

**MINUTES OF THE CLIMATE ACTION COUNCIL MEETING**  
**HELD ON JUNE 24, 2020**

Pursuant to Notice and Agenda, copies of which are annexed hereto, a meeting of the Climate Action Council (“Council”) was convened at 2:00 p.m. on Wednesday, June 24, 2020. The following Members attended:

**Council Co-Chairs**

- Alicia Barton, President and CEO, New York State Energy Research and Development Authority
- Basil Seggos, Commissioner, New York State Department of Environmental Conservation

**Council Members**

- Richard Ball, Commissioner, New York State Department of Agriculture and Markets
- Donna L. DeCarolis, President, National Fuel Gas Distribution Corporation
- Marie Therese Dominguez, Commissioner, New York State Department of Transportation
- Gavin Donohue, President and CEO, Independent Power Producers of New York
- Dennis Elsenbeck, Head of Energy and Sustainability, Phillips Lytle LLP
- Thomas Falcone, CEO, Long Island Power Authority
- Eric Gertler, Acting Commissioner and President and CEO-designate of Empire State Development (Vincent Ravaschiere, Designee)
- Rose Harvey, Senior Fellow for Parks and Open Space, Regional Plan Association
- Bob Howarth, Professor, Ecology and Environmental Biology at Cornell University
- Peter Iwanowicz, Executive Director, Environmental Advocates of NY
- Jim Malatras, President, SUNY Empire State College
- Gil C. Quiniones, President and Chief Executive Officer, New York Power Authority
- Roberta Reardon, Commissioner, New York State Department of Labor
- Anne Reynolds, Executive Director, Alliance for Clean Energy New York
- John B. Rhodes, Chair, New York State Public Service Commission
- Rossana Rosado, Secretary of State, New York State Department of State (Kisha Santiago, Designee)
- Raya Salter
- Paul Shepson, Dean, School of Marine and Atmospheric Sciences at Stony Brook University
- RuthAnne Visnauskas, Commissioner and CEO, New York State Homes and Community Renewal
- Howard A. Zucker, Commissioner, New York State Department of Health (Adrienne Mazeau)

Also present were various State agency staff, representatives from E3 Consulting, LLC, and members of the public.

Ms. Barton and Mr. Seggos, Co-Chairs of the Council, welcomed all in attendance. A quorum was present throughout the meeting.

### **Consideration of the Minutes of March 3, 2020 Meeting**

The first item on the Agenda was to advance the minutes from the March 3, 2020 meeting. After a brief discussion regarding the level of detail preferred be reflected within the minutes going forward by Mr. Iwanowicz regarding specific Council Member comments, and upon hearing no changes or objections, upon motion duly made and seconded, the minutes were moved. Co-Chair Barton stated that the minutes will be posted to the Council website.

### **Co-Chair Remarks**

Co-Chair Seggos began by recognizing Co-Chair Barton, in light of her upcoming departure from NYSERDA, for her substantive contributions to the Council and New York State, and welcomed Doreen Harris as the impending Acting President and CEO, NYSERDA. He reflected on the last four months of current events including the implications of the COVID-19 Pandemic and ensuing economic fallout and the widespread call to action and protests for social justice. He noted an aggressive government posture and reliance on science to respond to the health crisis, and specifically acknowledged several agencies represented on the Council which were key to responding to the crisis.

Co-Chair Seggos also highlighted the disparate impacts of the COVID Pandemic on communities of color and low-income communities and that air pollution exacerbates the impacts of the virus. He noted the same communities are vulnerable to climate change and there is a need to apply some of the same lessons of COVID to the actions taken to implement the CLCPA. Regarding the national reckoning with systemic racism, he suggested that all individuals and government entities must ask themselves if they are doing all they can. He stated that now is the time to listen, learn and act, roll up our sleeves and to act. The rarity of the twin crises have prepared us to address the climate crisis which cannot be accomplished without environmental and climate justice.

