



## Comments on the New York State Climate Action Council Draft Scoping Plan July 1, 2022

The Partnership for Policy Integrity (PFPI) appreciates this opportunity to submit comments on the New York State Climate Action Council Draft Scoping Plan, developed pursuant to the 2019 Climate Leadership and Community Protection Act (CLCPA).

PFPI strongly supports the goals of the CLCPA and many of the components of the Draft Scoping Plan. We especially appreciate the inclusion of concerns about air pollution, climate, and environmental justice impacts raised by the Climate Justice Working Group. We are limiting our comments below to the treatment of biomass energy and forests in the plan.

### **OVERVIEW**

The IPCC says that to limit catastrophic global warming, we need to both sharply reduce carbon emissions AND draw down residual carbon dioxide from the atmosphere. Trees and forests play an important role in both sides of this equation.

Natural forests are our easiest, least-cost, and most viable option for carbon sequestration and storage, while also providing a range of valuable ecosystem functions, including floodwater retention, air and water purification, and sustaining biodiversity. Among all the challenging tasks set forth in this ambitious plan, protecting forests should be the simplest: just let them grow. Unfortunately, the forest management recommendations are the weakest sections of this plan and rely on false and outdated assumptions to justify increased logging.

Additionally, the plan contains numerous recommendations for the use of biomass as a “low carbon” fuel, including woody biomass. Encouraging more logging and promoting the use of woody biomass energy will lead to more greenhouse gas emissions and air pollution, and further reduce our forests’ capacity to sequester and store carbon.

In summary, here are our major points:

- 1) Harvested wood products should not be counted towards the state’s GHG emissions removals
- 2) Forest biomass is not a low-carbon fuel
- 3) Air pollution is reason enough to stop burning woody biomass
- 4) Policies to reduce GHG emissions from fossil fuels should be expanded to include biomass fuels
- 5) Protecting forests is essential for carbon storage and meeting our net-zero goals
- 6) Land use conversion is not the only threat to our forest carbon sinks

Below are our general “buckets” of concern, with specific policy recommendations.

**1) *Harvested wood products should not be counted towards the state’s GHG emissions removals***

Chapter 4 (Current Emissions) states that “the long-term storage of carbon in harvested wood products alone provided 5% of the State’s GHG emissions removals in 2019.” Counting harvested wood products towards the state’s annual GHG removals along with natural carbon sequestration from the land sector creates a perverse incentive to log forests, rather than protect them. In theory, the state could convert its *entire land sector* to harvested wood products and it would show the same level of greenhouse gas emissions reductions.

In reality, very little of the carbon from whole trees ends up in long-lived wood products. Most of the wood is lost during processing or ends up in short-lived products or as waste that is burned or otherwise disposed of. In addition, enormous amounts of fossil fuels are required to log the trees, transport them to a mill, and turn the raw logs into finished products. After the wood loss and fossil emissions from harvesting, transportation, and processing are accounted for, the greenhouse gas emissions may exceed any carbon that is stored in the final wood product.<sup>1</sup>

But the failure to consider lifecycle emissions is only part of the reason why this assumption is erroneous. Lifecycle carbon accounting for wood products and fuels does not account for foregone carbon sequestration from the removal of living trees. A wood product will sequester a finite amount of carbon, but a living tree will continue to grow and absorb more CO<sub>2</sub> for decades or even centuries. Nor do these calculations include other carbon leakages due to logging activities, such as soil carbon loss.

**Recommendation:** Harvested wood products reduce the current and potential future carbon capture capacity of New York’s land sector, and should not be counted towards the State’s greenhouse gas emissions removals.

**2) *Forest biomass is not a low-carbon fuel***

The plan fails to differentiate between the vastly different types of biomass feedstocks that it places in the category of “low-carbon fuels.” Scenario 2 (Strategic Use of Low-Carbon Fuels) envisions “strategic use of bioenergy derived from biogenic waste, agriculture and forest residues, and limited purpose grown biomass, as well as a critical role for green hydrogen for difficult-to electrify applications.” This definition could include everything from cow manure to whole trees, with no explanation for how the determination of “low-carbon” will be made. The modeling for Scenario 2 in the Key Benefit-Cost Assessment Findings (10.3) more specifically assumes “significant investment in renewable diesel, renewable jet kerosene, and RNG.” However, a different mix of biomass feedstocks would yield different outcomes in the NPV in terms of GHG emissions and health benefits.

