPU called "clean coal" technology even though it would have very little effect in terms of reducing carbon dioxide emissions that contribute to global warming and climate change.

The JBPU Draft Environmental Impact Statement (DEIS) for this original proposal, released in 2006, stated that the capacity of this plant would be 43 MW. The DEIS as well as the JBPU's 2007 Final Environmental Impact Statement and the 2003 and 2004 JBPU-commissioned Orbital Technical Solutions power supply option reports (Orbital reports) did not adequately evaluate alternative supply options, i.e. demand side management, energy conservation and efficiency, wind energy, biomass energy, buying off of the grid, etc. Also, none of the above documents revealed the estimated cost of power from the proposed power plant. Instead, the Orbital reports disguised this cost by only providing estimates of anticipated overall rates to ratepayers based on blending the anticipated high cost of power from the proposed power plant with low cost NYPA hydro-power -- using a formula which was not disclosed.

The initial design and construction cost estimate for this new coal-fired power plant was $145 million. In April 2007, the JBPU commissioned a study from URS Corporation's Washington Division to update these figures.[6] The URS report, dated September 9, 2008, updated and increased the cost of the proposed plant to $159-177 million.[7] The URS Report was based on a CFB plant with a net capacity of 42.47 MW and a gross capacity of 50.10 MW. Even if coal prices stayed at the assumed low price of $49.75/ton,[8] the URS Report demonstrated that the electricity from this plant would be expensive ($0.140

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[5] CFB technology would permit the plant to co-fire coal with petroleum coke, tire-derived fuel, and woody biomass fuels – though the primary fuel would be coal. Pet coke is a refinery by-product. Tire-derived fuel is chipped tires. Woody biomass fuels could be wood waste from the wood processing and furniture industries or virgin wood fuels or urban wood waste.

[6] See resolution #070410, April 24, 2007, JBPU meeting minutes. This resolution, passed 9 to 0, authorized the JBPU management to hire the URS Washington Division to conduct this study for $183,000, http://www.jamestownbpu.com/about/board/min070424.pdf

[7] The URS Washington Division report was entitled, *City of Jamestown Board of Public Utilities Clean Coal Project – Conceptual Design Review and Budgetary Cost Estimate*. The range of costs presented in the report was based on two different plant locations. The URS report stated that the cost of the proposed new coal plant would be approximately $177 million if it were located in the original Carlson Plant site which would require the demolition and reconstruction of the adjacent JBPU operations center. The construction of the new plant in another location on the JBPU property could leave the operations center intact and thus lower coal plant construction costs to $159 million.

[8] U.S. coal pricing has been low and relatively stable until recently. For example, during the 2000 – 2007 period Northern Appalachian coal pricing stayed within the $30-60/ton range. However, in October 2007 Northern Appalachian coal pricing began climbing and rose to over $150/ton by June of that year, demonstrating that much higher prices and substantial price volatility was possible for coal. Due to the current global recession, North Appalachian coal prices have returned to the $60/ton range. See: http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html

– 0.150/kWh[9]) – presumably because of the plant's small size and inability to take advantages of economies of scale. The proposed plant's capacity cost of ~$4 million/MW is exceedingly high.[10]

As previously explained, JBPU ratepayers require a small amount of power over and above their NYPA power allotment, i.e. an annual average of 5.8 MW. So even though the proposed coal-fired power plant was relatively small with a net output of 42.47 MW, it had over 7 times the capacity required to meet JBPU ratepayers' needs – assuming that efficiency measures were not employed to lower that already small non-NYPA-provided ratepayer electric load.

While the JBPU often speaks about anticipated load growth as a rationale for a new power plant, over the past five years electricity consumption by JBPU residential and commercial ratepayers has been relatively constant while that of industrial customers has declined dramatically, leading critics of the proposed new power plant to conclude that the proposed power plant was either grossly oversized or not needed at all, and that its main purpose appeared to be to sell power to non-ratepayers. Project critics also have argued that building a new power plant primarily to serve non-ratepayers was not in the interest of JBPU ratepayers and would be illegal under New York State General Municipal Law.

[9] The URS Report used proprietary EPRI software to calculate the cost of power from the new plant. URS concluded that if the plant operated at a 90% capacity factor, it could produce electricity for $0.1399/kWh and $0.1456/kWh for the $159 million and $177 million plant designs, respectively.

[10] In a 2007 analysis the U.S. Department of Energy's National Energy Technology Lab estimated the average capital cost of proposed new coal-fired power plants in the United States to be $1.56 million/MW; see: http://cmnow.org/NETL%20New%20Coal%205.2007.pdf

Proposed Power Plant Becomes CCS Demonstration Project

In August of 2007, the JBPU announced that its new 43 – 50 MW coal-fired power plant would demonstrate carbon capture and storage (CCS) technology. This announcement followed criticism by local citizens and numerous regional, statewide, and national environmental organizations that the JBPU was ignoring the proposed coal-fired power plant's impact on climate change.[11] The JBPU aligned itself with several CCS proponents and organized the Oxy-Coal Alliance. That Alliance – which apparently has recently been reorganized[12] -- consisted of the Jamestown Board of Public Utilities, Praxair, Inc., the Dresser-Rand Group, Inc., Ecology and Environment, Inc., AES Corporation, Foster Wheeler North America Corp., Battelle, and the State University of New York at Buffalo. All supported "oxy-coal" technology[13] which, according to Praxair, "involves the introduction of pure oxygen instead of air into the utility boiler, creating a highly concentrated stream of carbon dioxide which is more economical to capture than emissions from existing systems."[14]

Proponents claim that oxy-coal technology can capture more than 90% of the carbon dioxide generated by a coal-fired power plant as well as facilitate reduced emissions of sulfur dioxide, nitrogen oxides, and mercury. However, carbon dioxide capture comes at a price. Oxy-coal adds significant design and construction costs and is expensive to operate because of the energy requirements associated with producing oxygen gas for coal combustion. In the proposed Praxair process, oxygen production consumes electricity as well as substantial amounts of natural gas.

The energy consumed by a power plant for its own operations is called its "parasitic load." With CCS, the parasitic load increases dramatically. In addition to the energy requirements of producing oxygen gas for combustion, CCS also involves compressing and liquefying captured CO_2, pumping it to burial sites, and injecting it into underground

[11] As of August 2009, the following organizations have gone on record against the proposed Jamestown coal-fired power plant: Alliance for Clean Energy New York; American Lung Association in New York; Campus Climate Challenge, SUNY Fredonia; Catholic Care for Creation Committee of Buffalo; Citizens Campaign for the Environment; Clean Air Coalition of Western New York; Earthjustice; Environmental Advocates of New York; Global Warming Action Network, Syracuse; Great Lakes United; Jamestown Area Concerned Citizens; Natural Resources Defense Council (NRDC); New York Interfaith Power & Light; New York Public Interest Research Group (NYPIRG); Northeast Sustainable Energy Association; Pace Energy and Climate Center; Physicians for Social Responsibility (PSR), Washington, D.C.; Sierra Club, Atlantic Chapter; WNY Climate Action Coalition; WNY Sustainable Energy Association.

[12] On August 10, 2009, Praxair, Inc. – the Jamestown BPU's primary partner and Oxy Coal Alliance organizer -- announced to the Board of Public Utilities in Holland, Michigan, that it had re-prioritized its oxy-coal project commitments and that conducting a CCS demonstration project at the Holland, MI, site was now its number one priority instead of the proposed project in Jamestown. See: "BPU is Alternative Site," Jamestown Post Journal, August 13, 2009 and "Shift in Jamestown 'Clean Coal' Plans Decried, Lauded – Jamestown Proposal Loses Top Priority," Buffalo News, August 14, 2009..

[13] Sometimes called "oxy-fuel" technology -- though oxy-fuel refers to a range of technologies associated with burning combustible fuels in pure oxygen.

[14] There are three general strategies for capturing carbon dioxide generated by coal-fired power plants. In addition to oxy-coal, there are pre-combustion and post-combustion carbon capture technologies. The former typically use gasification technology to gasify the coal and remove CO_2 before combustion while the latter typically use solvent technology to chemically remove CO_2 from the plant's exhaust stream.

geologic repositories, which may be over one mile deep. All of these functions consume energy[15] and add cost, as does the monitoring of the CO_2 from source to underground disposal site (the latter in perpetuity). Managing risk and covering the liability associated with this process also represent costs to the operator of a CCS facility.