Co-Chair Barton transitioned to a discussion about the clean energy work that can be the engine for an equitable recovery from the COVID Pandemic. In discussing what New York is doing to keep clean energy progress on track, Co-Chair Barton described the regional re-opening from NY Pause pursuant to New York Forward. State agencies have helped the clean energy industry fully adhere to the

NYS Department of Health construction guidance and other New York Forward protocols, acting quickly to provide flexibility and relief, including extending project deadlines, adding interim milestones, modifying and accelerating incentives, waiving certain project documentation, and providing a 0% loan offering under Green Jobs Green New York. Co-Chair Barton stated that, unfortunately, the clean energy sector has been hit hard by the COVID-19 Pandemic and job losses and setbacks were devastating, but there are signs that a leveling off may be occurring and stated that New York can rebuild its economy sustainably and work to build a cleaner and more resilient future.

Co-Chair Barton recapped the recent Clean Energy Standard (CES) White Paper filed by the NYS Department of Public Service and NYSERDA that details a path forward for expanding the CES from 50 percent to 70 percent renewable electricity by 2030, intending to provide the market with the certainty needed to generate new projects and stimulate much-needed private investment and job creation. It also advances environmental justice for communities and workers historically neglected in and actively disadvantaged by energy policy planning. With that, she reported on an effort to provide additional funding for affordable solar energy for disadvantaged communities, in addition to the NY-Sun program expansion that was approved in May 2020 and building on efforts to meet the CLCPA target for 6,000 MW of distributed solar by 2025.

Co-Chair Seggos presented information on achieving climate justice and shared with Council members the newly-named members of the Climate Justice Working Group (CJWG), the recommendations of which will help to ensure that while we move the State toward a carbon neutral economy, all New Yorkers will reap the economic and environmental benefits of this nation-leading transition. The CLCPA establishes a goal that 40% of benefits of clean energy investments flow to disadvantaged communities, with a minimum requirement of 35%. Co-Chair Seggos stated that the 40% is not a ceiling and investments should be designed to exceed it.

The CJWG will lead the development of criteria for defining and identifying disadvantaged communities and will also identify measures to reduce emissions of co-pollutants in the Scoping Plan. In developing its regulations to implement the requirements of the Act, NYS DEC is required to prioritize reductions in disadvantaged communities and ensure there's no increase in burdens on those communities. NYSDEC is also required to establish a pilot monitoring program in at least four disadvantaged communities to track progress in reducing pollution levels.

In addition to the CJWG, the Council should coordinate with the Environmental Justice Advisory Group. Both of these groups will be actively engaged in the development of the Scoping Plan and will interact with the Advisory Panels.

### **Consultant Presentation: Emission Reduction Pathways Analysis**

Co-Chair Barton introduced the presenters from the firm Energy and Environmental Economics, (E3), Snuller Price, Senior Partner and Victoria Clark, Director and provided background for the Emissions Reductions Pathways Analysis presentation. Co-Chair Barton noted that the current presentation represents the evolution of analysis that NYSERDA has been engaged in or requested to pursue, but which has changed significantly owing to substantive changes in policy as well as changes in clean energy markets. This work was founded in analysis that was originally designed to inform how to meet the Clean Energy Goals from the 2015 State Energy Plan – including a 50 by 30 renewable electricity goal and 40 percent emissions reduction goal by 2030. From there, NYSERDA was then directed to complete a 100 percent renewable study, which over the course of the modeling and assumptions building of that work, significant changes in renewable energy markets occurred, including technology price declines that were significantly different from the assumptions that had been built into the preliminary work. Based on these findings, the analyses and assumptions were revisited, leading to changes where appropriate to ensure accurate and updated analysis.

Co-Chair Barton also reported the crystallization of State policy around identified clean energy contributions – such as the New Efficiency New York increases in energy efficiency across the State or the “100 by 40” zero-emission electricity policy that was ultimately enacted by CLCPA. Since the enactment, the analysis has been organized to capture a number of the new energy policies, which serve as benchmarks. This work provides a foundation for the work of the advisory panels – most particularly with respect to the sector-by-sector emissions reductions that will be needed to meet the targets in the CLCPA.