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<sup>1</sup> Ann Ingerson, 2009. Wood Products and Carbon Storage: Can Increased Production Help Solve the Climate Crisis? <https://www.sierraforestlegacy.org/Resources/Conservation/FireForestEcology/ThreatsForestHealth/Climate/CI-Ingerson-TWS2009.pdf>

Although the plan lacks a precise definition of “low-carbon” fuel, woody biomass is identified in several parts of the plan as a potential low-carbon fuel for transportation, residential heating, and other applications:

**Chapter 12 (Buildings), Strategy B9 (Support Innovation) *Support RD&D for low-carbon fuels:*** Assess and then support RD&D needs with respect to the potential for some use of low-carbon fuels in buildings (such as RNG, green hydrogen, **wood**, and/or high-percentage biodiesel blends) and bioenergy with carbon capture and storage for harder-to-electrify buildings, which may include campuses with district energy systems.

Not surprisingly, Chapter 15 (Agriculture and Forestry) is by far the most bullish on burning woody biomass:

**Strategy AF20. Develop a Sustainable Biomass Feedstock Action Plan and Expand the Use of Bioenergy Products.** Wood-based bioenergy products such as ethanol, bio-oil, syngas, charcoal, pellets, and briquettes can be used to substitute for fossil fuel products like coal, natural gas, gasoline, diesel oil, fuel oil for heating and cooling, and transportation fuels. Use of these bioenergy products can reduce GHG emissions from long distance transportation and fossil fuel combustion and improve environmental quality—especially if bioenergy products are developed from wood residues, waste materials, and processing. A Sustainable Biomass Feedstock Action Plan will identify feedstock volumes and production methods that utilize New York State biomass resources in a sustainable, sequestration maximizing manner to create replacements for hard to decarbonize processes while considering other uses for these feedstocks (see recommendation on low-carbon product development). Fuel derived from biomass will likely have a limited but strategic role in New York’s 2030 and 2050 needs. The CJWG expressed concerns about the combustion of biomass and biofuels due to their release of emissions. Strategies related to the use of biomass and biofuels are included in this strategy because of the value they provide for displacing carbon emitted from traditional fossil fuels and the potential use for some hard-to-replace carbon emission sources. Biomass and biofuel emission concerns raised by the CJWG are addressed through sustainability guidelines and standards presented in the components below.

**Strategy AF21 (Increase Market Access for New York Low-Carbon Products)** proceeds to task Department of Financial Services, the New York Green Bank, and Empire State Development with developing standards and guidelines for defining a low-carbon product, including ensuring sustainable feedstock production (biomass action plan), even though the agencies named completely lack the necessary expertise to carry out this task.

Importantly, there is nothing in the plan that supports treating woody biomass, including forest residues, as a low-carbon fuel. Burning wood for heat or energy emits more CO<sub>2</sub> and harmful air pollutants than the dirtiest fossil fuels, per unit of energy.<sup>2</sup> The IPCC has acknowledged on numerous occasions that biomass combustion should not be considered “carbon neutral” “*even in cases where the*

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<sup>2</sup> Mary S. Booth, *Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal*, (PFPI), April 2014, at <https://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf>

*biomass is thought to be produced sustainably*" (emphasis added).<sup>3</sup> Net emissions from forest bioenergy can exceed emissions from fossil fuels for timespans ranging from decades to over a century.<sup>4</sup> The Manomet study commissioned by the State of Massachusetts found that it would take more than 45 years for carbon uptake from new tree growth to offset the emissions from a biomass plant that burns "mixed" wood (i.e., a mixture of wood residues and whole trees) to the point of equivalency with emissions from a coal-fired power plant, and more than 90 years to "pay off" the carbon debt relative to a natural gas plant. A more recent analysis by PFPI found that *even if only true logging residues are burned*, such as treetops, limbs, and slash, the carbon emissions are still net additive to the atmosphere for decades, and thus cannot be construed as "carbon neutral."<sup>5</sup>

