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**ATTACHMENT I**

## **Background on NYMaterials**

Many of NYMaterials' member companies operate mining quarries throughout New York State, often in rural areas and in a number of instances, in locations that do not have access to the existing electric grid. Some, or all, of the equipment and facilities used for mining is powered by diesel, gasoline and natural gas. NYMaterials' member companies also produce concrete, asphalt, and other aggregate for construction, many times collocated at mining facilities or other company operations, and similarly require the use of petroleum-based fuels to manufacture these vital construction components. Many of the members supply these materials to public construction projects, including infrastructure and development of every local, regional, and statewide public works projects, as well as countless private construction projects. Construction could not be conducted without the aggregates, asphalt and concrete provided by the industries making up NYMaterials.

The various NYMaterials member companies vary in size and location. They range from one-location facilities to companies with more than a dozen mines, plants, and related operations. They have anywhere from several to hundreds of employees; some are family owned and others are New York-based operations of regional, national, or international companies. And, of course, they are located throughout New York. It is not only more sustainable, and reduces truck miles traveled, to be located throughout the State, but it is an economic necessity to have a supply of aggregate, and plants producing asphalt and concrete, throughout New York. This not only manages cost but ensures a ready supply of these materials for construction of every road, bridge, building and structure in New York State.

The member companies own anywhere from a dozen to hundreds of medium and heavy-duty construction vehicles to conduct their operations. These vehicles are purchased pursuant to long term investment plans from the company, with the expectation that the cost in the hundreds of thousands of dollars or more would be recovered through using the equipment for its full anticipated useful life of 15 to 30 years. Companies expend significant resources, often years in advance, to budget for, and acquire, each vehicle.

These operations also already engage in many business practices that have increased the sustainability of their operations, reduced environmental impacts correspondingly, and reduced greenhouse gas emissions. For example, over time, many member facilities have transitioned to incorporate renewable natural gas as a substitute for more greenhouse-gas-intensive fuels such as diesel or gasoline. Existing generators have also been replaced with highly efficient Tier 4 generators, which have far fewer greenhouse gas and other emissions. Other companies have replaced diesel generators with energy from the grid, which also reduces direct greenhouse gas and other emissions from these facilities. Companies are investing in low fuel use heavy equipment with DPF emissions systems. Pursuing these alternatives has increased cost, but the member companies recognize the importance of preserving natural resources and reducing emissions by switching from fuels like Fuel Oil #2 to natural gas will provide positive environmental benefits. These industries are doing their part.

The mining industry is responsible for the reclamation of mining facilities, which involves transforming a mining site, post-mining, into a productive end use. Whether the sites are reclaimed

to green space increasing potential carbon sinks, creating new land appropriate for redevelopment, or reuse for development of solar or other renewable energy facilities, this is a sustainable practice that benefits New York’s long-term goals for reducing climate and environmental impacts. In fact, a number of mining quarries have sold or leased property for solar development either as a collocated use in a quarry, or a reclamation use.

The aggregates industry also leads the country in recycling of aggregate into new materials. On a national basis, the construction and asphalt industries recycle and reuse over 80 million tons of asphalt pavement annually – far eclipsing any other recycled product. For years, aggregate producers, concrete plant operators, asphalt plant operators, highway departments and other public and private entities have been reusing and recycling recognizable, uncontaminated, concrete, asphalt, rocks, brick and soil (“RUCARBS”), putting them back into use for the benefit of the public and the environment.

Significantly, these recycled materials are widely used by towns and counties throughout New York, as well as by the New York State Department of Transportation (DOT) and the New York State Thruway Authority (NYSTA). Recycled Asphalt Pavement (RAP) and recycled concrete are valuable commodities. RAP is processed, stockpiled, handled, and sold in the same manner as conventional stone aggregates (used to make asphalt). Likewise, concrete from roads, buildings, bridge decks, sidewalks, etc., is reprocessed, replaces virgin construction aggregates and can be used as subbase material. In addition, these materials are shipped to, stored, processed and reused at facilities that are typically near the construction activity. In fact, the trucks that deliver RAP and other RUCARBS from a construction site often leave the destination facility with aggregate or hot mix asphalt. The efficiency of this process saves fuel, greenhouse gases and taxpayer dollars.