On June 10, 2008, New York Governor David Paterson announced his support for the project and offered to provide the JBPU Oxy-Coal Alliance with $6 million for two stages of "Front End Engineering Design" through the Empire State Development Corporation (ESDC). This funding was tied to various stipulations memorialized in a memorandum of understanding (MOU) signed on June 9, 2008, by Praxair and ESDC. The MOU stated that funding was based on the agreement that CCS would be permanent and that the JBPU plant would minimally capture and sequester ~55% of overall carbon dioxide emissions.[16] This performance standard, based on the carbon dioxide emissions of a combined cycle natural gas-fired power plant, is consistent with regulations being developed by the New York State Department of Environmental Conservation but is much more lenient than the 90% CCS performance standard that the U.S. Department of Energy (U.S. DOE) initially required for federally funded Clean Coal Power Initiative projects.[17]

In January 2009, the JBPU Oxy-Coal Alliance announced it had submitted an application for Clean Coal Power Initiative – Round 3 funding. The exact amount of this request is not known because the application -- submitted by Praxair -- was not made public, but the amount is believed to be in the range of $100-300 million. This application was apparently rejected in July by the U.S. DOE for reasons pertaining to the disappointing geological testing conducted by the JBPU and the questionable economics of the Jamestown project, causing Praxair to announce in August that it was reducing its role in the Jamestown project and prioritizing its commitment to a similar project in Holland, Michigan.[18] The JBPU then met an extended application deadline of August 24th, reapplying for Clean Coal Power Initiative – Round 3 funding apparently with a new, undisclosed primary partner.[19]

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[15] The electric parasitic load of the JBPU's proposed oxy-coal CCS plant would be approximately 40%. This number is derived by dividing the anticipated electrical output of the proposed new plant with CCS, i.e. 30 MW, from its gross output, i.e. 50 MW. If oxy-coal's natural gas consumption is also factored in, the plant's parasitic load climbs even higher. In contrast, the parasitic load of the JBPU's original proposal (without CCS) was 15% based on the anticipated 42.27 MW net output of that design.

[16] The June 9, 2008, MOU established other terms which would have to be met as a condition of receiving ESDC funding. For example, the second segment of Front End Engineering Design or "FEED 2" money would be provided only if the Oxy-Coal Alliance developed a plan to hold JBPU ratepayers harmless against the additional costs associated with CCS and that the JBPU create an effective energy efficiency program for its ratepayers. On February 27, 2009, ESDC and Praxair signed a contract based on the MOU for $3.5 million in FEED 1 funding. FEED 2 funding is pending.

[17] The U.S. Department of Energy recently modified the CCS performance requirements of Clean Coal Power Initiative projects as per the American Recovery and Reinvestment Act of 2009. Eligible projects now must operate at 50 percent carbon capture efficiency and make progress toward a target CO_2 capture efficiency of 90 percent.

[18] See references provided in footnote 12.

[19] See "A Calculated Long Shot," Jamestown Post Journal, August 22, 2009 and "Council Backs project – City promises $145 Million for OxyCoal Plant," Jamestown Post Journal, August 25, 2009.

The total cost of the proposed new coal-fired power plant is estimated to be between $400 million and $500 million, according to recent articles the Buffalo News[20] and Business First of Buffalo[21] newspapers. Of that amount, apparently $159 – 177 million is for the proposed coal plant minus CCS, called the Base Plant hereafter in this report.

[20] "Hopes Rise for Coal Plant in Jamestown," Dave Robinson, March 15, 2009, Buffalo News and "Power Costs Cloud Outlook for Coal Plant," Dave Robinson, July 5, 2009, Buffalo News. Both articles reference a $400 million overall project cost.

[21] "Energy to Burn: Jamestown Coal Plant Polarizes City Leaders, Environmentalists," Dave Bertola, Business First of Buffalo, June 12 - 18, 2009. Article states that Jamestown Mayor Sam Teresi "estimates it could cost more than $500 million – if it gets built." The JBPU has not released any public documents, analyses, or reports on the overall cost of its proposed CCS project.

Cost of Power for JBPU Electricity Supply Options

The JBPU has not released electricity production cost ($/kWh) figures for its proposed coal-fired power plant with CCS. When recently asked about the cost of power from the plant, JBPU General Manager David Leathers told Buffalo News reporter David Robinson: "It's a difficult thing to pin down, but it doesn't mean we're recklessly pursuing a project that doesn't make sense."[22] Robinson further quoted Leathers as saying, "If the cost of electricity is expensive, then the project is not going to go forward."

The JBPU has, however, provided cost of power figures for the Base Plant in the URS Report, and those figures are used here.[23] The projected cost of power for the CCS-equipped coal plant can be estimated by extrapolating from the cost of power figures from the Base Plant.

Table A presents cost of power ($/kWh) estimates for various options readily available to the JBPU to meet its relatively small non-NYPA-provided ratepayer load once the aged coal-fired equipment in the Carlson plant is retired. The narratives following the chart explains the sources of these estimates.

Table A

Electrical Production Cost Comparison for JBPU Supply Options

Electricity Source	Cost $/kWh	Comments
Low Cost NYPA	$0.022 (delivered)	In 2008, an average of 55.2 MW was purchased by the JBPU. Up to 72.28 MW is available, depending on load factor
Energy Efficiency	$0.030	Based on the national experience for efficiency programs which provide incentives to ratepayers
NYISO Grid	$0.06	Off-the-grid purchase of electricity from the New York Independent System Operator (NYISO) system; average less than $0.060/kWh in 2007 and 2008
Biomass	$0.070 to $0.090	Based on national averages as explained below

[22] "Power Costs Cloud Outlook for Coal Plant," Dave Robinson, July 5, 2009, Buffalo News.
[23] The URS Report is described in more detail at pages 3-4 of this analysis.

Wind Energy	$0.080 to $0.093	Based on various assumptions described below
Natural Gas	$0.110 to $0.160	Using existing gas turbine; wide variation in cost due to volatile natural gas pricing and expected CO_2 regulation
Coal (Base Plant)	$0.140 to $0.190	Proposed new coal facility; wide variation in cost due to fluctuating coal prices
Coal with CCS	$0.220 to $0.270	Additional design, construction and operating costs add significantly to power cost; see discussion below

Low Cost NYPA Hydro

The JBPU has regarded the low cost electricity it receives from NYPA as a fixed quantity, though, as previously explained, the amount of low cost hydro-power that the JBPU is eligible to receive annually from NYPA is a function of the following calculation: 72.28 MW x the JBPU's load factor -- where the load factor is JBPU's average electrical demand divided by its peak electrical demand. As previously stated, in 2008, NYPA provided an average 55.8 MW of power to the JBPU, which met 90.5 % of the electric needs of JBPU ratepayers. The JBPU could receive additional low cost power from NYPA if it reduced its peak demand or otherwise flattened its load profile.[24] This could be accomplished by a variety of strategies including energy conservation and efficiency during peak demand periods and demand-limiting strategies and "smart grid" devices that could be activated to turn off electricity-consuming equipment when peak power periods were approached. The JBPU could also utilize pumped hydroelectric storage to reduce peak demand and flatten its load profile – thus accessing more low cost NYPA hydropower.[25]

[24] A flatter electric load profile is one where there is a reduced difference between average load and peak load, producing a flatter demand curve when hourly demand is plotted against time.

[25] Pumped hydroelectric storage involves pumping water to a reservoir located at a higher elevation during times of low demand and then releasing that water and generating power with it during times of high demand. While there are energy losses in this process, they would be of small cost consequence if this strategy were used to access more $0.020/kilowatt-hour NYPA hydropower.

Energy Efficiency

Because reducing energy demand eliminates the need for additional energy production or generation, energy efficiency can be considered an energy supply option. The national experience with ratepayer electricity efficiency programs is that it costs on average approximately $0.030 to save a kilowatt-hour of electricity.[26]

The JBPU's relatively low electric rates would have the effect of discouraging energy conservation and efficiency by reducing the dollar savings associated with energy conservation measures (and making paybacks longer). This, as well as the high proportion of rental properties in Jamestown, suggests that accomplishing electrical energy efficiency in Jamestown might be more difficult and expensive than the national average. However, because the JBPU had no energy efficiency programs for its ratepayers between 1991 and 2007, its ratepayers undoubtedly have an abundance of cost-effective opportunities for energy conservation and efficiency improvement now and in the future. At the insistence of the NYS Public Service Commission, the JBPU recently began a ratepayer efficiency program. Recently, NYPA has also demonstrated an interest in seeing a serious electric ratepayer energy efficiency program in Jamestown. If aggressively pursued, energy efficiency could probably eliminate all or most of the JBPU's non-NYPA-provided ratepayer electric load.