**Recommendations:** The plan should clearly state how "low-carbon" biomass fuels are defined. The plan should exclude woody biomass from all definitions of "low-carbon" fuels, since CO<sub>2</sub> emissions from woody biomass combustion are greater than fossil fuels. PFPI opposes Strategies AF20, which exclusively promotes burning woody biomass (including for applications that it cannot be used for), and AF21, which puts agencies in charge of defining and marketing New York "low-carbon" products that don't have the necessary expertise to evaluate the carbon impacts of biomass feedstocks.

### 3) *Air pollution is reason enough to stop burning woody biomass*

The plan relies heavily on reductions in wood combustion to improve ambient air quality and achieve health benefits. Section 8.3 (Sector-Specific Health Co-Benefits of Climate Policies) notes that "EPA estimates the PM 2.5 emissions from residential wood heating in New York State, representing 2% of homes, *is greater than that from the power generation sector and the entire and transportation sectors combined.*" (emphasis added)

Chapter 10.4 (Health Effects) states that "across all projected scenarios, approximately 40% of the projected air quality improvements are associated with reduced wood combustion in industrial, commercial, and residential uses." These air quality improvements will result in avoiding tens of thousands of premature deaths, heart attacks, asthma-related emergency room visits, and other hospitalizations.

Curiously, however, considering the outsized benefits, the plan does not appear to offer any specific strategies to reduce wood combustion, either for residential and commercial heating or in the industrial sector. While electrification of buildings will likely replace *some* wood furnaces and stoves used for residential heating, more targeted strategies are needed to attain these projected air quality

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<sup>3</sup> See e.g. FAQ Q2-10 (noting that "*the IPCC Guidelines do not automatically consider or assume biomass used for energy as 'carbon neutral,'* even in cases where the biomass is thought to be produced sustainably.") (emphasis added). Available at: <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>

<sup>4</sup> Walker, T., P. Cardellichio, J. S. Gunn, D. S. Saah and J. M. Hagan (2013). "Carbon Accounting for Woody Biomass from Massachusetts (USA) Managed Forests: A Framework for Determining the Temporal Impacts of Wood Biomass Energy on Atmospheric Greenhouse Gas Levels." *Journal of Sustainable Forestry* 32(1-2): 130-158; Mary S. Booth, Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy. *Environmental Research Letters*, Feb. 21, 2018, at <https://iopscience.iop.org/article/10.1088/1748-9326/aaac88>; John D. Sterman, Lori Siegel and Juliette N Rooney-Varga, Does replacing coal with wood lower CO<sub>2</sub> emissions? Dynamic lifecycle analysis of wood bioenergy, *Environmental Research Letters*, Jan 18, 2018, at <https://iopscience.iop.org/article/10.1088/1748-9326/aaa512/meta>

<sup>5</sup> Mary S. Booth, Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy. *Environmental Research Letters*, Feb. 21, 2018, at <https://iopscience.iop.org/article/10.1088/1748-9326/aaac88>;

improvements. For instance, Chapter 12 (Buildings) lays out several strategies for adopting zero emissions codes. Strategy B2 (Adopt Standards for Zero Emissions Equipment and the Energy Performance of Existing Buildings) requires zero emissions standards to phase out fossil fuel combustion equipment, but not wood combustion units. As noted above, Strategy B9 (Support Innovation) recommends RD&D for “low-carbon fuels” *including wood*, which is a policy disconnect from the discussion of wood heat air quality impacts in Chapters 8.3 and 10.4.

**Recommendations:** Add strategies for phasing out wood combustion for residential and commercial heating and electricity generation. Revise Chapter 12 (Buildings) to ensure that this sector delivers on the health benefits projected in Section 8.3. This includes requiring zero emission standards to phase out wood combustion equipment in Strategy B2 and removing wood from the list of “low-carbon fuels” in Strategy B9.