Mr. Price and Ms. Clark presented a summary of the findings of the Pathways analysis, and also noted that this work provides a foundation from which additional work will ensue to fully incorporate GHG accounting requirements of the CLCPA and to re-calibrate to the forthcoming NYS DEC rulemaking establishing the Statewide GHG emission limits, which is based on the CLCPA’s updated GHG accounting methodologies. The key take-ways from the analysis were presented as:

- The analysis reinforces the conclusion of the reviewed studies, that deep decarbonization is feasible using existing technologies;

- Some studies rely on technologies that have only been demonstrated in a limited number of applications and require progress before commercial readiness;
- Although there is no single pathway to a decarbonized economy, all scenarios that achieve carbon neutrality share significant progress in four pillars (energy efficiency, conservation and end-use electrification; switching to low-carbon fuels; decarbonizing the electricity supply; and negative emissions measures and carbon capture technologies);
- Literature review illustrates that choices exist in the extent and role of each pillar. However, in all studies, the scale of the transformation is unprecedented, requiring major investments in new infrastructure across all sectors;
- Consumer decision-making plays a large role in the transition, such as in passenger vehicles and household energy use;
- Continued research, development, and demonstration will be necessary to advance the full portfolio of options.
- Flexibility along multiple dimensions is key to maintaining reliability and reducing a cost of a 100% zero-emission electricity system.
- Managed electrification can help mitigate the risk of very high winter peaks.

Information was also presented on the model framework, scenario development (reference case, a high-technology availability pathway, and a limited, non-energy pathway), and sectoral findings. Next steps were identified as adding the CLCPA GHG accounting requirements, including regarding the use of the 20-year GWP metric and the incorporation of out-of-state emissions associated with imported energy, to the analysis and developing additional scenarios (such as for in-state transmission, carbon capture and sequestration, electric generation mix, managed versus unmanaged electrification and the limits of it, mobility demand and outlook for vehicle miles traveled and bioenergy availability).

In response to an inquiry by Paul Shepson regarding assumptions around policy tools, tax incentives, consumer and manufacturer incentives, and that the presentation states that success can be achieved using existing technologies, Ms. Clark stated that this tool is primarily geared toward technology, energy, and emissions drivers. It starts with fundamentals about assessing the correct level of ambition, but does not provide macroeconomic analysis, which is planned for the future. She explained that this is an iterative process that will be used to develop the types of policies and incentive mechanisms that could achieve certain policy goals. Another challenge is the wide range of estimates, noting that consumer choice and economics will drive the trajectory. Co-Chair Barton clarified that even though the technology pathway is possible, technology innovation will also change the scenarios going forward and that this work is meant to be foundational.

Describing the work as fascinating and interesting, Raya Salter inquired as to what, if any, geographic considerations or temporal analyses were undertaken. Ms. Clark described that Upstate and Downstate analysis was undertaken and modeled each year, and for electricity, hourly analysis was undertaken. She also agreed that the analysis emphasized geography more than demographics.

Robert Howarth expressed his opinion that the housing sector will become much more important in the future and that if housing and transportation issues and analysis are left to the respective Advisory Panels, it may provide differing opinions and analysis. In response to his question regarding the consideration of increased use of thermal storage within buildings, Ms. Clark stated that little thermal storage had been included but that it should be more fully considered by the Advisory Panels.

Ms. Clark responded to a series of questions by Anne Reynolds to further explain the differences between the two scenarios that addressed the high-technology availability and the non-energy pathway; to address the modeling of longer duration storage technologies; whether the firm dispatchable capacity of upstate and downstate renewables were assumed; and what additional analysis can be done for transportation analysis, and how the more challenging non-combustion reductions, such as for waste, could be addressed.

In response to an inquiry by Peter Iwanowicz regarding the role of vehicle-to-grid technologies and biofuels, knowing the spirit of the work is grounded in environmental and climate justice, Ms. Clark stated that the analysis assumed a large volume of electric vehicles can charge throughout the day (up to 12 hours) and the number of vehicles is modeled to increase along with population growth, and bioenergy was modeled using an accounting framework consistent with current protocols. She also explained that the approach taken was to assess the amount of sustainable biomass feedstocks available in New York and then to allocate it to sectors that are difficult to mitigate. Mr. Iwanowicz suggested that the Council should be cognizant regarding co-pollutants in the bioenergy analysis.

In response to an inquiry by Donna DeCarolis regarding the inclusion of renewable natural gas (RNG) and hydrogen blending and how they are being studied, Ms. Clark stated that the analysis assumes different levels and roles. For instance, there may be a role for hydrogen in long-haul trucking; the drivers and methods for energy efficiency are seen as a combination of measures such as codes and standards, the purchase of higher efficiency appliance models, and aggressive adoption of building shell and insulation

for new construction and retrofits. As for Ms. DeCarolis' inquiry regarding cost/benefit analysis, Ms. Clark stated that this analysis can be conducted, but will require coordination with the Advisory Panels. Lastly, Ms. Clark confirmed that the analysis did consider the regional climate differences, particularly with regard to cold climates within the State.

