RIVERKEEPER®

July 8, 2008

Energy Plan Comments
NYSERDA
17 Columbia Circle
Albany, NY 12203-6399

Re: Riverkeeper, Inc. Scoping Comments to the Draft Scope of the 2009 New York State Energy Plan

To the Energy Planning Board:

On behalf of Riverkeeper, please find enclosed my comments on the above referenced draft plan for New York State. Riverkeeper looks forward to playing a key role as an environmental stakeholder throughout the Board's planning process, and appreciates this opportunity to be involved in such a critical endeavor.

Sincerely,

Phillip Musegaas

Phillip Musegaas
Acting Policy Director

July 8, 2008

Riverkeeper, Inc. Response to NYSERDA Scoping Document

Memo to: New York State Energy Planning Board

On behalf of Riverkeeper, please find enclosed my comments on the Draft Scope of the 2009 New York State Energy Plan, as requested by the New York State Energy Planning Board. Our response falls into two sections. The first, "Overview" section, is intended to provide Riverkeeper's observations on the current state of national and state energy policy, and several key principles regarding a sound energy policy. The second section, "Specific comments" are a set of observations that are arranged around key themes like "efficiencies" or "CO_2 reduction". As the scoping document is largely aspirational, we have not responded to each paragraph or subsection. Rather, we have attempted to capture the key areas of concern or opportunities that will likely shape the plan going forward, and provide our insights.

Riverkeeper would first like to take the opportunity to commend the State for formalizing its energy planning needs and including environmental stakeholders, such as Riverkeeper, as active participants in this process. We are mindful of the complexity of the problem you are tackling, and aware of the vast array of needs represented by the constituents of the State of New York. We are similarly aware of the external pressures that make this process one of extraordinary import. The value of the State's final 2009 plan cannot be overstated, as it has the potential to express true leadership on an issue critical to the State's future. The Energy Planning Board has a mandate from Governor Paterson to lay the groundwork for a transformation in the energy sector that is long overdue and desperately needed to address both short and long term energy issues. Your leadership will make the difference in truly transitioning our state to a new energy model, and helping to lead our nation on a path to carbon independence and energy security. We look forward to providing our support and constructive input throughout this process.

Overview:

Riverkeeper believes it is imperative that the New York State Energy Plan (hereinafter "Plan") reflects growing concerns over the parallel challenges of global climate change and energy security. Solutions that address energy security alone may do little to mitigate the global climate crises, and some might in fact make matters significantly worse.

Riverkeeper has noted two currents running in the American dialogue at present. The first is the increased emphasis on "energy security" as the driving principle for policy planning. This is largely in response to recent

changes in the oil market, pricing and the geopolitical instability in oil-states, which is rational. While the oil market does to some extent impact the standing electric generation market, its impact is largely to the transportation sector. While each sector impacts the other, "energy security" as a primary principle governing planning may lead to a strategy that fails to addresses global climate change aggressively enough.

The second, quite different current we have noted is a renewed challenge in several states, particularly California, New Mexico, Colorado, Michigan and Texas, to keep global climate change front and center in energy planning. These states are developing their energy strategies with a focus on massive reductions in carbon output, relying on the notion that new energy technologies will prove to be an economic driver similar in scope to the birth of the computing industry in Silicon Valley. All of these states are heavily courting new energy companies and investing in research centers such as Michigan's University Research Corridor. They are coupling their carbon reduction strategies with a new set of economic imperatives and redoubling their efforts. From their various planning papers it is clear that they believe the energy market is both a challenge and an opportunity. California's very recent (June 2008) policy is an example. It is entitled "California's Climate Change" plan and addresses energy and greenhouse gas emissions (GHG) emissions as a single matrix. Their planning reflects a fundamental belief that their state's economic competitiveness over the next few decades will be determined by the energy and emissions policy decisions they are making today. While energy security is a fundamental principle in their planning, the promise of a new carbonless economy driven by innovation is their hallmark. In all new technology sectors, first position truly counts. One of these states will be in first place in the "new energy economy".

An aggressive pathway towards substantial carbon reduction could position New York State in the top tier of states in terms of new economic and technical potential. There is no reason that the technologies and solutions born in this new energy market shouldn't be delivered right here in New York.