It goes without saying that recycling asphalt pavement and concrete is more environmentally beneficial than producing new material. The reuse and recycling of RUCARBS, especially asphalt pavement, concrete and clean soil, has prevented millions of tons of these materials from being trucked to and disposed of in landfills, thereby further reducing greenhouse gas emissions and truck traffic. Likewise, reusing these materials reduces the need for new or expanded landfills. These benefits are in addition to the original purpose of the RUCARB program, to supplement virgin sources of construction aggregates, and diminish the impacts of aggregate and secondary manufacturing (e.g. asphalt and ready mix concrete) operations. And, each of these benefits is consistent with the goals of the CLCPA and New York’s environmental policy.

### **Impacts to NYMaterials Member Industries**

NYMaterials members are aware of the CLCPA, however, at this stage they have not extensively reviewed or hired staff to analyze the potential impacts to the business of complying with the CLCPA, and how to meet the company’s obligations pursuant to the CLCPA. Such an analysis, and likely staffing, would be necessary should many of the mandates contained in the draft Scoping Plan be pursued.

All of NYMaterials’ members operations rely on medium and heavy-duty vehicles and a variety of construction equipment to mine and process aggregate, manufacture concrete and

asphalt, and transport the materials to the end user. All of these operations have significant energy demands to power equipment, heat asphalt, crush stone, and engage in the manufacture of aggregate construction materials. Without these facilities, construction in New York State would literally grind to a halt, as would the ability to construct renewable electricity infrastructure and other developments contemplated by the draft Scoping Plan. As such, the impact of the policies in the draft Scoping Plan to these industries must be carefully considered and, respectfully, significant changes are required.

The draft Scoping Plan includes little detail regarding the existence and feasibility of transitioning medium and heavy-duty vehicles, including construction equipment, from the current available options to electrified vehicles and equipment. The draft Scoping Plan acknowledges that there is little development of electrified medium and heavy-duty vehicles. The fact is that there are few commercially available models of electrified medium and heavy vehicles in existence, and those that are being piloted today are creating logistical and energy demand problems. These vehicles and equipment require substantial charging time and have been shown to cause significant delays in construction on the field, as the electric batteries are depleted after a few hours, and take substantial time to recharge. There are also reports of impact to the electrical grid because of the energy required to recharge batteries of this size. To avoid this, there are some reports that operators are using diesel generators to recharge the batteries, defeating the purpose of electrifying equipment in the first place.

The models and sizes of construction equipment currently on the market is available in very limited quantities, and mainly in Europe. In fact, NYMaterials and its members are not aware of any dealers offering electric vehicles or equipment for mining, asphalt, and concrete operations, even for future sales. To mandate that an entire industry purchase equipment that admittedly is not in existence, is significantly more expensive, and that may never be available provides no climate benefit, and only harms the manufacture, processing, and use of aggregates across New York State.

The final Scoping Plan must realistically address these issues, the potential impacts from substantial increases in the costs to purchase equipment, the potential for delays to construction due to battery charging time, and other information necessary to determine the costs and impacts of the directive to electrify construction vehicles and equipment. The Scoping Plan must identify the actual increase in cost to mandate the purchase of the vehicles, and the impact to this industry, as well as the substantial costs that would be passed onto taxpayers and consumers purchasing these materials and using them for public works and others construction. This analysis must also include costs to the operators and the public due to delays and complications that could arise logistically if electric equipment requires substantial charging time during the workday. It must start from being realistic and transparent about the existence and likely future existence of adequate substitute vehicles and equipment. Absent such realistic analysis, the draft Scoping Plan is incomplete and inaccurate.

The draft Scoping Plan proposes to incorporate a host of fees, taxes, and costs to discourage the use of internal combustion vehicles. These costs will only increase the cost of living and doing business for residents and businesses. For NYMaterials, given the lack of alternative vehicles available and the unknown, if any, likelihood of development of substitute vehicles, such fees

would serve only to increase cost, not to incentivize the switch to electrified equipment. These costs, and any ban of cleaner petroleum-based fuel equipment will significantly harm, if not shut down some or all of this industry.

