

My name is Sam Nicolai, and I am Vice President of Engineering & Compliance for Casella Waste Systems. I am also a licensed Professional Engineer, and have more than twenty years of experience in environmental engineering for solid waste and industrial facilities. I am submitting this testimony in reference to 2021 Senate Bill S.20, An Act Relating to Restrictions on Perfluoroalkyl and Polyfluoroalkyl Substances and Other Chemicals of Concern in Consumer Products.

Casella is the largest waste management company in Vermont, and we own and/or manage recycling MRFs, composting and depackaging facilities, waste transfer stations, and the municipal solid waste landfill located in Coventry. In that role, we are in the position of managing the facilities that are receivers of both the recoverable and the waste materials generated by Vermont consumers, commercial businesses, and industries. As we have learned over the past five years or so, the majority of those materials contain PFAS at a variety of different levels.

In 2019, we prepared and submitted a PFAS Waste Source Testing Report (which can be found at <https://dec.vermont.gov/pfas>) to the Vermont Agency of Natural Resources. That report was fairly unique at the time it was prepared, and even today, remains one of the few evaluations of PFAS in waste materials. Although the full report contains a significant level of information about the testing that was performed, I would like to share a few of the relevant high-level conclusions:

- Approximately 95% of the tested waste materials contained detections of PFAS;
- By both concentrations and overall mass, the highest levels of PFAS were detected in consumer products, primarily bulky items (furniture), textiles, and carpets;
- There was no single class of products or single source of waste that contained the majority of the PFAS – the detections were distributed widely among all of the sources of waste in our society;

As you are likely aware, U.S. manufacturers entered into a voluntary agreement to stop the manufacture of two of the PFAS compounds in the early 2000s. However, these two compounds represent only a small subset of the PFAS class of compounds, and the voluntary agreements have no effect on foreign manufacturers. Vermont businesses and residents will be disposing of PFAS-containing furniture, fabrics, food packaging, and carpets for many more years as these existing products reach their useful lives.

Given the breadth of products containing PFAS, there are no simple waste bans or extended producer responsibility programs that will remove these products from our waste streams. We need to use traditional waste management solutions --- encouraging the Reduce, Reuse, and Recycle strategies, and then managing sustainable waste disposal.

In Vermont and in the many other states investigating PFAS, we have given most of our attention to the presence of PFAS in our environment and in the receiving facilities such as wastewater treatment plants and landfills. However, the reality is that the vast majority of exposures to individuals are occurring within people's homes and cars, as we wear, walk on, sit on, sleep on, or otherwise use the furniture, carpets, textiles, packaging, and related products. Ending the manufacture, sale, and distribution of

PFAS-containing products is the most impactful step that we can take to reduce the level of PFAS in our waste materials.

Casella has been actively working to ensure that we are providing sustainable waste management solutions for Vermonters. In 2018, we voluntarily ceased accepting certain higher-concentration PFAS-containing wastes at the NEWS-VT landfill, including PFAS cleanup wastes, fire-fighting foam wastes, and similar special waste materials suspected to contain moderate to high levels of PFAS. Our solid waste management facilities, including both the transfer stations and the landfill, are designed to provide sustainable, long-term solutions for managing Vermont's wastes: test results demonstrate that greater than 90% of the PFAS-mass in incoming waste materials is successfully sequestered within the landfill. In working to provide these solutions, it is clear to us that we also need to remove these PFAS compounds from our stream of commerce as quickly as possible.

For these reasons, we support the efforts in S.20 to restrict the manufacture, sale, and distribution of PFAS-containing products. Both solid waste management facilities and wastewater treatment facilities are tasked with managing the solid and liquid waste streams that are directed to them. Restricting the use of PFAS by the upstream manufacturers, and encouraging the development of safe, effective alternatives to these compounds should be among our highest priorities and most effective solutions.