Climate change represents an urgent challenge that will be faced by the State's leaders and citizen's in the immediate future. The final version of the 2009 Plan must reflect this reality, and must provide a roadmap for state energy planners, elected officials and energy providers to provide our energy needs in a safe, environmentally sustainable and affordable way. The science is compelling: even the mid-range estimates that include reductions in CO_2 and other GHG emissions conclude that impacts to our region are already beginning, and will continue. New York will certainly (95% probability) see changes to snow fall, increasing intensity and frequency of heat waves (defined as over 100 degree days). Storms will increase in severity with rain events likely to increase pressure on infrastructure and drainage systems. High levels of runoff may negatively influence the levels of aquifer recharge and certainly will affect water quality in streams and reservoirs. Crops and timber could be impacted by stressors such as new diseases and predators. New temperature ranges could seriously impact stands of timber and the fruit crop. There is a 95% certainty of some sea level rise which will certainly impact New York's coastal communities. (Source all

data: IPCC Report, Working Group 1, 2007). But simply managing the impacts of climate change is not the same as doing everything possible to arrest its progress. The 2009 Plan presents the Planning Board and the Governor with a historic opportunity to set a new course in energy policy that will ensure adequate sources of energy that are sustainable and reliable.

Specific Comments:

The following are Riverkeeper's specific comments and recommendations responding to the Draft Scope Plan and the discussions that took place at the Planning Board meeting at NYSERDA Headquarters on June 20, 2008.

Ensure that the 2009 Plan includes assessments of all energy related measures ongoing or currently proposed by New York State and NYSERDA: Riverkeeper would like to see all of the energy and emissions reductions projects brought under the umbrella of the 2009 Plan. For example, the sustainable biofuels initiative and the carbon cap and trade program are currently following parallel planning procedures. It would promote efficiency and consistency to include these under the auspices of the proposed plan.

Economic and Scientific Advisors: It is imperative that the Board consults with environmental economists with specialties in energy; environmental externalities; life cycle analysis, risk analysis and measurement; discounting and option pricing and economic forecasting. The Plan would benefit from the policy–neutral, objective perspective of such experts. These consultants should be integral to drafting and reviewing the Plan on an iterative basis, in order to avoid pressure to either reject or accept whole portions of the plan once they are completed. In order to promote transparency and public confidence in the process, the identities and areas of expertise should be disclosed to the public at all stages of the Plan's development.

There is equal need for a scientific advisory panel that can weigh in at key decision moments. We are certain that the planning boards will agree that this policy cannot be formed without guidance of both economic and scientific expertise. The economic and environmental problems experienced as the result of the current U.S. ethanol policy should be a cautionary tale in energy policy formulation. Choices such as wood products for biofuels, for example, should be vetted by this team.

Setting CO_2 reduction targets: We would fully expect the planning Board to set aggressive CO_2 and GHG reduction targets in the next iteration of its plan. California has just announced extremely aggressive emissions targets under AB 32, the California Global Warming Solutions Act of 2006. Their targets are now set to reduce CO_2 and six other GHG's to 1990's levels by 2020, which would represent a 169 million ton reduction in that time frame. California is also collaborating heavily with its regional neighbors in the Western Climate Initiative, which includes six other states and three Canadian provinces, gaining both strength and safety in numbers. The WCI affords California

and its neighbors a partnership in the climate change challenge, opens up a western market for new energy technology and helps to avoid economic "leakage" or economic movement to other states with lower standards. (Source all: California Climate Change Draft Scoping Plan, Executive Summary). A similar regional collaboration could help insulate our economy as multiple states adopt similar measures. We would like to see similarly aggressive emissions targets set for New York State in the coming plan. Similarly, we hope the Planning Board will factor not only impacts from future CO_2 levels but other possible negative externalities such as water impacts, erosion/soil quality and potential loss of carbon sequestration through timber extraction into it decision making. We are confident the Board will look at the full range of environmental impacts from new energy options, not just CO_2 reduction. Again, the current corn ethanol boom with its predictable negative impacts on the economy and environment is a cautionary example of being too focused on one outcome, in that case the development of a replacement transportation fuel. The policy apparatus is now "captive" to a new lobby just as the realities of this choice are reverberating through the market. A fuller "360 degree" view of the feedbacks might have helped with some of this.