NYISO Grid Purchase Option

The New York Independent System Operator runs the statewide and regional electric grid, scheduling power generation and transmission to meet demand. The average cost of NYISO power in the Western Zone was $0.053/kWh in 2007 and $0.059/kWh in 2008. Thus far in 2009 NYISO pricing has been in the $0.020 - $0.030 /kWh range. Peak summer hourly rates can exceed $0.25/kWh for a few hours at a time. The cost of NYISO power varies each hour – and is lowest during low demand off-peak hours and highest during high demand on-peak hours. While economic recovery will tend to boost NYISO power costs, other factors will have the opposite effect. Aggressive statewide energy efficiency programs, such as New York State's energy efficiency portfolio standard and 45 by 15 clean energy program,[27] should have the effect of keeping statewide electric demand in check or on a downward trajectory – thus maintaining relatively low NYISO Western Zone pricing in the years ahead.

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[26] See the Alliance to Save Energy's "Reducing the Cost of Addressing Climate Change Through Energy Efficiency," http://ase.org/content/article/detail/5426, and "Five Years In: An Examination of the First Half-Decade of Public Benefits Energy Efficiency Policies," http://www.aceee.org/pubs/U041.htm.

[27] For information about New York's energy efficiency portfolio standard and Governor Paterson's 45 by 15 program which seeks to provide 45% of New York's electricity from renewable energy sources and efficiency by 2015, see: http://www.dps.state.ny.us/Case_07-M-0548.htm and http://www.state.ny.us/governor/press/factsheet_0107092.html

Biomass Energy

Jamestown has a district heating loop that uses thermal energy now produced by the coal-fired boilers/generators or the natural gas-fired boiler/generator in the Carlson Plant. Jamestown's plan to retire the Carlson plant should include an alternative means of providing heat to this loop. Increased reliance on natural gas-using existing equipment is one possibility. A small 6 – 10 MW biomass cogeneration unit is another.[28]

The JBPU has already conducted biomass fuel supply analyses. A JBPU-financed report conducted by the Antares Group identifies enough available wood manufacturing residue biomass fuel – sawdust, wood chips, and wood scrap -- within a 100 mile radius of Jamestown to continuously supply 10.75 MW of electrical generation (with complete redundancy).[29] This fuel would qualify as sustainable biomass because it is waste material which might otherwise be land-filled.

The Natural Resources Defense Council states that the national average cost of biomass-generated electricity is $0.070-0.090/kWh.[30]

Wind Energy

The $0.080 - $0.093/kWh range for the cost of power for wind energy provided in Table A was derived from calculations for three wind energy options using average wind resource estimates obtained from the NYS Wind Map, manufacturer power curves for Vestas V82 turbines, existing federal wind subsidies, and average bond interest rates currently paid by the JBPU as follows:

1. Install wind turbines within the 23 square mile JBPU zone. Assume an average of a 6 m/s average hub height wind speed. Estimated cost to JBPU is $0.080/kWh.
2. Install JBPU-owned turbines outside of the JBPU district in locations with a better wind resource than exists in the JBPU area, but with the added cost of transmitting the power over transmission lines owned by National Grid. Assumes hub height wind speed of 7 m/s. Estimated cost is $0.057/kWh + $0.023 = $0.08/kWh delivered to JBPU.
3. Purchase electricity from a commercial wind farm or set of farms in Western New York – several currently are operating and many others are planned. Estimated cost is $0.070/kWh + $0.023 = $0.093/kWh delivered to the JBPU.

Natural Gas-Fired Generation

Natural gas pricing is subject to significant fluctuations. Within the last year, for example, Henry Hub and NYMEX commodity prices of natural gas have ranged from

[28] For a description and explanation of various biomass combustion and generation technologies, see http://www.eere.energy.gov/de/biomass_power.html
[29] See June 18, 2007 study, "Phase II Biomass Fuel Supply Analysis," by the Antares Group.
[30] "Wind, Solar, and Biomass Today," Natural Resources Defense Council, http://www.nrdc.org/air/energy/renewables/biomass.asp

$3/MBtu to $13/MBtu.[31] The delivered cost of natural gas is a function of the commodity price plus a delivery charge of approximately $1.30 per MBtu. Natural gas prices are now low with the economy in recession but were very high before the recession occurred. At a delivered cost of $10/MBtu, natural gas electrical production cost is approximately $0.092/kWh. Stable and potentially lower natural gas prices are possible through the purchase of long tern natural gas futures or long-term purchase agreements with natural gas suppliers.

JBPU Coal-Fired Power Plant I (Base Plant)

The cost of power for the Base Plant (i.e. the CFB coal plant without CCS) consists of the cost of building and financing the project plus fixed and variable operating and maintenance (O&M) costs – including the labor, coal, limestone, ash removal, and other materials and services the plant needs to produce power. It does not, however, include any costs associated with carbon capture and storage, i.e. designing and constructing the CCS systems or operating them. These additional CCS costs are included in the next supply option discussed.

The cost of power for the Base Plant shown in Table A is based on estimates provided in the previously cited September 9, 2008 URS Washington Division report. The URS Report projected a $0.139/kWh and $0.146/kWh cost of power depending on where the plant was built. This analysis increases the range of electricity production costs for the Base Plant to $0.190/kWh in order to allow for the possibility of more expensive coal. The URS Report estimates are based on an assumed coal cost of $49.75/ton yet in 2008 U.S. coal prices rose to over $150/ton. For every $50 increase in the price of a ton of coal, the cost to generate a kilowatt-hour of electricity rises by 2 cents. The upper range $0.190/kWh cost figure is based on a price of $150/ton for coal.[32]

The URS Report also assumes that the proposed coal-fired power plant will operate at an average of 90% of full capacity year round. While this assumption is the norm for thermal generating plant economic analyses, it presents a challenge to the JBPU's coal plant proposal. Our analysis suggests that the proposed power plant is oversized and can only be operated at 90% capacity if most of the plant's output is sold to non-ratepayers. Given the high cost of generating this power, these "off system" sales to non-ratepayers would probably have to be heavily subsidized by JBPU ratepayers in order to make the power cost-competitive on the grid. These subsidies would have the effect of driving ratepayer costs per kilowatt-hour even higher. Alternately, if the plant were run at a low capacity factor in order to match actual ratepayer load (i.e. at an average output much lower than 90%), the plant's debt service and fixed costs would be distributed over far fewer kilowatt-hours – again driving the cost per kilowatt-hour higher for JBPU ratepayers. Thus, the $0.140 – 0.190/kWh range shown on the chart may significantly under-estimate the ultimate cost of power to ratepayers from the Base Plant. This

[31] For natural gas commodity pricing, see: http://tonto.eia.doe.gov/oog/info/ngw/ngupdate.asp
[32] For the price of coal from different domestic sources, see: http://www.eia.doe.gov/cneaf/coal/page/coalnews/coalmar.html

financial risk is further discussed and quantified in the "Additional Analysis" section below.

JBPU Coal-Fired Power Plant II (Base Plant + CCS)

This supply option includes the full coal-fired power plant with CCS as proposed. Carbon capture and storage involves additional design and construction costs over and above those associated with the Base Plant and additional operating costs – specifically in the form of extra electricity and natural gas consumption. That the amount of electricity consumed in oxygen production and carbon dioxide compression and transportation is significant can be seen by the anticipated de-rating of the net output of the proposed power plant with CCS – from 42.47 MW to approximately 30 MW.[33] All other things being equal, this 12.27 MW or 29% loss of net output compared to the Base Plant plus the cost of natural gas used in oxygen production could raise the cost of power from the plant by 40% or more.[34] Thus, our estimate of the cost of power with CCS is $0.080/kWh higher than power from just the Base Plant. This figure is conservative because it does not include additional costs associated with natural gas consumption by the oxygen generation process or the significant additional costs of compressing and liquefying captured CO_2, pumping it to burial sites and injecting it into these sites. We have found no published data estimating how high these costs might be, but note that they must be significant.

[33] 30 MW figure is quoted in "Energy to Burn," Business First of Buffalo, June 12-18, 2009.

[34] 42.27 MW / 30 MW = 1.409, not counting additional costs for natural gas consumed by the oxygen generation process. We estimate natural gas consumption to be 110 MBtu/hr when the plant is operating at full capacity. Depending on the price of natural gas, this additional parasitic load could add additional millions of dollars in annual ratepayer costs.