The draft Scoping Plan includes a number of recommendations regarding not only office space, but manufacturing facilities, each of which will impact NYMaterials members. While the draft Scoping Plan largely ignores the availability and cost of mandating that heat pumps and electrification of heating and cooling in office and manufacturing spaces, this would be a very significant additional cost – even if the technology to do so were available and viable in the northeast. Further, there are a number of NYMaterials members who do not have access to electricity at their quarry or operating facilities due to being located in remote, rural areas. These members power their facilities with generators powered by petroleum-based fuels, including natural gas where available, as the cost to interconnect to the grid is tens of millions of dollars. Those initial interconnection costs, to the extent it is even feasible for power to be provided from the utility, would have to be paid in addition to the expected significantly more expensive heat pump equipment that would be required.

Other members have some electric capacity already, but additional power is not readily available from the nearby utility, requiring generators for the remainder. A mandate to electrify the facility and manufacturing process would not go far given the existing electricity supply constraints. Any of these facilities that do not get any power from the grid due to accessibility issues, or struggle to get the limited amount they currently use, could not operate if directed to cease using the generator equipment for which they expended substantial sums to put in place and obtain air permits. Such equipment is purchased for hundreds of thousands of dollars, or more, per unit or piece of equipment, with the business-backed expectation of using it for its 15 or more-year service life. These investment-based expectations would be eviscerated with the mandates in the CLCPA. These costs would be substantial enough to cause at least some member companies, or some of their operations to close, others would be severely impacted in their ability to operate. In addition, these costs do not begin to address time of day demand charges which all but erode any potential vehicle/equipment maintenance savings assumed in the draft Scoping Plan.

Further, many of NYMaterials members' industrial sites have limited space already. And, such space is subject to rigorous regulation, often by the New York State Department of Environmental Conservation. Finding space even for electric charging stations for employee vehicles and, critically, construction vehicles and equipment, is likely impossible for many locations. For those locations that may have space for these features, they would be forced to develop electric parking spaces or alternative energy sources on property that may have significant value for mining, asphalt, or concrete production. Should the draft Scoping Plan mandate the development of renewable resources for industrial facilities, many facilities would not have space, even if they had the resources. These costs would bankrupt many operators.

It is also noted that the draft Scoping Plan explicitly states that greenhouse gas emitting manufacturing processes by and large do not have a GHG-free alternative available, and that such alternatives may not be available within the CLCPA's target of 2050. NYMaterials members utilize greenhouse gas-operated equipment to manufacture asphalt and concrete, and to mine and process aggregate. Certain components, such as heating asphalt, require a constant heating source

that can be provided via natural gas (or other fuel sources), but that does have an electrified equivalent. Based on the state of the technology today, electrification of an asphalt plant would not provide the energy necessary to achieve desired temperatures for production of asphalt, such that it can meet state and federal safety and durability specifications. It is unknown whether such equipment could be developed, and whether it would be a satisfactory substitute.

The draft Scoping Plan contains little information on workforce upgrades, other than to note that training would be required. This could be difficult. Companies would have to create whole new categories of employees to perform maintenance on electric and other new-technology equipment. Currently, NYMaterials member companies do not have personnel trained in electric vehicle technology or any of the other CLCPA-derived mandates contained in the draft Scoping Plan. The aggregate and construction industry has already struggled with hiring new talent over time, this would make the hiring challenge all the more difficult. The draft Scoping Plan should contemplate trade schools and colleges beginning to train employees on these new technologies, and to be prepared to increase this education if and when electric construction equipment and vehicles, and other technologies, become available.

The draft Scoping Plan includes some general statements regarding goals of reducing embodied carbon and shifting the use of construction materials from concrete and other commonly used, vital, well-established construction materials. There is no detail on exactly what is proposed, other than a few sentences about developing alternative products. As NYMaterials members produce concrete and other aggregate materials for their livelihoods, they oppose the switch to untested materials that could have any number of unknown environmental impacts in their production. Additionally, there is no discussion of the safety issues related to use of these materials, and their suitability for purposes of satisfying the requirements of the existing building, electrical and fire code. These codes should not be modified to authorize new materials unless those materials can meet the rigorous requirements to ensure a code-compliant building or structure that is structurally sound and safe.