Reduce base-load production from "dirty" fuels to the smallest percentage achievable: There appears to be significant political and industry pressure to start fast tracking permitting for nuclear and coal facilities. There is a national rush to build new energy plants that is stemming from the wave of "energy security" and "cost of oil" stories currently dominating the media. While these concerns are real, as discussed at the opening of this paper, we feel this public "panic" could lead to the overly simplistic solution of new generation comprised of coal (expressed as "clean coal") a new nuclear facility in each state, and little investment in cleaner renewables, efficiency and conservation measures. We fully appreciate that some "steel will have to go into the ground." Notwithstanding the clear need for some new generation capacity, we would like to see the "wedge" of base load generation maintained at the smallest percentage possible. Building out a lot of new, cheap dirty capacity would be considered a failure of imagination if this is the first-cut solution. New cheap energy from legacy technologies such as coal, and even nuclear, will utterly stop innovation in the clean energy sector. Investors in alternatives will lose economically as they did in the late 1970's early 1980's. We challenge you to use these legacy alternatives as a last, not a first resort and to keep the percentage of energy from these sources to the smallest percentage technically achievable.

In a similar regard, Riverkeeper remains opposed to any increase in nuclear power generation in the State, due to ongoing concerns over the disposal of nuclear waste, the attractiveness of nuclear plants as terrorist targets, and the well-documented environmental and public health impacts and greenhouse gas emissions that result from uranium mining, processing, fuel fabrication and nuclear power plant construction. In our view, nuclear power is neither "clean" nor "green," and thus its role in maintaining the reliability of the state's electricity supply should be carefully considered. Finally, Riverkeeper's opposition to the continued operation of the Indian Point nuclear power station is well known, and not the subject of this planning process. However, we urge the Board to clearly explain to what

degree a Draft Energy Plan will rely on Indian Point's baseload generation past its current license term, which ends in 2015.

Support the Reintroduction and Passage of new Article X legislation

Riverkeeper continues to support the need for revised Article X legislation to be introduced and passed into law by the New York Legislature during the next legislative session. Passage of a new Article X containing safeguards for environmental justice and proper environmental review procedures will make the process of siting, permitting and constructing new, clean power plants more efficient and predictable, and can attract new investment in cleaner baseload energy from energy companies outside of New York.

The Issue Brief on Environmental Impacts and Regulation of Energy Systems must include an assessment of the Department of Environmental Conservation's (DEC) policies and regulations implementing the Clean Water Act.

In particular, Riverkeeper is concerned that the DEC's current policy for implementing Section 316(b) of the Clean Water Act (CWA) is inconsistent with Governor Paterson's mandate for the preparation of the Draft Energy Plan. Riverkeeper strongly believes the DEC should adopt a policy that equates the Best Technology Available (BTA) Requirement of 316(b) with closed-cycle cooling at all new plants, as well as existing plants seeking permit renewal under the CWA. In particular, the existing power plants on the Hudson River that use once-through cooling should not be relied upon to meet the State's energy needs until these plants demonstrate compliance with the BTA requirements of the CWA.

Renewable Portfolio Standards: We applaud the state's renewable portfolio standard of 25% electricity generation from renewable by the year 2013. In addition to comments on the specific fuels below, we would like to know more about what percentage of this renewable energy is currently coming from legacy hydro sources, from new hydro and what percentage of either will be included in the 25% figure of "new" renewables. We are obviously interested in seeing a detailed explanation of the percent of electricity generated from all renewables in the coming iteration of the Plan.

Efficiency: We would like to see great emphasis placed on energy reductions through conservation and efficiencies. As with our colleagues, we are pleased with the "15 x 15" initiative recently passed. Similarly, the net metering project should be an enormously useful tool. We believe however, that the new plan should set forth even more aggressive targets for efficiency. Some economists put the energy savings upside across all sectors at between 20 – 50% via increased efficiencies (Source: Rocky Mountain Institute, Amory Lovins, Various papers). The reality is probably on the low to middle end of that scale. A May 2002 white paper prepared by Charles Komanoff entitled, "Securing Power through Energy Conservation and Efficiency in New York", suggests that while California is already

reaping gains from energy efficiency programs, many sectors in New York State are still considered "low hanging fruit" in terms of conservation potential. We would therefore like to see this area re-introduced as a prominent part of the energy plan. Aggressively increasing efficiencies will allow greater avoidance of new generation.