Additional Analysis and Concluding Remarks

This analysis demonstrates there are a variety of ways to meet the JBPU's relatively small average 5.8 MW non-NYPA-provided ratepayer electric load, and that unfortunately and paradoxically the JBPU has selected an option which will produce much more expensive electricity for its ratepayers. This is the case even if federal grants and subsidies are received to cover the additional costs associated with modifying or upgrading the Base Plant to accommodate and operate CCS.

The JBPU's commitment to this highly expensive option raises issues of ratepayer cost and fairness. It also poses financial risks because the project assumes, without any supportive evidence, that the majority of the proposed coal plant's output can be sold on the open market without incurring losses. This assumption seems highly dubious. More likely, attempts to sell the plant's very expensive power will result in large losses to the JBPU. These losses will have to be covered by ratepayers, the City of Jamestown, or state taxpayers in the form of large annual bailouts.

Ironically, all of this expense and risk would buy a dirty supply option. Assuming the new coal plant operated with 55% CCS, as envisioned by Governor Paterson and pending DEC greenhouse gas emissions regulations, it would still spew 190,000 tons of carbon dioxide into the atmosphere each year—equal to the emissions of 35,000 cars and trucks. All the other options evaluated in this report are much cleaner, with efficiency and wind power having zero emissions.

The cost of power differential between the new coal plant and the cheaper, cleaner options outlined in this report is striking. If we optimistically assume that federal grants and subsidies are secured for all CCS costs including annual operating costs, then JBPU ratepayers will still face enormously burdensome costs based on the cost of power from the Base Plant only: the ratepayers' own cost of power from the Base Plant and the subsidy necessary to make the majority of this Base Plant power cost-competitive for sale to non-ratepayers. The annual amount of each of these costs can be reliably estimated using currently available data. The following calculation compares that cost of power to ratepayers with the cost of relying on a mixture of efficiency, wind, and grid purchases to meet their electric power needs:

- Cost of coal-fired electricity from the Base Plant = $0.140 – 0. 190/kWh
- Cost of efficiency, wind, and buying off the grid = $0.030, $0.090 and $0.060/kWh, respectively, or an average $0.060/kWh
- Cost difference between Base Plant power and meeting JBPU ratepayer electric needs via equal parts efficiency, wind and buying off the grid is $0.080/kWh
- The additional, non-NYPA power required by JBPU ratepayers is 5.8 MW or 5,800KW

- 5,800 KW x 8760 hrs/yr[35] x $0.080/kWh = $4.1 million/year

Thus, the difference in the cost of power between the Base Plant and a mixture of efficiency, wind, and grid purchases would impose a $4.1 million a year additional cost on ratepayers. But, these are not the only additional costs ratepayers will bear. As noted above, ratepayers will also bear the additional costs associated with the anticipated losses the JBPU will suffer when selling excess generation from the proposed power plant on the open market to non-ratepayers through the NYISO. The next calculation estimates those losses:

- The output of the 50 MW plant with CCS will be 30 MW
- At a 90% capacity factor, the average output of the plant would be 27 MW
- Given that ratepayers only require, at most, 5.8 MW (or 5,800 KW), then 21.2 MW (or 21,800 KW) will have to be sold on the open market (or the plant would have to operate even less economically at below 90% capacity)
- Assume that the price difference between the cost of power from the proposed coal plant (not counting CCS costs) and NYISO Western Zone grid power is the existing differential of $0.100/kWh
- 21,2000 KW X 8760 X $0.100/kWh = $18.6 million/year

Thus, extra costs to ratepayers associated with meeting the 5.8 MW non-NYPA-supplied ratepayer load with the new coal plant (Base Plant only) compared to meeting that load with a mixture of energy efficiency, wind energy, and grid purchases is estimated to be $22.7 million/year ($4.1 million + $18.6 million). This amounts to over $1,000/year in extra costs *per JBPU ratepayer*.

Another way of measuring these $22.7 million/year costs is to calculate how much they would increase the cost of all kilowatt-hours purchased by JBPU ratepayers compared to meeting that 5.6 MW load with a mixture of efficiency, wind, and grid purchases. The next calculation estimates that rate increase.

- As per the JBPU 2008 annual report, JBPU ratepayers consume 535,000,000 kilowatt-hours annually (this consists of 91% from the New York Power Authority and 9% from self-generation or grid purchases)
- $22.7 million/535,000,000 kWh = $0.042/kWh

In other words, as a result of incurring the extra costs associated with building this unneeded power plant, *every kilowatt hour of electricity purchased by JBPU ratepayers* would be over $0.040 more expensive than it would be if the 5.8 MW non-NYPA-supplied ratepayer load was met by a mixture of efficiency, wind, and grid purchases. Also, note that all of the above calculations assume that *all costs of carbon capture and storage* – including life-of-the-plant CCS operating costs, CCS design and construction costs, and CCS risk and liability management costs – are paid for by the federal or state

[35] Technically, there were 8,784 hours in 2008 because it was a leap year. Our calculations will use the more standard 8,760 hrs/yr.

government or the private industry partners in the venture. This latter assumption is generous in the extreme and probably unrealistic – so the ratepayer burden most certainly will be significantly greater than estimated here.

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This analysis shows that the JBPU's proposed new coal plant is not a prudent investment for ratepayers or an economically viable option. Not only is it the most expensive and environmentally dirty option, it is also poses the most economic risk to the JBPU, its ratepayers, the City of Jamestown, the local economy, and even New York State taxpayers who could be called upon to financially rescue Jamestown from this ill-conceived project.

Alliance for Clean Energy New York * American Lung Association of New York * Campus Climate Challenge SUNY Fredonia * Catholic Care for Creation Committee of Buffalo * Citizens Campaign for the Environment * Clean Air Coalition of WNY * Earthjustice * Environmental Advocates of New York * Great Lakes United * Jamestown Area Concerned Citizens * New York Interfaith Power & Light * New York Public Interest Research Group * Northeast Sustainable Energy Association * Physicians for Social Responsibility - Washington, DC * Sierra Club Niagara Group * Sierra Club Atlantic Chapter * Sierra Club National Beyond Coal Campaign * UB Environmental Network * Western New York Climate Action Coalition * Western New York Sustainable Energy Association

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US DEPT OF ENERGY SAYS 'NO' TO JAMESTOWN, NY'S DIRTY COAL PROPOSAL

ENVIRONMENTAL, ENERGY & HEALTH GROUPS CELEBRATE DECISION TO DENY FUNDING FOR UNNECESSARY COAL PLANT

(ALBANY, NY)—On Friday, December 4th, the United States Department of Energy (DOE) announced the agency's second installment of Round 3 Carbon Capture and Sequestration (CCS) funding. Three projects received almost $1 billion in federal funds, but a hotly debated proposal in Jamestown, NY, was not among the projects funded. Environmental, health and energy groups have been fighting plans for the "clean" coal plant for years, noting the likely burden on Jamestown ratepayers, including the prohibitively high cost of power from the plant and the fact that the community can meet its energy needs more cheaply and cleanly.

"The U.S. Department of Energy got it right," said Walter Simpson, Clean Energy for Jamestown coalition leader. "This project did not deserve federal funding and DOE withheld it. It just does not make sense to build a completely unneeded power plant—let alone one that burns coal. Now let's hope the message sinks in among community leaders in Jamestown. It's over. It's time to celebrate in Jamestown and across the state that this ill-conceived project was stopped and move on to cleaner, far less expensive options."

"Since the Jamestown project will not receive federal funding, I am hopeful that it will soon join the more than one hundred proposed coal-fired plants that have been rejected or abandoned in the last few years. America is turning away from dirty coal and turning toward clean, renewable sources of energy," said Glen Hooks, Regional Director for the Sierra Club's Beyond Coal Campaign.

The proposed plant would have been the first new coal-fired power plant built in New York in more than 25 years. The federal Department of Energy is instead supporting CCS projects in New Haven, WV, Mobile, AL, and Midland-Odessa, TX with a total value of $3.18 billion. None of the funded projects use oxy-coal technology, as proposed by the Jamestown project. Noteworthy, the New Haven and Mobile projects are retrofits to existing coal plants and thus will produce a net reduction in carbon emissions while avoiding the pitfall of constructing new unneeded coal plants to demonstrate CCS.

“The Department of Energy’s decision to withhold funding from the Jamestown coal plant is a positive step to protect the health of the nation’s public. Coal plants contribute to global climate change and have an adverse effect on health due to the emissions of mercury, SOx, NOx, particulates and other hazardous air pollutants,” said Alan H. Lockwood MD FAAN, Professor of Neurology, University at Buffalo, and Co-Chair, Environment and Health Committee, Physicians for Social Responsibility.