Gavin Donohue stated that "science matters" and commended the study team for the analysis, which he called truly objective and needed to meet the Herculean goals ahead. He stated that a range of options are needed to meet the CLCPA goals and innovation should not be limited. In response to his inquiry regarding how the analysis defined dispatchable resources and suggesting that the approach taken here should be married up with myriad other similar studies, Ms. Clark stated that firm dispatchable and zero carbon resources technologies were included but no intermittent renewables were considered. The technologies considered included zero emission combustible fuels, eligible bioenergy, hydrogen from clean sources, nuclear, carbon capture, storage and hydroelectric power. She noted that other forms of long duration storage may be available but were not included.

With regard to comments and an inquiry from Dennis Elsenbeck regarding the impacts of moving toward electrification, and any potential stress that may impose on local infrastructure and disadvantaged communities (akin to undertaking location-based integrated resource planning), Ms. Clark stated that a limited analysis was conducted that focused on Upstate and Downstate, so there was no deep dive into specific local communities. Mr. Elsenbeck cautioned that one would not want to overbuild infrastructure and supply owing to a lack of understanding of local demand.

Gil Quiniones stated that, although this is just the beginning, this is a great study and future efforts need to be in harmony with the laws of physics and engineering, with potential enhancements into micro and macro-economics.

### **Discussion of Working Groups and Scopes of Work for Advisory Panels**

Co-Chair Seggos stated that engagement with the public is an important aspect of the work of the Advisory Panels and the expectation is that each will hold at least one public forum. He also stated that the Pathways work will help to inform their efforts, and while the Advisory Panels are not bound by the Pathways work and should apply their own expertise, the factual and scientific analysis indicates the scope and speed of the transition required to achieve the Statewide emission limits. Co-Chair Seggos also

acknowledged that there is some urgency regarding the selection of the panelists, who should also reflect the diversity of the State.

With that, Co-Chair Seggos introduced Commissioner Marie Therese Dominguez to discuss the Transportation Advisory Panel. Commissioner Dominguez reinforced the statements of Co-Chair Seggos who stated that transportation accounts for the largest share of emissions in the State, but New York uses less energy per capita for transportation than any other state. The goal is to develop sector-specific strategies to achieve its goals and she specifically pointed out opportunities in seaports and freight rail. The Department will also be considering the impacts of all of its projects (such as construction projects). Commissioner Dominguez welcomes input from all Council members on additional strategies to make the transportation sector more efficient. The Pathways analysis was illustrative and shows a path forward and she appreciated the presentation. She also acknowledged how much has been learned in the past 115 days, given current events and feels better able to address climate issues going forward.

In response to an inquiry from Dennis Elsenbeck regarding construction vehicles which are predominately diesel, Commissioner Dominguez reported that the Department is assessing the potential in this area.

In response to an inquiry by Anne Reynolds regarding the purchase of electric vehicles by the State, she wanted to express her support for the ability to lead by example. Regarding the challenges of State funding, she believes that this panel will have greater challenges in this regard than the others and suggested the consideration of the TCI program or other source of funding as an item to examine. Commissioner Dominguez agreed that the panel should consider sources of funding. Commissioner Dominguez stated that Congress is considering a surface transportation bill that may include some opportunities for New York.

Peter Iwanowicz stated that the funding of electrification has been mentioned several times and it crosses several panels and suggested that the various paths should be coordinated across panels and harmonized with the CLCPA goals.

Co-Chair Barton introduced Public Service Commission Chair John Rhodes to discuss the Power Generation Advisory Panel who stated that the power generation sector needs to deliver much, and work in this area has been underway for some time, referencing the recent White Paper filed by the Department



of Public Service and NYSERDA regarding activities to help achieve the 70% by 2030 renewable energy goal. He acknowledged the need for more innovation in the areas of thermal storage, vehicle-to-grid, long duration storage, for example, as well as the need for more clean and flexible generation. He also acknowledged that issues of equity and access to clean energy solutions are areas that warrant more attention, as well as issues of affordability, the importance of which has been emphasized by the COVID pandemic. Locational approaches are necessary, particularly for climate justice issues.