Solar and Wind: Based on our June meeting at NYSERDA's offices we gained the impression that solar and wind generation are currently viewed as "boutique" sources, not likely to exceed a few percentage points of total generation at any future point and at a very high price point. While these two sources together currently represent a small percentage of overall generation nationally, they are both growing at double digit rates, with some states such as California, Texas, New Mexico and Michigan, making serious plays in new power generation from these sources. Nationally, energy from wind alone increased 52% year over year, January 2007 to January 2008. (Source: EIA Electric Power Industry Summary Stats, Published June 10, 2008). Current solar installations price at between 15 – 30 cents per kWh with realistic projections based in new thin film technologies placing the price nearer 10 cents per kWh within the year. Wind is pricing between 4 – 6 cents per kWh. Nuclear prices between 11 – 14 cents per kWh (Source: http://peswiki.com/index.php/Directory:Cents_Per_Kilowatt-Hour, accessed July 8, 2008). We believe the price for both solar and wind will continue to come down as new manufacturing comes on line and new technologies enter the stream. The price quoted during our meeting for solar at 45 cents per kWh is potentially dated. Texas is making a big play in wind and it looks to be effective. California is ramping up on its "Million solar roofs" initiative. We fully understand that NYSERDA has a responsibility to ensure a safe, secure and uninterrupted power supply. We would like to be sure that the state of the art in alternative energies is being given a serious look and data on these sources is being updated as the plan is being developed. Every unit percentage we increase generation from these sources is another unit avoided from new facilities or legacy coal fired plants.

Coal. We are aware of the national push and renewed interest in what is termed "clean coal" technology. Certainly the growth in cost of some other feedstocks is making the coal option more economically feasible than it has been in quite a while. Scrubbers can help with certain emissions and some particulate matter. Coal washing can reduce sulfur. The new IGCC process has made some promising advances in prototype form. The more theoretical carbon capture is similarly intriguing. If current legacy coal plants were upgraded with any or all of these technologies as they become available it would be an improvement. We are concerned however, that coal as it is currently conceived, with IGCC and carbon capture, may be considered a cheap and clean energy resource at a time when both the IGCC and carbon capture technologies are not as yet fully ready for the market. Once these "clean" technologies become available, coal may no longer be as "cheap" an energy source as it is considered today. We ask that these technologies be looked at extremely carefully and objectively assessed for the feasibility of implementing them on a large scale. We also ask that in comparing alternatives such as wind to coal, we use coal's "tomorrow" price or

"clean" price, rather than its current price for comparisons. We are also mindful of the consequential environmental damage that comes from coal mining operations. We understand the new technologies surrounding coal. We are also aware of their timelines and costs. We hope that both will be considered carefully.

Biofuels: We would like to learn more about the State's biofuels program. We found the following quote on the DEC website which provoked some questions: "...more than 18.5 million acres of New York timberland are being renewed at a rate greater than 3 to 1, meaning that low-grade timber can be harvested in a sustainable manner for producing energy." (Source: NYS Dept. of Environmental Conservation, http://www.dec.ny.gov/energy/43310.html Accessed June 29, 2008). We need to better understand the type of timber products going into the biofuels program. Scrap from timber operations may be a terrific source for biofuels, assuming a positive net energy balance and low emissions in processing, and that the timber scrap used would have been refuse. However, the quote above suggests a different outlook. While timber is "renewable" in the strictest sense, clear cutting or heavily extracting large amounts of timber for fuel to reduce emissions may be going backwards, both in emissions, loss of CO2 sequestration and new energy use for production. The northern and western forests are a vital carbon sink. The loss of sequestration is potentially the equivalent of putting tens of thousands of new cars on the road. The creation of a monoculture of timber is unsound forestry, putting great swaths of woodland at risk of disease and predation. Clear cutting destroys soils, creates erosion and will foul streams and reservoirs. All of this will have a cost to the State both environmentally and economically and will simply not help us move the needle on the carbon challenge.

"Replacement" vs "New" standing generation: We would like to see a very clear articulation in the Draft Plan of what percent of new power generation is intended to replace old legacy plants, and what percent is "new" generation intended to meet new demand. We fully support offlining and retiring dirty and environmentally unsound legacy plants in New York's existing fleet of power plants. We also understand that some new generation may be needed. However, we feel strongly that the "replacement" to "new" ratio should overwhelmingly favor cleaner "replacement" generation, with some upside in "new" generation reserved only for the growth of the state's economy after efficiencies and clean energy alternatives have been factored in. We would also like to see greatest priority given to avoidance of new generation through efficiencies wherever possible. Finally, the state should insist on extremely low CO_2 emitting alternatives for both replacement and new generation.

In addition, Riverkeeper supports the "repowering" of existing fossil fuel fired plants with cleaner, more efficient fuel sources and technologies, e.g. repowering an existing coal-fired peaker plant into a combined-cycle natural gas fired generating station.