“Every dollar spent to perpetuate the burning of fossil fuels such as coal for energy is a dollar wasted on the past. To help build a future for New Yorkers that is healthy in every way—physically, economically, environmentally—we should make sure all new energy investments are in efficiency and in clean, renewable sources,” said Nicola Coddington, Executive Director, New York Interfaith Power & Light.

”The Department of Energy’s decision to pass on the Jamestown project should be the final nail in the coffin of this ill-conceived proposal,” said Brian Smith, WNY Program Director, Citizens Campaign for the Environment. “It's time for the JBPU to finally get serious about cheaper and cleaner solutions for Jamestown's energy needs, including energy efficiency and renewable energy.”

In the past, project opponents have voiced concerns that federal and state funding would require significant additional public expenditures in the future. These could include subsidies to cover:

- The extra power production costs associated with the plant, given that as much as 30 percent of its output would be needed to operate the oxy-fire carbon capture and storage technology. This substantial “parasitic load” would increase the already high cost of electricity produced by this plant by as much as 40 percent.
- Anticipated losses Jamestown would incur when selling the plant’s expensive excess power—which could amount to 80 percent or more of the plant’s output—to non-ratepayers on the open market where the going rate for electricity will be much lower. These losses could amount to $20 million or more annually.
- Additional public subsidies if the state indemnified the project and agreed to cover liability issues associated with permanent carbon capture and storage. These subsidies could amount to hundreds of millions of dollars over the plant’s 50-year lifespan.

Analyses have concluded that power from the plant would cost between 15 and 20 cents per kilowatt hour even if full Department of Energy funding had been received. This is far in excess of the cost of alternatives strategies for meeting Jamestown ratepayer’s electric needs, e.g. New York Power Authority (NYPA) power ($0.02/kWh), energy efficiency ($0.03/kWh), purchases off the grid ($0.06/kWh), and wind energy ($0.08 - $0.093/kWh).

Environmental organizations opposed to the coal plant have pointed out that 90 percent of Jamestown’s ratepayer electric needs are currently met by low-cost hydropower from the New York Power Authority (NYPA). Thus, the City’s self-generation needs, now said to be met by an older coal plant which should be shut down, are minimal-to-non-existent. Jamestown ratepayers’ non-NYPA-provided-load can be met more cleanly and less expensively by a combination of energy efficiency and renewable energy development.

The groups also oppose the coal plant because it’s dirty. If operated as a CCS demonstration project, the coal plant would only be required to capture and sequester 55 percent of its carbon dioxide emissions. Assuming it could meet that target, the carbon dioxide output from the proposed

plant would still add up to an additional 190,000 tons of climate-altering carbon dioxide into the atmosphere each year—equal to the pollution released by about 35,000 cars and trucks.

The project suffered a series of setbacks this summer. In June, environmentalists prevented project-enabling state legislation drafted by the Paterson Administration from being passed in the State Assembly. In August, it was reported that the project's principal corporate backer, Praxair, Inc., shifted its support from the Jamestown project to one in Holland, MI. The Jamestown Board of Public Utilities went forward with a modified application to DOE for the Round 3 funding that was denied last week.

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Alliance for Clean Energy New York * American Lung Association in New York * Campus Climate Challenge, SUNY Fredonia * Catholic Care for Creation Committee of Buffalo * Citizens Campaign for the Environment * Clean Air Coalition of WNY * Earthjustice * Environmental Advocates of New York * Global Warming Action Network, Syracuse * Great Lakes United * Jamestown Area Concerned Citizens * Natural Resources Defense Council (NRDC) * New York Interfaith Power & Light * New York Public Interest Research Group (NYPIRG) * Northeast Sustainable Energy Association * Pace Energy and Climate Center * Physicians for Social Responsibility (PSR), Washington, D.C * Sierra Club Niagara Group and Atlantic Chapter * UB Environmental Network * Western New York Climate Action Coalition * WNY Sustainable Energy Association

A Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy

Presented by Clean Energy for Jamestown
December 20, 2009

The recent decision by the U.S. Department of Energy (DOE) opens the door to an exciting new direction for Jamestown's energy planning and economic development. By embracing a new direction and strategy, Jamestown can achieve economic benefits and help create jobs that the local economy badly needs.

A Green Energy and Green Economy Plan for Jamestown

In contrast to building a new power plant with all the uncertainty, risk and long term debt that entailed, Jamestown's Green Plan builds on the fact that 90% of the electricity Jamestown ratepayers consume is already being provided by the New York Power Authority (NYPA) in the form of low cost ($0.02/kWh delivered) and clean hydro power. A modest solution to a modest problem makes sense because it is proportionate as well as low cost and low risk. A solution which relies solely or primarily on energy efficiency and renewable energy will be environmentally cleaner and enable Jamestown to shut down a dirty coal plant and achieve 100% carbon-free electricity. And, embracing efficiency and renewable provides the path for Jamestown to readily get support from New York State and the federal government.

Fortunately, switching to clean energy sources is also a proven strategy for economic development. Energy efficiency and renewable energy technologies bolster the economy by producing jobs[1] and lowering energy prices and costs over the long run. Jamestown is well-positioned to take advantage of the Green Jobs/Green Economy planning, programming, and legislation now being enacted in New York and nationally.

Any environmentally and economically sound energy program for Jamestown must start with the permanent closure of the existing coal-burning facility. With that as a foundation, an elegant, simple, sensible, and economically sound least-cost Green Plan is readily available and includes the following elements:

1. **Supplement low cost NYPA hydro-power with approximately 5.8 MW[2] of:**

    - **Energy efficiency**
    - **Wind energy (only a few turbines would be required)**
    - **Solar energy**
    - **Occasional purchases off the NYISO Western Zone grid if necessary**

2. **Meet the thermal requirements of Jamestown's district heating loop by:**

    - **Reducing load through an aggressive energy efficiency program for downtown building owners.**
    - **Providing heat to the loop through alternative means, e.g. the existing natural gas turbine operated with single or combined cycle heat recovery, one or more natural gas package boilers, or a small biomass boiler or cogenerator with the cleanest available technology.**

Thus, from a technical perspective, there is an easy fix for meeting Jamestown's energy needs without the continued operation of the existing coal plant. These strategies will reduce emissions, save money, keep electric rates low, and produce green jobs.

New green jobs in Jamestown will include JBPU efficiency program managers and implementation staff, energy auditors, energy educators, electrical and mechanical contractors who implement commercial and industrial energy retrofits, home weatherization specialists and insulators, wind turbine and solar installers, and possibly biomass cogeneration plant installers and operators if the City decides to utilize that technology.[3] These new good paying jobs will boost the local economy as will lower

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[1] A recent study "The Economic Benefits of Investing in Clean Energy" (Center for American Progress, June 2009) concluded that 16.7 jobs are created for every million dollars spent on clean energy vs.5.3 jobs for every million spent on fossil fuels. See "Clean Energy Investment Creates Jobs in Every State – Fact Sheets for the 50 States and DC."

[2] In 2008, the JBPU's ratepayer electric load was an annual average of 61 MW. Of that amount, 55.2 MW was provided by the New York Power Authority and 5.8 MW was either generated by the JBPU's Samuel Carlson coal plant or purchased of the grid.

[3] The JBPU has already determined though a study conducted by the Antares Group that sufficient reasonably priced and sustainably sourced biomass fuel (e.g. scrap wood) exists regionally to fuel a biomass plant of sufficient size to heat the downtown loop.

electric rates that also have the effect of boosting the economy. By our estimates, the savings will be in the range of $0.02 – 0.04/kWh if electric needs in excess of the NYPA allocation were met by energy efficiency, wind energy, and buying off the grid. Keeping electric rates low will allow Jamestown to hold on to existing businesses and attract new ones.

Resources to Implement a Green Plan

Jamestown city leaders have been extraordinarily effective and successful gaining the support of New York legislators and government officials. This same support is now needed to move forward with a Green Plan. The environmental and clean energy community community also stands ready to support this new direction.

As New York and our nation move aggressively in the direction of a green economy, numerous financial resources are now available to help Jamestown make this transition. These include:

- The **New York State Energy Research and Development Authority** now has increased funding to invest in energy efficiency and renewable energy across New York State. While most NYSERDA funding previously was sourced from the statewide System Benefit Charge, NYSERDA is currently disbursing funds from a variety of Jamestown-eligible sources including the Regional Greenhouse Gas Initiative allocations sales and federal stimulus monies.