#### **4) Policies to reduce GHG emissions from fossil fuels should be expanded to include biomass fuels**

All the existing and proposed emissions reduction policies for the electricity sector identified in the plan focus on fossil fuel emissions. The existing sectoral mitigation strategies outlined in Chapter 13 Electricity include regulations such as Part 242 (RGGI), which addresses carbon emissions from fossil fuel power plants, and Part 251, which sets CO<sub>2</sub> performance standards for major electric generating facilities. These emission limits were sufficient to retire New York’s last coal plants. However, while plants that burn biogenic fuels exceed these emissions limits, the threshold applies only to fossil fuel-burning plants.

Achieving a 100% emissions free electricity grid must require a strategy for assessing and determining an emissions reduction strategy for biogenic fuels, as well as fossil fuels. Fortunately, the CLCPA does not allow biomass or garbage incineration to count as renewable energy. However, a lot will depend on how the state defines “zero emission.” The fact that this is not addressed in the draft plan raises red flags. We have only to look to Europe, where policies treating biomass energy as both renewable and carbon neutral have driven a steep increase in wood combustion over the past 20 years, to see the folly of ignoring the science. **It is now widely recognized that the assumptions of carbon neutrality were false.** The European Academies Science Advisory Council (EASAC), Europe’s equivalent to the National Academy of Sciences) has come out strongly against treating woody bioenergy as carbon neutral:

*“Due to the accounting rules and the gross oversimplification of the forest carbon cycle embedded in the presumption of ‘carbon neutrality’, emissions from biomass combustion are treated as zero. In reality however, this switch increases atmospheric levels of carbon dioxide for periods which are too long to make any contribution to meeting Paris agreement targets.”<sup>6</sup>*

In Chapter 17 (Economy-Wide Strategies) the Council seeks input from the public on developing some form of comprehensive carbon-pricing program. While PFPI does not advocate for carbon taxes or trading programs, we believe that any such program must put a price on all GHG emissions, including biogenic fuels. The European Academies Science Advisory Council (EASAC) attributes the increased use of forest bioenergy in EU markets in large part to the fact that EU’s Emission Trading System (ETS)

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<sup>6</sup> EASAC, Letter to Frans Timmermans, 1/31/2020, [https://easac.eu/fileadmin/PDF\\_s/203101\\_Letter\\_to\\_Frans\\_Timmermans.pdf](https://easac.eu/fileadmin/PDF_s/203101_Letter_to_Frans_Timmermans.pdf)

exempts bioenergy carbon emissions.<sup>7</sup> Here in the US, where the subsidies and policy drivers are less robust, the biomass industry has not taken off the way it has in Europe. Nevertheless, in the RGGI states, total CO<sub>2</sub> emissions from non-fossil fuel-fired EGUs *more than doubled* from 2005 to 2018.<sup>8</sup> While it's impossible to determine how much of this growth is due to the fact that RGGI exempts stand-alone biomass power plants, it is an example of a carbon pricing program that is not properly designed to achieve the goal of reducing carbon emissions across the entire electricity sector.

**Recommendations:** Expand Strategy E1 (Retirement of Fossil Fuel Fired Facilities) to reduce emissions and co-pollutants from biogenic fuel-fired generating units to the maximum extent practicable, including revising existing regulations that exempt biomass energy emissions. Similarly, any carbon pricing mechanism considered in Chapter 17 (Economy-Wide Strategies) must include GHG emissions from biomass fuels.

### 5) *Protecting forests is essential for carbon storage and meeting our net-zero goals*

New York has an abundance of public and privately-owned forested lands and therefore has a real opportunity to increase the capacity of its land sector to sequester and store carbon to help the state reach its carbon neutrality goals. Unfortunately the strategies in this plan, embedded in Chapter 15: Agriculture and Forestry and later in Chapter 19: Land Use, appear more focused on exploiting our forests for wood products than in protecting them. The plan relies heavily on outdated and false assumptions that the best way to manage our forests for carbon sequestration is to log them.