The draft Scoping Plan also includes excessive and unnecessary proposed monitoring, reporting and other new regulatory mandates for countless industries, including manufacturers such as NYMaterials' members. New York has dominated the bottom of the list of the most business-friendly states for many consecutive years now. Mandates and costs are added nearly continuously for environmental, safety, labor and a host of other business requirements. Adding further aspirational regulatory mandates as part of the CLCPA is beyond excessive and would likely serve as a step off point to then regulate and restrict NYMaterials members' crucial business operations. Again, without these industries, literally all construction would come to a standstill. Even with substituted construction materials, roads, buildings, and countless other structures, including CLCPA-required projects, require aggregate. At a minimum, the final Scoping Plan must provide detail regarding what is proposed for substitute construction materials as well as the open-ended monitoring and reporting suggested. Absent such detail, the industry to be displaced, namely, many of NYMaterials' members, cannot adequately comment.

Finally, NYMaterials was concerned to observe that mining was called out specifically in the draft Scoping Plan. *See, e.g.* Section 14.1, pp. 179-180. This is not an energy intensive industry identified by the CLCPA, nor is it identified as one that should be added to that category in the

draft Scoping Document. To the extent there are additional CLCPA requirements contemplated for this industry, further detail should be provided such that NYMaterials and its members can more fully comment.



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**ATTACHMENT II**

## **The CLCPA & Scoping Plan Generally**

Overall, the CLCPA and draft Scoping Plan is massive overreach, intended to affect and force change not only for NYMaterials member companies, but every business, institution, and resident of New York State. It will direct not only what vehicle may be driven, how people may heat their homes and offices, but the use of construction equipment and manufacturing processes, as well as the use of countless everyday items, including refrigerators, air conditioning, propane powered stoves, furnaces and grills, fireplaces and campfires, boats, snowmobiles, and other recreational vehicles. These directives will eviscerate, if not destroy, the ability of many industries to engage in their existing businesses, and for those that can find a CLCPA-compliant alternative, will force tens of millions of dollars of additional cost on those businesses for the privilege of doing so.

All of these mandates are purported to be necessary for the sake of addressing climate change - yet the draft Scoping Plan ignores the significant impact to the environment to manufacture components for solar and wind facilities and other CLCPA-compliant power sources, to transport and install these items, and to dispose of millions of vehicles, pieces of equipment, and household items that must be replaced. The claim that complying with the CLCPA costs less than doing nothing ignores all of these costs and has not been substantiated. The impacts to the environment, to solid waste management, to industries that will be directed to shut down, such as gas stations and GHG-powered electric facilities, the loss of jobs associated with these directives will be substantial. Additionally, the costs incurred due to businesses that leave New York, to labor resources leaving along with them, the impacts of overseas manufacturing of CLCPA-compliant components must be included. Finally, the costs to the family budget, reliability of the grid, and stability of the economy given the forced changes and admitted unavailability of adequate substitutes has been ignored in the draft Scoping Plan's claim that complying with the CLCPA is less costly than doing nothing. These factors must all be included in the Scoping Plan's analysis.

The draft Scoping Plan is similarly myopic regarding its dependence on induced changes in individuals' behavior in terms of where people live, work and how they travel. It also fails to adequately provide and address the benefit-costs analysis of transitioning to all electric for housing, industries, and transportation. Specifically, the plan underestimates the challenges and fiscal impacts of sourcing materials and the 'making ready' requirements of impacted sectors to accommodate the desired outcome of all electric sourcing. These foreseeable limitations on raw materials for producing batteries, steel and electrical components will present formidable barriers to acceptance and cost parity with other more practical low-emission and renewable alternatives.

And all of this is mandated to bring New York to 1990 levels of greenhouse gases. Yet, the draft Scoping Plan contains no information on what the actual reduction in greenhouse gases would be nationally or worldwide even if New York is successful. The climate is not isolated to New York: if the residents and businesses of New York State are to be asked to make such substantial investments, with significant uncertainty on the existence and reliability of the alternatives being mandated by the draft Scoping Plan, these costs must be balanced against the benefits to be achieved if successful. As discussed below, the actual reduction even in US greenhouse gases would be infinitesimal.