- The **New York Power Authority** is active statewide promoting and funding energy efficiency and renewable energy. NYPA provides major assistance to energy users embarking on energy conservation performance contracts and is implement large-scale solar and wind energy projects. NYPA has a special relationship with Jamestown, providing 90% of Jamestown's electricity, and is already playing a supportive role helping Jamestown develop a new energy efficiency program. If Jamestown was prepared to act in a more comprehensive way to meet its remaining electric needs through efficiency and renewables, additional support from NYPA would be available. Among other possibilities, perhaps NYPA would agree to site a large photovoltaic array – as part of the authority's 100 MW Solar PV Initiative[4] -- on the campus of Jamestown Community College to support Jamestown's Green Plan while assisting the college meet its climate neutrality goal as a signatory of the American College & University Presidents Climate Commitment.[5]

- The **American Recovery and Reinvestment Act of 2009** provides $42 billion in stimulus funding for energy programs (plus $21 billion in tax credits). New

[4] See, http://www.nypa.gov/NYPAsolar/invitation.html
[5] See, http://www.presidentsclimatecommitment.org/

York's portion of these funds is distributed through a variety of mechanisms. Energy program stimulus monies available to Jamestown include those administered through NYSERDA as well as through the federal Weatherization Assistance Program for low income families (which the JBPU could harness to reduce its electric load by improving the thermal efficiency of electrically heated homes in Jamestown which are common because of historically low electric rates) and Energy Efficiency and Conservation Block Grants program. There is also stimulus funding available for public housing though the Housing and Urban Development (HUD) provisions of this legislation. Moreover, legislation associated with stimulus funding also includes a variety of tax credits and energy efficiency and renewable energy bonds which a Jamestown Green Plan might be able to take advantage of.

- The **Jamestown BPU Energy Efficiency Program Charge**, implemented in April 2009 as a mechanism for funding the JBPU's new energy efficiency program, could be augmented to increase home-grown funding available for efficiency and even renewable energy installations. Examples of the latter would be providing incentives to JBPU ratepayers for photovoltaic, small wind, or geothermal systems which would also require JBPU provisions for net-metering. While increasing the JBPU EEPC is one option, another would be to join the statewide system benefit charge program. Jamestown should analyze the pros and cons of doing that to see if it would be advantageous.

- NYS also recently passed enabling legislation for a **Property Assessed Clean Energy (PACE)**[6] program that allows local jurisdictions to provide loans to property owners for installing energy efficiency measures

In addition to the above financial resources, Jamestown can draw upon numerous energy efficiency strategies and models which have been developed nationally and are fully vetted to achieve a highly effective and successful energy efficiency program. Improved efficiency will lower overall energy costs for ratepayers because it keeps rates low while enabling customers to meet their electricity needs with less. An aggressive energy efficiency program would reduce the JBPU's need to construct any generation to make up for closing the Carlson power plant, further reducing costs.

Addressing Other Concerns

- **Continued Use of the Downtown District Heating System** – The JBPU is justifiably proud of its award-winning downtown district heating system which has primarily run on waste heat from its power plant. However, it does not make sense to continue the operation of an aged, polluting existing coal plant or build a new unneeded one to continue to provide that service. Fortunately, as noted

[6] See http://www.ny.gov/governor/press/press_1120093.html and http://www.whitehouse.gov/assets/documents/PACE_Principles.pdf

above, there are other ways to provide heat to that loop, e.g. by using the JBPU's existing natural gas turbine operated with single or combined cycle heat recovery, one or more natural gas package boilers, or a new relatively small biomass boiler with cogeneration. Providing heat to the loop from these more expensive sources may raise thermal rates for loop customers (which now appear to be subsidized by electric customers) but this drawback pales in comparison to the costs and risks associated with building a new power plant. Higher thermal rates could be offset or neutralized by a JBPU-sponsored program to assist loop customers improve the thermal efficiency of their buildings and thus reduce their need for more expensive heat from the loop.

- **Tax Equivalent Payments (TEPs) –** TEPs made by the JBPU electric division to the City and local school board amount to about $3.2 million per year and are funded by ratepayers through the price they pay for electricity. TEPs levels are based the assessed valuation of the JBPU and the volume of electric sales. TEPs payment levels can be maintained by revising the formula on which they are based in order to reward energy efficiency.

- **Demolition of the Existing Power Plant** – It has been said that NYS Public Service Commission's permission to the JBPU to establish a fund to pay for the demolition of the existing Carlson plant is contingent upon plans to build a new plant. Undoubtedly the PSC will allow the JBPU to raise funds from ratepayers for this purpose irrespective of whether a new coal power plant is planned or built.

- **Power Plant Jobs** – Approximately 30 people work in the existing Carlson plant and there is an understandable desire to retain these jobs while still operating the JBPU efficiently and cost-effectively for ratepayers. Green Plan requires new staffing for energy efficiency programming which could be accomplished by new hires as well as retraining and reassigning some existing staff. Layoffs could be avoided by normal attrition and by reassigning staff throughout the JBPU organization. Of course, if a small biomass cogeneration plant were built as a Green Plan option, it would require power plant staffing.

- **Reliable Electric Service** – The JBPU's reputation for reliable electrical service has been attributed to its history of self-generation. However, the Carlson plant has often been off-line without any noticeable effect on reliability including for many months during 2009. As previously explained, the vast majority of the electricity the JBPU provides its ratepayers is generated by NYPA. This power is delivered to Jamestown via the regional electric grid. If the grid goes down, even without an old or new power plant the JBPU could meet some of its ratepayer electric load with its 40 MW gas turbine which is rarely operated but could be available for service.

We strongly urge Jamestown city leaders to take advantage of this opportunity to move in a new and promising direction. We are optimistic that if government and community leaders, environmental organizations, and citizen activists join together and support an effort to move ahead with an exciting Green Plan, we can not only meet Jamestown's electric needs but also create green jobs and a new clean energy economy.

CLEAN ENERGY FOR JAMESTOWN

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Sierra Club Atlantic Chapter

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Buffalo News Editorial

End this Bad Idea

Jamestown power plan lacks support, board should drop the project

January 05, 2010

It is time for the Jamestown Board of Public Utilities to learn what "no" means.

First an analysis by some independent energy consultants reported that plans to graft some experimental "clean coal" technology onto an oversized and unnecessary power plant the board is determined to build stood to create some of the most expensive kilowatt hours to be found in these parts. Then Praxair, the corporation with the know-how behind the idea to remove the climate-changing carbon dioxide from that plant and store it in underground hollows, shifted its focus to another project in Michigan, where, the engineers said, the hollows are better.

Finally, early last month, the U. S. Department of Energy decided not to include the Jamestown project—or Praxair's Michigan alternative—among those that are to receive billions in federal dollars intended to test various carbon-capture schemes.

Officials of the Jamestown board reportedly are poring over their documentation and awaiting a formal rejection letter from the DOE before deciding what to do next.

The answer should be simple: Drop the project.

From the beginning, it has been clear that the small city of Jamestown has no business going deeper into the expensive and potentially filthy power generation business. Most of its juice already comes from the pollution-free hydropower of the New York Power Authority, and the rest of its needs can clearly be met through a combination of purchases off the grid, conservation and, as the community grows, adoption of other renewable sources such as wind power.

The dream of turning its otherwise unnecessary coal-fired power plant into a shining example of a new way to burn America's abundant coal without wrecking the world's weather certainly sounds attractive. But, as the many critics of the plan have convincingly argued, it is less attractive than trying it out on a power plant that is already belching out tons of climate-changing gases.

If the carbon-capture technology doesn't work, or if making it work is so expensive that nobody can afford to operate it, running the test on an existing power plant leaves us no worse off than we were before. If Jamestown builds a new plant only to find out that the carbon can't be economically captured, then the city is left with a new coal-burning plant that it either has to operate in order to make back its investment, or shelve as a way of stanching the flow of money and the release of soon-to-be banned or heavily taxed carbon.

Two of the three carbon-capture experiments that the feds have agreed to fund are at existing power plants. None of them uses the same kind of technology that Praxair and Jamestown were eyeing for their project.

The mere fact that Jamestown didn't win any money in the last round of grants is not, in itself, any great shame. There were, as is often the case, more ideas than there was money. But the fact that nobody except the empire builders on the Jamestown board seems to think their "clean coal" project stands to turn out to be anything of the kind should, by now, have sunk in.

Drop the idea, before it costs the people of Jamestown any more money than it already has.