The assumption underlying the Key Sector Strategies (15.2) is that “To maximize New York forests carbon sequestration potential, it is critical that forest management activities [i.e. logging] increase statewide.” Chapter 15 attributes the decline in the net amount of CO<sub>2</sub> absorbed by New York’s forests over the past 10 years to the aging forests that have not been properly managed, declaring “as New York’s forests have aged, their carbon sequestration rate has slowed.” The implication here is that logging older trees will stimulate more tree growth and promote greater carbon sequestration. In fact, this position has long since been repudiated by forestry experts. The science is clear that while the rate at which carbon is sequestered can slow as a tree reaches maturity, the actual amount of carbon an older tree captures and stores is many times greater than a young tree. And forest soils in mature intact forests often contain more carbon than the trees themselves.

Such assumptions indicate a general bias towards timber management activities which have been shown to actually reduce carbon capture and storage, and which have also been identified as significant sources of GHG emissions in their own right. The science of forest carbon management continues to evolve, and this chapter fails to recognize some of the key established principles, such as findings by Nunery & Keeton<sup>9</sup> (analysis of intensity and frequency of logging disturbance), Moomaw, et al.<sup>10</sup>

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<sup>7</sup> EASAC, Forest Biomass for energy – science, markets and policies, 1/11/21.

[https://easac.eu/fileadmin/PDF\\_s/reports\\_statements/Negative\\_Carbon/Forest\\_Biomass\\_for\\_energy\\_Nov\\_21.pdf](https://easac.eu/fileadmin/PDF_s/reports_statements/Negative_Carbon/Forest_Biomass_for_energy_Nov_21.pdf)

<sup>8</sup> RGGI, Inc. CO<sub>2</sub> Emissions from Electricity Generation and Imports in the Regional Greenhouse Gas Initiative: 2018 Monitoring Report (March 11, 2021), Table 1 at pp. 16-17). Available at [https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2018\\_Elec\\_Monitoring\\_Report.pdf](https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2018_Elec_Monitoring_Report.pdf)

<sup>9</sup> Nunery, Jared & Keeton, William. (2010). Forest carbon storage in the northeastern United States: Net effects of harvesting frequency, post-harvest retention, and wood products. *Forest Ecology and Management*. 259. 1363-1375.

10.1016/j.foreco.2009.12.029. [https://www.uvm.edu/giee/pubpdfs/Nunery\\_2010\\_Forest\\_Ecology\\_and\\_Management.pdf](https://www.uvm.edu/giee/pubpdfs/Nunery_2010_Forest_Ecology_and_Management.pdf)

<sup>10</sup> Moomaw WR, Masino SA and Faison EK (2019) Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. *Front. For. Glob. Change* 2:27. doi: 10.3389/ffgc.2019.00027

(concept of “Proforestation”), and Mildrexler, et al.<sup>11</sup> (the role of large trees in carbon storage), among many other recent research findings.

Chapter 15 also assumes that implementing “sustainable” forestry practices will lead to increased carbon storage and sequestration (AF3 - *Maintain and Improve Sustainable Forest Management Practices and Mitigation Strategies*). While there are other ecological benefits from sustainable forestry practices, it is incorrect to assume that materials produced under federal, state, or private “sustainable forestry” programs will result in atmospheric CO<sub>2</sub> reductions within relevant time frames. For example, state-level sustained yield forestry regulations and private certification programs may ensure that overall growth exceeds harvest, but they do not ensure the carbon neutrality of bioenergy or otherwise guarantee against net transfers of forest carbon to the atmosphere compared to what would occur in the absence of biomass generation.<sup>12</sup>

**Recommendations:** This plan desperately needs to include strategies that maximize longterm carbon storage in our forests, protect biodiversity and protect communities. The best way to achieve this is to allow forests to grow naturally – an approach that has been termed “proforestation” by Dr. William Moomaw.<sup>13</sup>

The state, as a major land-owner, could lead the way by placing its forested lands in a state carbon reserve and instituting a moratorium on all cutting and removal of trees on state-owned lands. The state should also adopt a policy calling for no net loss of existing forests and for significant expansion of forests in New York by 2050.