Additionally, the feasibility and practicality of the proposed solutions will likely place New York State at a competitive risk with other states. In the absence of coordinated national and international strategies to address the global emissions crisis, it is unreasonable to assume that other states competing for development opportunities with New York will implement and/or enforce equivalent climate policies. As such, New York will continue to be plagued with escalating commodity and service costs to both residents and businesses to support implementation of the CLCPA, excessive personal and business taxes and fees on individuals and corporations that choose to remain in the State; and unprecedented individual and business relocations to neighboring states and other regions of the country with more favorable fiscal environments.

Further, given the current reality that New York is the only one of a handful of states moving forward with anything like this, how would a New York resident travel out of state reliably with their electric vehicle? Interstate commerce concerns will also impact the ability of New York to direct consumers to purchase only electric vehicles, when combustion engine vehicles and gasoline are available in other states. The legality of attempting to limit the type of vehicle that may be purchased in one state, from an interstate commerce perspective, is questionable.

The CLCPA and draft Scoping Plan are outcome determinative – directing not that appropriate technology be developed or used that is GHG free, but instead mandating electrification of vehicles, buildings, and manufacturing processes. This misses a substantial opportunity to encourage innovation in creating GHG free technologies, and instead forces businesses and homes to comply with a directive that has been shown to be unreliable as a power source, and which is admittedly much more expensive, to the extent electrification is even available. In other places, the draft Scoping Plan admits that such technology does not exist (such as for manufacturing) and is likely to not be available by the 2050 deadline. In addition, an increasing number of municipalities throughout the State have implemented moratoriums on zero-emission energy initiatives advanced in the draft Scoping plan, including prohibitions on the construction of solar farms, battery farms, wind turbines. Yet, the draft Scoping Plan would have New York State advance unattainable strategies and policies anyway. A more realistic plan, encouraging innovation and the use of any GHG-free technology, not an implicit bias toward all electrification, would have a greater chance at success.

The draft Scoping Plan states in each chapter that subsidies, funding, and grants will be required to make the various goals achievable. To ensure that every resident can afford significantly more expensive renewable energy and electric vehicles, to assist homeowners and even businesses with the significantly higher costs of installing and operating heat pumps and other GHG-free technologies, and even that manufacturing facilities would require subsidies and financial assistance to convert from current operations to GHG-free alternatives. If every resident and business in New York state requires financial incentives and subsidies to transition to CLCPA-compliant technologies, who will be left to pay for such funding? Even if there was an answer to this, New York State is amongst the highest-taxed states in the nation today. Adding a significant cost burden to the high cost of doing business in New York State is infeasible and will serve only to cost further jobs and drive further businesses and residents out of New York State.

The draft Scoping Plan should have been drafted with the input of the industries affected by its outcome. The CLCPA contemplated a Climate Action Council made up of 22

representatives, however, only two of those representatives actually represent industry voice – the remainder are regulators, environmental and other stakeholders, and other representatives that won't have a business impacted by the draft Scoping Plan. The advisory panels may have had more industry representatives on them but based on the content of the draft Scoping Plan, those representatives' very real concerns about forcing the CLCPA mandates were either ignored, or the draft Scoping Plan acknowledges the cost and unavailability of CLCPA-compliant technology yet directs that New York move forward anyway.

### **The Cost of Attaining the Statutory Emissions Limits**

The costs of achieving the CLCPA's goals within the intended timeline are greater than the proposed benefits. Because New York is the fourth most populous state in the country, the shift to green energy would be significant and harmful, both economically and environmentally. While the draft Scoping Plan boasts a net benefit of ninety to one hundred and twenty billion, this figure is dwarfed by the estimated required investments of New York City alone which average between 1.5 to 2 trillion dollars within the next three decades.<sup>1</sup>

In just one area of decarbonization, personal vehicle transportation, “[t]here would need to be an enormous expansion of the grid if a significant share of cars shift[] from oil to electricity.”<sup>2</sup> The benefits of such a costly expansion is considered negligible; scholars have criticized the push for a zero carbon grid as it would only reduce global carbon emissions by less than six percent.<sup>3</sup> The draft Scoping Plan acknowledges that the grid would need to expand by 60 percent or more to accommodate mandated electrification, however, it ignores the costs to do so, as well as the amount of additional space to accommodate renewables that would be required beyond simply replacing the current grid.