Anne Reynolds expressed her gratitude that efforts in this area have been moving forward despite the challenges of the current events.

In response to an inquiry by Dennis Elsenbeck regarding being more creative about time of use rates to help with load management, Chair Rhodes was supportive of the effort and emphasized that technology should assist in this area, where the larger customers are further ahead in this area than the mass market.

To discuss the Housing and Energy Efficiency Advisory Panel, Co-Chair Barton introduced Commissioner RuthAnne Visnauskas, who stated that the State's housing stock consists of 7 million units, a very large footprint, with slightly more than half owner-occupied and pre-1960 in construction. The median age of buildings in New York City alone is about 75 years, so there will be focus on preservation and retrofits. The scope of work presented for the Advisory Panel is broad and encompasses all building types from residential to commercial to government and there will be a focus on affordability.

In response to a suggestion by Robert Howarth regarding policy drivers and new construction that New York consider a policy of banning fossil fuels altogether in new construction, such as in Denmark, Commissioner Visnauskas suggested that all options are on the table and need to be sufficiently weighed against all considerations. Co-Chair Barton added that net-zero new construction efforts represent a promising area for discussion, particularly on the technology innovation side.

Co-Chair Barton introduced Vincent Ravaschiere, Senior Vice President for Energy at Empire State Development, to discuss the Energy Intensive and Trade Exposed Industries Advisory Panel. Mr. Ravaschiere stated that this Advisory Panel stands ready to help energy-intensive and trade exposed industries to meet the challenges in reducing their GHG emissions and matching them up with innovative and equitable solutions to make the transition. He stated that there are many new opportunities, such as in

the offshore wind industry, where the State's first two projects alone are slated to bring 1,600 direct, local jobs and over \$3.2 billion in economic activity and create opportunities for other industries to participate in the supply chain for this new industry.

Co-Chair Seggos introduced Commissioner Richard Ball to address the Agriculture and Forestry Advisory Panel. Commissioner Ball reported that the State has been preparing for and elevating its thinking on these subjects very intensively over the past few years. There has been great support and efforts on climate resilient farming and with soil and water conservation districts throughout the State have nicely positioned the Panel to address the task at hand. In addition to working closely with certain industries, such as the wood products sector, Commissioner Ball is optimistic that a Cornell Study on carbon farming should also prove to be very informational. The level of cooperation in this area has been trending very high and Commissioner Ball looks forward to getting to work on these issues.

In response to a suggestion by Gavin Donohue, echoing a previous suggestion by Anne Reynolds, regarding the formation of a panel specific to waste issues given the large impact that sector has on the economy, Co-Chair Seggos was receptive to the suggestion and suggested that some options be presented to the Council in the future.

Co-Chair Seggos introduced Kisha Santiago, Deputy Secretary of State, to address the Land Use and Local Government Advisory Panel. Ms. Santiago stated that the Department of State is poised and able to help State agencies and local officials implement solutions best suited to their specific communities and understands the importance of working directly with these communities, particularly on land use and infrastructure issues. In addition, the Advisory Panel looks forward to cross-sectoral collaboration on transportation, energy efficiency, housing, agriculture and other needs.

In response to a comment by Dennis Elsenbeck regarding the alignment of local government initiatives with regional economic development councils, local industrial development agencies, and others to further assist local governments that lack certain infrastructure, Ms. Santiago welcomed the comment and reported that although the Department of State works to coordinate in this area, there is more to be done.

In response to an inquiry by Mr. Iwanowicz regarding a separate panel to focus on the indigenous population and their representatives within the State, Co-Chair Seggos stated that suggestion would be further examined.

Co-Chair Barton provided an overview of the Just Transition Working Group, stating the importance of setting the proper foundation and introduced Commissioner Roberta Reardon who will co-chair this Working Group. Commissioner Reardon noted that there are many challenges and opportunities, particularly with regard to workforce development. The focus will be on engaging and training workers, with goals of being thoughtful and intentional. She stated that this is an exciting time and the Pandemic has provided good insight as to just how responsive the State can be to best equip New Yorkers for the future.

