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Vermont House Committee on Environment and Energy

Chroma Technology Energy Savings Account Pilot Program Results and Recommendations

Dear Committee Members,

Chroma Technology is an employee owned company located in Bellows Falls, Vermont which manufactures optical filters for a number of industries including biomedical, machine vision, astronomy and other high technology applications. We are a high-quality employer in an economically challenged area of Southern Vermont and currently employee over 160 people. As a certified B Corp, we have a strong commitment to our community, the environment and sustainability.

The ESA Pilot program enabled Chroma Technology to use the large Energy Efficiency charges on our electric bill, which were over $115,000 for the pilot period, to make a substantial contribution to the total cost of a complex pump replacement project costing over $300,000. The reduced bureaucracy of the pilot program made it easier, faster, and more effective in achieving a very large energy reduction, as well as a major improvement in energy productivity. Energy productivity is critical to manufacturing as it is our ability to make our product with less energy per unit of output. Like other Commercial and Industrial users, with certainty in the dollars we have available, and full access to our efficiency charges, we can support and execute large scale projects that have significant savings. The Chroma Technology project alone has saved the equivalent of 16 homes worth of electricity with the first four pump conversions.

The following is a summary of Chroma Technology's activity related to the Energy Savings Account (ESA) Pilot Program that took place during the three-year program. It should be noted that the program definition and requirements took the first 18 months of the original pilot period, and pandemic supply chain issues were also occurring in the pilot period.

- Completed the conversion of four thin film deposition chambers from cryogenic to turbomolecular pumps which cost over $300,000 and also needed significant engineering

work to reestablish the manufacturing process with the new pump parameters. The internal engineering and maintenance costs are not included in the $300,000 and are estimated at over $100,000.

- The electricity savings from each of the four pump conversions is 42,670 kWh per year, for a total of 179,680kWh per year, or the equivalent of the average electricity usage of 16 homes.
- Submitted to Efficiency Vermont costs associated with the Turbo pump upgrade project for reimbursement from ESA funds balance as well as monthly ESA pilot Energy Efficiency Charge (EEC) contributions information to Efficiency Vermont throughout the reporting period.
- Submitted final report as Chroma Technology completed all project work and collected all available funds by the end of 2023, the original pilot period.

Commercial and Industrial customers and their respective businesses are critical to the Vermont economy especially in many rural areas. The large scale of the projects that can be completed by industrial and commercial users is impactful and is needed to meet the State of Vermont's energy goals. The interaction between energy savings and the manufacturing process is significant and technically challenging, and demonstrates the very limited value of external organizations in supporting this work

The fundamentals of the ESA Pilot program are important to remember and should be continued, with flexibility on the type of energy projects that can be completed and with a significant reduction in the administrative costs and requirements. The results demonstrate that Vermont businesses will deliver on meaningful projects and justifies a continued program that is light on bureaucracy and returns a maximum of the efficiency charge back to the customer.

Thank you for considering these results and perspective as you conduct your work on this important issue.

Sincerely,

Janette K. Bombardier, P.E.

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Chief Technology Officer/Chief Operating Officer
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