The draft Scoping Plan characterized the shift to renewable energy as “rapid and widespread.” Such a monumental shift creates problems for our current supply chain. In lieu of coal, oil and natural gas; zero-carbon energy relies heavily on batteries. Batteries require minerals such as lithium and cobalt. If there were a sharp increase in need for batteries, this would lead to supply shortages of these resources in addition to other hidden economic and even human rights concerns. The draft Scoping Plan does not look at this supply chain nor the impact to it of delivering a substantial increase in renewable energy materials to make New York's grid 100% renewable. “Until now, renewables have been viable because of the massive base of fossil fuel generation that [supplies most of our electricity needs](#).”<sup>4</sup> If unprepared with effective alternatives

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<sup>1</sup> *Id.*; New York City's Net-Zero Carbon Target for 2050 Is Achievable, Study Finds, NYC MAYOR'S OFFICE OF CLIMATE CHANGE & ENVIRONMENTAL JUSTICE (APRIL 15, 2021), [New York City's Net-Zero Carbon Target for 2050 Is Achievable, Study Finds - Sustainability \(nyc.gov\)](#).

<sup>2</sup> Mark P. Mills, *The Hidden Costs of Going Green*, DAKOTA DIGITAL REVIEW (OCT. 1, 2021), <https://dda.ndus.edu/ddreview/the-hidden-costs-of-going-green/>.

<sup>3</sup> *Id.* (citing EIA 2020 report).

<sup>4</sup> Lucas Toh, *Let's Come Clean: The Renewable Energy Transition Will be Expensive*, COLUMBIA CLIMATE SCHOOL (OCT. 26, 2021), [Let's Come Clean: The Renewable Energy Transition Will Be Expensive \(columbia.edu\)](#).

to the existing fossil fuel base, expeditiously removing the hydrocarbon foundation will lead to the crumbling of the existing energy system.

While renewable energy does not generate greenhouse gases, the extraction and processing of minerals needed for these technologies do. “On average, per unit of energy delivered, the quantity of materials extracted from the earth and processed for ‘clean tech’ is 500 to 1,000 percent greater than with hydrocarbons.”<sup>5</sup> In addition to supply concerns, a spike in demand for the minerals required for batteries and other GHG-free technologies would also cause an increase in the human rights issues associated with their mining. For example, “[t]here are the widely reported cases of abuse and child labor in mines in the Congo, where 70 percent of the world’s raw cobalt originates.”<sup>6</sup>

Human rights concerns within the green-mineral mining industry were so severe that the issue ultimately led to government action; the Dodd Frank Act of 2010 required reporting on all trade of “conflict minerals” (minerals mined from areas of armed conflict and traded to finance such conflict.)<sup>7</sup> Concerningly, “[a] recent Government Accountability Office (GAO) report notes that more than a thousand companies filed conflict minerals disclosures with the Securities and Exchange Commission, per Dodd-Frank.”<sup>8</sup> Scholars believe that

there are considerable risks in increasing the extraction of minerals needed to facilitate the transition to a low-carbon economy, which could lead to the emergence or exacerbation of tensions, violence and fragility among stakeholders in producing countries. . . [M]inerals . . . like cobalt in the DRC . . . are mined in high-risk areas [and are] already affected by conflict and human rights abuses. . . [R]are earths in China, . . . are major sources of pollution, environmental degradation and related grievances for local communities. In some cases, such grievances have already evolved into local protest and civil unrest, as in Guatemala and Guinea.<sup>9</sup>

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<sup>5</sup> *Id.* (citing DOE Quadrennial Technology Review); “[t]he technologies assumed to populate the clean energy shift . . . are in fact significantly MORE material intensive in their composition than current traditional fossil-fuel-based energy supply systems” *The Growing Role of Minerals and Metals for a Low Carbon Future*, WORLD BANK GROUP at 58 (June 2017), <https://documents1.worldbank.org/curated/en/207371500386458722/pdf/117581-WP-P159838-PUBLIC-ClimateSmartMiningJuly.pdf>.

<sup>6</sup> Douglas Broom, “*The Dirty Secret of Electric Vehicles*,” WORLD ECONOMIC FORUM, (March 27, 2019).

<sup>7</sup> Clare Church, *Green Conflict Minerals: Investigating Renewable Energy Supply Chains in Fragile States*, CLIMATE DIPLOMACY (Oct. 31, 2018); Mills, *supra* note 6.