Q&A

A Hard Look at the Oxycoal Project
It's Time to Call it Quits and Move On

Dear Community Leader, please consider this alternative perspective on the new coal-fired power plant being proposed by the Jamestown Board of Public Utilities (BPU). Included in this packet of information is this **question and answer statement** plus **a press release** and **green plan for Jamestown** recently released by Clean Energy for Jamestown, a coalition of 20 regional, state, and national environmental groups which are opposed to this project, and a **DVD presentation** which was prepared before the December 4, 2009, U.S. Department of Energy (DOE) announcement denying funds to the project. While the green plan lays out a sensible least-cost low risk approach for the BPU to move forward meeting ratepayer's electric needs while boosting the local economy, the DVD presents our environmental and economic analysis of the coal plant project and makes clear that the recent DOE announcement was a good thing because it has stopped the BPU from making a huge mistake building a costly unneeded power plant which could financially undermine the BPU and the City, damaging Jamestown and its economy for years to come. Please have an open mind as you read and view these materials. And, if you agree, please privately or publicly speak out in order to encourage City and BPU leaders to move on. A great deal of ratepayer and state resources have already been spent on this project. There is no point in continuing that spending when it is now clear that this project is not the best for Jamestown and is not going to be built. Fortunately, as our green plan makes clear, there are alternatives and they are good ones.

Ron Melquist, Jamestown Area Concerned Citizens, rmelqist@netsync.net, 484-9636
Walter Simpson, Clean Energy for Jamestown, enconser@buffalo.edu, 839-0062

Did the U.S. Department of Energy (DOE) make the right decision when it recently denied hundreds of millions of dollars in funding for the Jamestown coal plant and carbon capture and storage (CCS) project?

Yes it did. The DOE decision was the right decision and was good news for the Jamestown community because it prevents the BPU from making a huge mistake, i.e. incurring minimally a $145 million ratepayer debt[1] to construct an unneeded new $500 million power plant with all the financial risks associated with that endeavor.

[1] The BPU has publicly stated that ratepayers would pay no more than the original estimate for the proposed coal plant, i.e. $145 million. This estimate is a few years old and is based on building a conventional coal plant with no controls on carbon dioxide emissions which are known to cause global warming and climate change. Current estimates for the overall cost of the plant with carbon capture and storage apparently have risen to as much as $500 million. Presumably the difference between these two numbers would be paid by the federal government and other non-ratepayer entities if this project were to move forward. The recent DOE decision denies the BPU the sought after federal portion of funding. While the BPU is still saying that federal funding could be forthcoming, it should be clear by now – after two denials of funding by the DOE – that the federal agency is not impressed with the project.

What did the project have going against it?

Judging from the three projects the DOE did select, at 50 MWs the Jamestown project may have been too small and may have been using technology, i.e. oxycoal, that the DOE did not think was as attractive or as ready as other CCS technology. Significantly, the DOE decided to fund two retrofit projects where CCS technology would be adapted to existing coal plants – an approach favored by many in the environmental community because it allows CCS testing to proceed while avoiding the construction of new unneeded coal plants.

Also, the DOE must have noticed that the BPU's primary corporate partner, Praxair, Inc., and only academic partner, the University at Buffalo, quit the project -- presumably because of its perceived weaknesses. These defections occurred after the DOE denied funding for the project the first time this past summer.

Additionally, DOE must have been aware that the BPU and its supporters were unable to get the state legislature to pass a law allowing CCS in New York and that even the unsuccessful proposed law offered by Governor Paterson did not address liability issues. Moreover, DOE knew that BPU test drilling, which was conducted covertly and apparently without legal authority, was unsuccessful in finding suitable underground carbon dioxide reservoirs.

Furthermore, the Jamestown project is opposed by twenty environmental organizations – including well respected national organizations like the Natural Resources Defense Council, Sierra Club, Earthjustice, and Physicians for Social Responsibility -- which have pointed out that the proposed coal plant is <u>not</u> needed to meet ratepayer electric needs, will significantly increase electric rates and run the risk of incurring large losses (even if all CCS costs are covered by the federal government), and would not be able to pass a fairly administered NYS Public Service Commission (PSC) prudent investment test because much cheaper alternatives are available to the BPU for meeting ratepayer electric needs -- though these alternatives have been steadfastly ignored by the BPU from the beginning when the project was defined as a conventional coal plant 4 or more years ago.

Thus, when the DOE evaluated the BPU application, they probably saw this long list of problems:

- The proposed plant is not needed by Jamestown ratepayers
- The proposed plant, while oversized compared to ratepayer needs, is too small for an effective CCS test
- Oxycoal is not the best technology to fund at this time
- The project has severe economic problems even if federal funding covered all CCS costs
    - The plant will produce very expensive electricity, significantly raising electric rates -- thus harming ratepayers
    - Cleaner alternatives are available and are much cheaper, making the project unlikely to pass a NYS PSC prudency (thus blocking construction)
    - Selling the excess power from the new coal plant on the open market would produce huge losses for the BPU and put the city at financial risk

- Proponents have failed to secure enabling statewide legislation which would make CCS legal in NYS
- Test drilling has failed to find geological reservoirs in which to bury CO2
- Over twenty top environmental organizations have been and continue to be vigorously opposed the project

Bottom line: The DOE would have to be crazy to fund a project with these fatal flaws, especially when attractive, viable CCS demonstration projects exist elsewhere.

Then, is the proposed new coal plant dead?

The DOE decision should make it clear to all that there is no point in further pursuing this costly, risky, unnecessary, and now doomed project. Yet, contrary to the interests of ratepayers, Mayor Sam Teresi, the BPU, and apparently the City Council continue to support this project and are willing to continue spending ratepayer money developing and promoting it.

But isn't the new coal plant needed as a way of keeping electric rates low?

Mayor Teresi and BPU General Manager David Leathers keep saying this but neither has ever produced an analysis which demonstrates this claim. In our study on the cost of power from various supply options available to the BPU[2], we estimated -- based on a BPU study which the BPU spent over $200,000 on but now claims was inaccurate -- that even if all CCS costs are paid for by the federal government, it will cost the BPU at least 14 cents per kilowatt hour to generate power from the new plant. This compares very unfavorably to meeting ratepayer electric demand with energy efficiency (national average $0.3/kWh; NYS average $0.01/kWh), buying off the grid (less than $0.06 in 2007 and 2008; $0.03/kWh in 2009) and wind energy ($0.09/kWh). Note: Even if the BPU study we based our analysis on is off by a few cents per kilowatt hour, that would not change the fact that the BPU's proposed plant would produce power at a higher cost than the alternatives we recommend.

The proposed new coal plant is the most expensive option available to Jamestown in terms of initial cost, operating costs, cost of generation, impact on rates, and financial risk. As planned, even at just 50 MW (with an expected output after CCS of only 30 MW), the proposed new plant is also oversized by a factor of five compared to actual existing ratepayer electric demand. That means that 80% of its output will have to be sold on the open market where power will probably be much cheaper, setting the BPU up for huge losses that will further increase electric rates for ratepayers and possibly cause the BPU to go into bankruptcy. This is precisely what happened to private investor-owned utilities in the 1980s when they built over-sized power plants based on anticipated electric loads which never materialized. Across the country, utility after utility went under as they raised rates to cover their losses; higher rates caused demand to shrink even more which further increased losses and provided an impetus for further rate increases -- thus fueling a spiral of rate increases, demand contractions, and losses which drove company after company

[2] See "Cost of Power for Jamestown Board of Public Utilities Electricity Supply Options - Proposed Coal-Fired Power Plant Is Most Expensive Option Even with Federal Subsidies," Clean Energy for Jamestown, September 17, 2009. For a copy, contact us or see http://www.cleanenergyforjamestown.com/Cost_of_Power_Study.html

into bankruptcy. It was called an "economic death spiral" by many analysts, and Jamestown is likely to follow the same path if it goes forward with a new costly unneeded power plant.

Let's tell the truth. What has kept electric rates low in Jamestown has nothing to do with Jamestown generating its own power. Rates are low because 90% of the BPU ratepayer electric load is supplied by the New York Power Authority in the form of hydroelectricity which costs the BPU only 2 cents per kilowatt hour delivered to Jamestown.

Moreover, once you appreciate the fact that 90% of BPU ratepayer electricity is already supplied by NYPA at an extraordinarily low price it is easy to see the folly of building an expensive new power plant for the small remaining increment of ratepayer load. It just does not make sense to spend $500 million – or even the $145 million that supposedly ratepayers would pay -- to build a new power plant to supply only 10% of ratepayer electric needs in a small, financially strapped city like Jamestown -- especially when much cheaper, easier, cleaner, less risky options exist.