Infrastructure: We would like to see great emphasis put on investment in the grid and increasing storage capacity to help even out loading and better enabling cleaner but more intermittent supply from solar and wind. While we

understand that the national norm is a loss of 6 – 7 % of power over the grid, the new smart grid technologies are promising in terms of changing congestion and load issues. We assume that you are keenly aware of the DOE's Smart Grid technologies effort through the Modern Grid Initiative and look forward to the State's version of this approach for our own use. We would obviously all like to see New York State step up transmission efficiencies, capacity and deploy new technologies and get very serious about R&D into better storage capacity. We are aware that NYSERDA is developing Energy Infrastructure Master Plans. We are therefore certain that this must be a high priority. We have noted that both California and the Western Governors' Association are stepping up their infrastructure investments to fully enable the new clean energy markets and the innovation centers that as yet have limited access to the grid. Therefore, we would like to see the planning Boards make priority of lowering the technical and economic barriers to new clean energy alternatives, including enabling them on "both sides of the grid".

The Green Energy Business Community: We urge the Board to actively involve the private sector in this planning process, as much as possible. In particular, venture capitalists invested in clean energy, clean energy technology companies and producers understand the state of the art, and can bring their expertise and perspective to the table, just as the environmental stakeholder groups have done. The technical capabilities of some heretofore exotic energy options are expanding at a magnificent rate and the best are going mainstream. Costs are coming down rapidly in some sectors such as solar and wind. Conversion ratios for solar have exceeded 40%. Costs per kilowatt hour are in some cases dropping monthly. The private sector of the energy industry can inform the Board as to new innovations, practical and impractical solutions and apprise it of the newest developments. This group of innovators and entrepreneurs will shape the State's future labor pool and high tech economy. We fully expect New York State to take the position that it intends to own leadership in state-of-the-art alternative energy by leveraging the best and brightest in the industry. We would also like to see an interface created between the new energy and environmental groups. We share common interests and research areas, and might be of greater use to the Board together than we would be separately.

Aggressively leverage your constituencies: Enlist the public at the grass roots to opt-in to new alternative energy options and efficiencies. We rightfully have a lot of discussion about the negative economic impacts to low-income communities from options such as solar, but rarely ask if there is a large portion of the public that not only can but will opt to pay more for cleaner fuel. The public wants to be part of the solution. While New York has a low level campaign to involve the public in "campaigns' such as Energy Star, we feel that there is a great deal more that can be done with the public and business communities. The Board must find a way to let those who have both the means and the desire participate more fully in the solution to our energy challenge.

Conclusion

We are offering the Planning Group a challenge: to think about the "universe" of energy differently. We understand and appreciate that the main responsibility is to provide safe, stable and affordable energy to all residents of the state. We want to reiterate that we caution you to balance the value of "cheap" with the economic value to the state of leading in innovation. The cheaper our energy, the darker the future for new energy innovation, for alternative energy developers, and for greater increases in efficiency. We do not want expensive energy. We want to be economically competitive as a state. But ample cheap energy is also what got us into this mess and having our constituencies "feel" energy in their daily equations is not an entirely bad thing. It is already leading to the kinds of behavioral changes that legislation could never alter. Simply resorting to increased nuclear or coal generation at a cheap price will surely kill the markets for efficiency and clean energy innovation and implementation. Second, we have discussed the "wedge" or part of the energy sector that must come from dirty, core production, with all of the other efforts surrounding this wedge in diminishing percentages. We challenge you to think of the core wedge of energy production as innovation from all sectors including efficiency, wind, solar, transmission and storage. We understand that we may have to put "steel in the ground' to support new economic growth and to provide new generation. But this cannot be the Board's starting place. The new energy economy could be the next technology boom, in the reach of its influence, and in its ability to transform our State economy. Legacy energy systems will not come down in cost. Who so ever owns the next generation of energy technology will capture the future economic potential of an enormous part of the global economy.

Not to be overlooked is the challenge of global warming. The world's climatologists are in broad agreement as to the effects of anthropogenic changes to our climate. While there is still important research continuing to better define both the magnitude and timing, many economists, including Kenneth Arrow and Lord Stern, are successfully using economic tools such as risk/uncertainty analysis and future discounting to better measure the economic implications of either acting or doing nothing. Many economists agree that the risk/reward factor is manageable if we invest with purpose now. The Planning Board can lead now in shaping how New York State faces this future.