<sup>8</sup> Mills, *supra* note 2; Clare Church et. al., *Green Conflict Minerals: the Fuels of Conflict in the Transition to a Low-Carbon Economy*, INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT at 32 (2018), <https://www.iisd.org/system/files/publications/green-conflict-minerals.pdf>.

<sup>9</sup> Clare Church et al., *Green Conflict Minerals: the Fuels of Conflict in the Transition to a Low-carbon Economy*, INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT ( Aug. 2018), <https://www.iisd.org/story/green-conflict-minerals/#group-Supply-Chain-Governance-ma3SSZAMof>.

Having a state as large as New York, much less an energy dependent nation the size of the United States, shift their energy needs from less than 5% of vehicles to a near-exclusive dependency on batteries, cases the like one seen in Congo would expand at an alarming rate.<sup>10</sup>

Such a sudden dependency on green energy components will also lead to an export of carbon emissions rather than an overall reduction. As the supply chain attempts to meet demands for minerals needed to build batteries and components, their actual manufacturing, particularly at the demand level that the CLCPA calls for, would occur in other countries such as China, which currently relies on a coal-powered grid for over sixty percent of their energy.<sup>11</sup> Coal generates significantly more greenhouse gas than other petroleum-based fuels, and China, unlike New York and the United States, does not regulate the pollution emitted. Engaging in a massive transition to a “clean technology” will result in a greater rate of greenhouse gas production than for the same manufacturing were it to occur in New York, as well as other environmental, including air pollutant, harms.

China, as well as other high-manufacturing countries rely on coal and other greenhouse gas emitting energy sources for a reason. Scholars have found that in the case of batteries “their usefulness is impractical on a national scale as a major or primary fuel source for generating electricity. As with any technology, pushing the boundaries of practical utilization is possible but usually not sensible or cost-effective.”<sup>12</sup> This should serve as a warning bell for New York and the draft Scoping Plan: mandating a transition to exclusively electric battery powered vehicles and equipment will not be effective as a primary fuel source, and the costs would be significant.

One of the major concerns that arise in research conducted to date regarding the switch to green energy is that utilizing clean energy is costly and inefficient. The draft Scoping Plan concedes that there is a need for research and development of long term storage of renewable energy.<sup>13</sup> Hydrocarbons have a 1:60 ratio to batteries per pound stored.<sup>14</sup> Meaning that for every sixty pounds of batteries, the same amount of energy is stored in one pound of hydrocarbons.<sup>15</sup> The incongruity of clean energies and hydrocarbons thus extends beyond the amount of energy stored per unit and into the cost of storing the energy.<sup>16</sup>

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<sup>10</sup> “Car batteries . . . create the biggest demand for “conflict” cobalt. Companies can make pledges; but unfortunately, the record suggests that there is little correlation between such pledges and the frequency of (claimed) abuses in foreign mines.” *Id.* (footnotes omitted). See also Wenjan Liu et al., *Socio-environmental Impacts of Lithium Mineral Extraction: Towards a Research Agenda*, 13 ENVIRONMENTAL RESEARCH LETTERS 01, 10 (2018) (“The Chilean Atacama region has been exploited for its rich mineral deposits, including copper, gold, silver, molybdenum and lithium.”).

<sup>11</sup> *Id.*

<sup>12</sup> Mark P. Mills, *The “New Energy Economy”: An Exercise in Magical Thinking*, MANHATTAN INSTITUTE (Mar. 2019), <https://media4.manhattan-institute.org/sites/default/files/R-0319-MM.pdf>.

<sup>13</sup> Draft Scoping Plan, New York Climate Action Council.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*

<sup>16</sup> See *id.*

Seemingly, zero emissions come with a cost, to the climate, to the environment, and to New Yorker's wallets, of much higher than zero.

### **“Benefits” of the Proposed Statutory GHG Limits**

The benefits of meeting the CLCPA's GHG statutory limits are negligible in comparison with the costs. In 2019, New York State was responsible for 379.43 million metric tons of carbon dioxide.<sup>17</sup> When compared to the United States' total emissions in 2020 of 5,981 million metric tons of carbon dioxide equivalent, the figures show that New York is only responsible for 0.06% of the United States' total carbon dioxide emissions.<sup>18</sup>

In 2014, the United States was responsible for 15% of the world's GHG emissions. Therefore, assuming the ratio for other greenhouse gasses is the same, New York would only be responsible for 0.06% of 15% of the world's greenhouse emissions.<sup>19</sup> This is a negligible amount, and even if the draft Scoping Plan is successful, New York's share will not be reduced from 0.06% to zero, it will be reduced to 1990 levels. The draft Scoping Document must acknowledge this very small “benefit” to be achieved in comparison to the substantial costs every aspect of CLCPA implementation will create.