### **Update on NYS Implementation from NYS Department of Environmental Conservation: Greenhouse Gas Emission Limits, Value of Carbon**

Co-Chair Seggos introduced Jared Snyder, Deputy Commissioner, NYS Department of Environmental Conservation, to provide an update on progress made over the past few months on two processes as directed by CLCPA to DEC, one on Statewide greenhouse gas (GHG) emission limits and the second regarding the value of carbon. Regarding the establishment of Statewide GHG emission limits for 2030 (40% below 1990 levels) and 2050 (85% below 1990 levels), Mr. Snyder stated that the first step in establishing the limits is to determine the appropriate 1990 baseline levels to use as the basis for the new limits. In doing so, he mentioned that the CLCPA statute specifies particular methodologies to be followed that represent a change from prior approaches, including the identification of upstream fossil fuel emissions and the 20-year global warming potential, as opposed to the 100-year potential that had been previously used. In undertaking these efforts, the DEC has engaged stakeholders and experts for input. Overall, the emission limits will guide the Council in establishing the Scoping Plan by setting up the goalposts that the Council and State need to meet. This will be followed by the establishment of the substantive regulations, in line with the recommendations of the Scoping Plan, that will ensure the limits are met, as well as the tracking of progress through annual GHG emission inventories. Currently, the stakeholder feedback is being considered in the development of a proposal that is anticipated to be released for public comment in August. Comments will likely be received into the month of October, with a goal of finalizing the emission limits by the end of 2020. The first annual inventory will be due one year later.

Regarding the value of carbon, Mr. Snyder noted the CLCPA requires the establishment of a value of carbon as an aid for State agency decision-making. He continued the CLCPA identifies two approaches to be used - one is a damages approach, which considers the social impact of carbon on the environment and on society; and a second approach which is a marginal abatement cost approach, that involves determining the cost of reducing carbon emissions. Mr. Snyder said the CLCPA also requires the consideration of a range of discount rates, including zero, which is different than the range of three to seven percent, which has been considered in the past. In addition, the consideration of the social cost of carbon in other jurisdictions, such as the federal government, as well as other countries and states is required. Mr. Snyder noted the CLCPA further requires consideration of values for GHGs other than carbon dioxide, such as methane. Finally, Mr. Snyder stated a stakeholder conference is planned, to be followed by the release of a proposed guidance documents for public comment in the August or September timeframe, with finalized guidance by the end of 2020.

In the context of New York City Local Law 97 and in response to an inquiry by Dennis Elsenbeck with regard to alignment between this work and the Value of Distributed Energy Resources (VDER) effort so as to not inadvertently create a penalty, Mr. Snyder responded by stating that this effort by DEC will not result in establishing a carbon price, but will establish a value of carbon as an aid in decision-making.

In response to an inquiry from Anne Reynolds regarding the value of carbon effort, Mr. Snyder confirmed that the end product will be a guidance document and not a regulation. Ms. Reynolds also suggested that input submitted on behalf of a segment of the renewable energy industry in the State's Value of Distributed Energy Resources (VDER) regulatory proceeding might have relevant aspects here and, if provided to him, Mr. Snyder agreed to forward that input and document to the team working on the value of carbon effort.

In response to an inquiry by Peter Iwanowicz to ensure that Council Members as well as those signed up to receive Council updates through the website are invited to the stakeholder conferences, Mr. Snyder agreed that approach could be taken.

In response to a question from Donna DeCarolis regarding the ability of Council Members to engage in Advisory Panel meetings, not as a participant but to learn more about issues prior to Council votes, Co-Chair Seggos expressed no opposition to that request, but emphasized the need to empanel the Advisory Panels and to make their work as transparent as possible.

## **Next Steps**

Co-Chair Seggos discussed next steps for the Council, including that the Council members will be canvassed for future meeting dates. With that, he thanked the Council Members for their participation, as well as the attendance of the public, and the meeting was adjourned.



# Climate Action Council

ANDREW M. CUOMO  
GOVERNOR

ALICIA BARTON  
CO-CHAIR

BASIL SEGGOS  
CO-CHAIR

## Meeting Agenda

June 24, 2020

- Consideration of Minutes
- Presentation by Consultants: Emissions Reduction Pathways Analysis, *Energy and Environmental Economics, Inc. (E3)*
- Discussion of Working Groups and Scopes of Work for Advisory Panels
- Updates on NYS Implementation from DEC: Greenhouse Gas Emission Limits, Value of Carbon Reduction
- Next Steps