Finally, the state should adopt a hierarchy prioritizing the use of woody biomass according to its highest economic and environmental added value, known as the “cascading principle”:<sup>14</sup>

1. Wood-based products.
2. Extending their service life.
3. Re-use.
4. Recycling.
5. Bioenergy.
6. Disposal

#### **6) Land use conversion is not the only threat to our forest carbon sinks**

Chapter 17 (Land Use) states that “Forestlands in many parts of the State are under pressure from development and forest conversion, which is causing a steady decline in the amount of CO<sub>2</sub> being

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<https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full>

<sup>11</sup> Mildrexler DJ, Berner LT, Law BE, Birdsey RA and Moomaw WR (2020) Large Trees Dominate Carbon Storage in Forests East of the Cascade Crest in the United States Pacific Northwest. *Front. For. Glob. Change* 3:594274. doi: 10.3389/ffgc.2020.594274

<https://www.frontiersin.org/articles/10.3389/ffgc.2020.594274/full>

<sup>12</sup> For more, see Michael T. Ter-Mikaelian, et al., *The Burning Question: Does Forest Bioenergy Reduce Carbon Emissions? A Review of Common Misconceptions about Forest Carbon Accounting*, 113 *J. Forestry* 57 (2015) at

<https://academic.oup.com/jof/article/113/1/57/4599732?login=true>

<sup>13</sup> Moomaw WR, Masino SA and Faison EK (2019) Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. *Front. For. Glob. Change* 2:27. doi: 10.3389/ffgc.2019.00027

<https://www.frontiersin.org/articles/10.3389/ffgc.2019.00027/full>

<sup>14</sup> <https://uabio.org/en/materials/analytics/11327/>

absorbed each year” (LU1). This is another bedrock assumption in the plan that requires comment. Protecting forests from land conversion will not necessarily protect the forests themselves, or their capacity to absorb carbon.

While we support measures to ensure no net loss of forests in New York State from development activities, the major cause of forest canopy loss in New York comes from logging activities.

According to the GlobalForestWatch dashboard, from 2013 to 2021, 99% of tree cover loss in New York occurred within natural forest.<sup>15</sup> The total loss within natural forest was equivalent to 31.1Mt of CO<sub>2</sub>e emissions. Most of this loss occurred in the Adirondacks, where clearcutting has become increasingly prevalent.<sup>16</sup>

Chapter 19.1 states “Not only are natural and working lands critical for carbon sequestration, **avoiding conversion of such lands eliminates the prospect of additional GHG release**” (emphasis added). Really? Protection of forestland from land use conversion does not necessarily protect them from destruction through damaging logging practices, including clearcutting. In fact, even state land acquisitions to expand the state Forest Preserve have allowed for continuing logging, most notably the Finch Pruyn property in the Adirondacks.

Land acquisition and planting new trees are among the strategies included in Chapter 19 to protect and expand the state’s potential forest carbon sequestration and storage levels and prevent emissions from development (LU1, LU2, LU3). However nowhere in the list of strategies is there a recommendation to protect forests by restricting or prohibiting logging activities, even as a condition of state land acquisition. There is a tacit assumption in this section that logging itself should be a protected land use in forested areas. Indeed, one of the proposed strategies is to enact legislation that would prevent municipalities from “unreasonably” restricting or regulating forestry operations on private land (LU3).

**Recommendations:** Keeping “forests as forests” just to log them does not necessarily move us in a better direction in terms of our climate goals. At the very least, the state should tie future funding for land acquisition of forested lands to keeping them “forever wild.”

Thank you again for this opportunity to review and comment on the draft scoping plan. We would be happy to provide additional information.

Sincerely,



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<sup>15</sup> <https://www.globalforestwatch.org/dashboards/>

<sup>16</sup> *Timber for profit: Clearcutting fight erupts in the Adirondacks*, E&E News, Oct. 29, 2020. At <https://www.caryinstitute.org/news-insights/media-coverage/timber-profit-clearcutting-fight-erupts-adirondacks>