### **Electric “Zero Emission” Vehicles**

One of the areas that will require the biggest shift and most resources will be transportation. The current leading alternative, which is in fact mandated by the draft Scoping Plan, are electrical vehicles (“EVs”). The draft Scoping Plan hypothesizes that there will need to be approximately three million EVs sold to help meet CLCPA goals just by 2030, with millions of other vehicles being required to transition the transportation sector to entirely electric by 2050.<sup>20</sup>

A switch to complete use of EVs requires vast amounts of lithium, a main component of the batteries EVs run on. It is estimated that “[l]ithium production, used for electric cars . . . will need to rise more than 2,000 percent.”<sup>21</sup> There is already an existing shortage of this critical material. “Experts expected the world's shortage of lithium to last for another three years at least,

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<sup>17</sup> Green House Gas Emissions Report, Summary Report 2021, NEW YORK STATE, [https://www.dec.ny.gov/docs/administration\\_pdf/ghgsumrpt21.pdf](https://www.dec.ny.gov/docs/administration_pdf/ghgsumrpt21.pdf).

<sup>18</sup> See Fast Facts From the Inventory of U.S. Green House Gas Emissions and Sinks, U.S. ENVIRONMENTAL PROTECTION AGENCY (1990-2020), <https://www.epa.gov/system/files/documents/2022-04/fastfacts-1990-2020.pdf>.

<sup>19</sup> Global Green House Data, U.S. ENVIRONMENTAL PROTECTION AGENCY, <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>.

<sup>20</sup> Draft Scoping Plan, New York Climate Action Council.

<sup>21</sup> Jamie Smyth, BHB Positions Itself at Centre of Electric -Car Battery Market, FINANCIAL TIMES (Aug. 9, 2017).

but with the cancellation of the Serbia mining project, the shortfall could last even longer. . . making the green energy transition even harder to achieve.”<sup>22</sup>

In addition to supply and demand issues, EVs are less environmentally friendly than they appear. “The ‘pre-manufacture’ and ‘product manufacture’ stages are where electric vehicles have around [a] 44% greater impact on the environment than [the production of equivalent gas powered vehicles].”<sup>23</sup> In the case of carbon dioxide, the production of EVs generates roughly twice that of traditional combustion vehicles.<sup>24</sup> Experts have concluded that “it is counterproductive to promote EVs in areas where electricity is primarily produced from lignite, coal, or even heavy oil combustion.”<sup>25</sup> In fact, New York State is still predominated with GHG-generated electricity. Even with aggressive renewables deployment this will continue for several years or longer. Advocating for the use of EVs simply transfers the emissions from the tailpipe to electric-generating facilities.

Additionally, not only is there a short life cycle for the batteries in EVs, which is a concern for relying on their use exclusively, but the batteries “appear to cause a higher potential for human toxicity, freshwater eco-toxicity, freshwater eutrophication, and metal depletion impacts.”<sup>26</sup> When looking at EVs in totality, an increased dependency on them may bring about both economic and environmental concerns that the draft Scoping Plan has not considered.

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<sup>22</sup> *Lithium Shortage Will Get Worse, Prices Will Continue to Escalate*, INSTITUTE FOR ENERGY RESEARCH, <https://www.instituteforenergyresearch.org/renewable/lithium-shortage-will-get-worse-prices-will-continue-to-escalate/>.

<sup>23</sup> *What is the Environmental Impact of Electric Vehicles?*, CLIMATE SOLUTION CENTER, <https://climatesolutioncenter.com/environmental-impact-of-electric-vehicles/>.

<sup>24</sup> Troy Hawkins et. al, Comparative Environmental Life Cycle Assessment of Conventional and Electric Vehicles, 17 J. OF INDUSTRIAL ECOLOGY 53-64 (2013).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*