How much has the BPU spent promoting and developing the new power plant project?

The Mayor and BPU have never released this figure (and clearly an audit of the BPU should be conducted to find it out) but we estimate that approximately $6 million in ratepayer money have been spent to date on this project to cover staff time, consultant fees, legal counsel, lobbying, and public relations (plus a similar amount of state money). Needless to say, $6 million of ratepayer money is a large sum to spend on this project given BPU's small rate base; the BPU has approximately 20,000 residential, commercial, and industrial ratepayers, so on average each has paid through their electric bills around $300 for this project so far. How many ratepayers would voluntarily agree to pay that amount? Probably very few yet nonetheless their money was spent on this project by those directing and managing the BPU.

How much is the BPU continuing to spend right now?

A recent article in the Jamestown *Post Journal* stated that the BPU's 2010 budget contains $500,000 for the oxycoal project. Plus, a few months ago the BPU hired a new deputy general manager for the oxycoal project whose salary is probably in the $100,000+/year range. This on-going $600,000 expenditure raises questions about BPU leadership and management. It seems obvious that this is a case of throwing good money after bad. How much more ratepayer money will the BPU spend on this project before it admits that the project has failed and that the very small energy problem created by closing the existing Carlson coal plant can be solved easily and cheaply with a different strategy?

What alternative exists to building a new coal plant? How else could the BPU meet its ratepayer's electricity needs while shutting down the 50 year old Carlson plant?

This question is easy to answer once you remember that 90% of the electricity BPU ratepayers consume is already being provided very cheaply at 2 cents per kilowatt hour from NYPA. Instead of building an expensive new power plant to meet just 10% of its ratepayer electric load, here is what the BPU should do – and could do at a fraction of the cost of building a new plant while keeping electric rates much lower:

1. Supplement low cost NYPA hydro-power with approximately 5.8 MW[3] of some combination of :

    - Energy efficiency
    - Wind energy (only a few turbines would be required)
    - Solar energy
    - Occasional purchases off the regional grid if necessary

2. Meet the thermal requirements of Jamestown's district heating loop by:

    - Reducing load through an aggressive energy efficiency program for downtown building owners
    - Providing heat to the loop through alternative means, e.g. the existing natural gas turbine operated with single or combined cycle heat recovery, one or more natural gas package boilers, or a small biomass boiler or cogenerator with the cleanest available technology

Thus, technically speaking, there is an easy solution to Jamestown's perceived energy problem. This alternative solution is environmentally attractive, more affordable, less risky, and brings with it economic benefits as explained in our enclosed "A Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy."

But we were told that the new power plant would bring significant economic development and new jobs to Jamestown. Why sacrifice that?

Supporters of the new coal plant may sincerely believe that it would bring prosperity to Jamestown but they ignore evidence to the contrary -- the most obvious being the recent DOE refusal to fund the project. Thus the hoped for infusion of big federal dollars is null and void. But even before DOE announced its decision to deny Jamestown funding, the project did not make sense as an engine of economic development because at best it would fuel a boom and bust economic scenario. Yes there would be an influx of cash and jobs during construction but that would be followed by an economic downturn lasting many years as a result of needlessly higher electric rates and mega-dollar losses associated with selling excess power from the plant on the open market at prices below its generation cost. It's important to remember that the new coal plant would cost ratepayers a minimum of $145 million even with full federal funding for the CCS portion of the project. This is way too much to spend on a power plant that is not needed in the first place. That debt plus the higher electric rates it would produce and the losses associated with off-system sales to non-ratepayers would hurt the BPU, the City, local economy, and prospects for job creation or retention over the long run.

But isn't the BPU's electric load increasing? Shouldn't we think long-term? Doesn't Jamestown need a new power plant to meet future electric need?

[3] In 2008, the BPU's ratepayer electric load was an annual average of 61 MW. Of that amount, 55.2 MW was provided by the New York Power Authority and 5.8 MW was either generated by the BPU's Samuel Carlson coal plant or purchased of the grid.

The BPU's ratepayer electric load has decreased for the last five years. There is no evidence demonstrating that it will substantially increase in the coming years, justifying a new oversized, extremely expensive 50 MW coal-fired power plant. In fact, since the power plant will increase electric rates – we estimate by as much a 2 to 4 cents per kilowatt hour compared to lower cost supply options – it would more likely chase away business and thus further reduce ratepayer electric demand.

How would the alternative solution – efficiency and renewables with modest "as needed" buying off the grid -- affect the local economy? Could it bring money into the community? Could it foster job growth and economic sustainability?

In contrast to building a new power plant, pursuing the simple, inexpensive, and "least cost" solution outlined here will minimize risks and keep electric rates low while bolstering the local economy. This alternative solution could be funded by New York State Energy Research and Development Authority (NYSERDA), the New York Power Authority, the clean energy and green economy programs established by the American Recovery and Reinvestment Act of 2009, and the BPU's own Energy Efficiency Program Charge. These options are explained in more detail in the enclosed "Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy." Additionally, New York State has just passed an innovative green jobs law to ramp up statewide home weatherization. Jamestown could seek to become a "target community" under this law to maximize energy and jobs benefits. Implementing this alternative approach will bring money into the Jamestown community, producing jobs inside and outside the BPU to implement greater energy efficiency and reliance on wind, solar, and possibly biomass energy.

If the new power plant project is potentially economically disastrous and an alternative approach would be economically better, why haven't local manufacturers spoken out?

This is anyone's guess though some manufacturers – like many others in the BPU service territory -- may have taken the BPU's word on the project instead of carefully examining it themselves. Some manufacturers may harbor doubts but may have received special custom electric rates from the BPU in tacit exchange for their silence. The manufacturers association has not represented local business well by supporting a project which would needlessly and substantially increase electric rates.

Why haven't we heard this point of view in the Post Journal?

While the Post Journal occasionally permits alternative views on this project to grace its pages, it has generally functioned as a project booster, reporting the BPU perspective.

But, in the end, isn't it important that the BPU stay in the electric generation business?

Maybe in the past it made sense for Jamestown to generate its own electricity but no longer. The Carlson plant has been off line much of the year and who noticed? Aside from providing heat to the district heating loop (which can be accomplished by other means), the Carlson plant is not

needed any more than a new plant would be needed -- because, as previously explained, 90% of BPU ratepayer electric needs are met by very cheap power from the New York Power Authority and the rest of BPU's ratepayer load can easily be met through the alternative and cost-effective strategies of energy efficiency, renewables like wind energy, and occasional, modest purchases off the grid at much lower costs than generating power from the Carlson plant or a new plant.

There is a justifiable concern about the fate of BPU staff who now work in the Carlson plant but maintaining those jobs by building an expensive new unneeded power plant is not in the interest of ratepayers who should be the BPU's first concern. Hopefully, the staffing issue could be humanely addressed through attrition and reassignment.

Finally, what about the 2.5% rate increase the BPU just filed with the Public Service Commission? Is that justified?

Not at all – especially when you consider the vast sums of ratepayer money the BPU has poured down the drain and is apparently committed to continuing to waste on an unneeded power plant that if built would damage the long term prospects for prosperity in Jamestown, has just been denied funding by the U.S. Department of Energy, is adamantly opposed for many valid reasons by perhaps the strongest environmental coalition in New York State, could never pass a PSC prudency test, and is never going to be built. The BPU has demonstrated a willingness to waste an unprecedented amount of ratepayer money on this project and for that reason alone does NOT deserve a rate increase. Instead it should be cutting unnecessary costs and committing itself to least-cost energy strategies so that rates move in the other direction – toward the $0.02/kWh that it pays to NYPA for 90% of the power consumed by its ratepayers.

What's needed now?

1. Mayor Teresi and BPU should announce that they have made a decision to stop spending money on a project which will never be built.

2. The BPU should finally commit to examining and pursuing a least-cost energy solution to what is really a very small problem, i.e. finding an alternative way of meeting just 10% of BPU ratepayer electric load as it shuts the Carlson plant down as soon as possible. The outline of a cost-effective alternative strategy is presented above and is contained in the enclosed "A Proposal to Meet Jamestown's Electricity Needs at a Lower Cost while Creating a Local Green Economy."

Because of the resistance of BPU and City leaders to admit the weaknesses of this project and accept the reality of the DOE decision, neither of the above outcomes is likely to occur unless residents and ratepayers speak out and demand it. Voicing your opinion can be done publicly or through private conversations with the decision-makers who keep spending your money and pushing this project when it doesn't make sense and is not going anywhere.

It's time to move on.

(January 5, 2010)