

Testimony of Bryan Reichel

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“Energy Efficiency: Complementary Policies for Climate Legislation”

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Thank you to Chairman Markey, Ranking Member Upton, and to the members of the Subcommittee for the opportunity to testify this morning. My name is Bryan Reichel, I am President and CEO of PureChoice. We are a small privately held company based in Burnsville, MN. Our business is the design, manufacture and implementation of the PureTrac[®] Building Performance Software and also The Nose[®] - an environmental data collection device. It is an honor to be asked to appear on this panel.

In my testimony this morning I will describe for you how companies like ours can contribute to our nation’s energy future by implementing innovative technologies for use in both the private and public sector. There are actions we can take *today* which would save energy, create jobs, and save money. I hope to point out a few of those opportunities for the Committee’s consideration. The term “shovel-ready” has been used often lately, and I would like to bring to your attention some options that are even more than “shovel-ready”. Energy Efficiency and the policies to direct it can encompass such a wide variety of activities, and it is my hope our expertise can add to the dialogue and result in effective practices.

Identifying Conservation Opportunities

Simply put, our PureTrac Building Performance Software independently verifies that energy is not being wasted by overheating, overcooling, or the over-ventilating of buildings. It is a simple concept, but in our experience it is an often-overlooked facet of energy conservation and one that can provide immediate and dramatic energy-saving benefits. Consider that there are approximately 5 million existing commercial buildings in this country and that 33% of the energy used in those buildings is for heating, ventilation, and air conditioning, (U.S. Department of Energy, 2007). It's then easy to see that simple improvements in building performance can make a big impact in nationwide energy use.

It's important to remember that energy savings goals in buildings must be achieved while maintaining an indoor environment conducive to living and working. Otherwise, you have met one purpose while undermining another. The goal is simple – we work together with building managers to ensure an optimal work environment is maintained while using the least amount of energy.

From my visits to Congressional offices, I often see space heaters running during the summer months when the air conditioning is on. Or windows left open during the winter, because the buildings are overheated. Those are obvious, visible signs of a problem. But what if the issues were less obvious? Our technology finds those types of problems that can't be seen with the naked eye and uncovers them to reveal energy-saving opportunities.

To accurately collect environmental information, PureChoice has developed the Nose[®] Monitor – a multi sensor platform that resides in the occupied space of the building. Once the Noses are installed, our team at PureChoice works with the building management to identify the optimal operating strategy. The Nose[®] tracks the building's performance using our PureTrac Building Performance Software to see how close the building is to its budgeted performance. The Nose takes readings every 20 seconds on a variety of highly accurate environmental sensors key to an indoor environment – Temperature, Relative Humidity, Carbon Dioxide, Carbon Monoxide, and Odors and Gasses (VOCs). Once collected, the Nose then averages the readings every 5 minutes in its onboard microprocessor. The data are then sent via the internet to a secure server where the readings are stored and constantly compared to the operating strategy set forth by the building manager. Authorized personnel can log into the PureTrac website from anywhere in the world and review actual building performance.

The overall performance of a building is checked continuously against its operating strategy and at the end of a month – a report is generated showing exactly how efficient the building is running compared to its operating strategy. To go one step further, we can take a grouping of buildings, rank them by efficiency, then empower managers to make investment decisions based on the data. This is important in a business setting, because having this simple data can help buildings be treated as performing assets. The CEO of every company has immediate access to all the financial information about the health of the company, but very rarely are buildings treated in the same manner. This approach takes building performance out of the boiler room and places it squarely on the CEO's desk.

Federal Government Partnership

While most of our current partnerships are with private-sector businesses using our technology to reduce energy use, meet environmental strategy goals, and also improve the bottom line, we have had also had significant success working with the federal government.

From 2003 to 2007, PureChoice partnered with the General Services Administration (GSA), the U.S. Department of Energy, and the State of Minnesota to improve energy efficiency and building performance of the Bishop Henry Whipple Federal Building, at Fort Snelling in Minneapolis. Using PureTrac, the partners identified opportunities for energy savings, modified the operations strategy, and achieved energy savings in excess of 20% per year without compromising the indoor air quality or purchasing any additional equipment. The sustainable energy savings opportunity of the project is in excess of \$144,000 per year. The estimated the payback of this project is less than 2.2 years.

The GSA considered the project such a significant success that it highlighted the Henry Bishop Whipple Building project in its recent publication, "Sustainability Matters" - which focused on efforts the GSA is currently making to improve energy efficiency in federal properties. Given that the President has identified energy efficiency in federal buildings as a high priority, and that Congress provided \$4.5 billion in the Stimulus bill to fulfill this task, it is clear energy efficiency in federal buildings is an area of great interest. We are prepared to deploy PureTrac on a more widespread basis and help the federal government save energy and money by first working with what they already have before investing those billions.

Air Quality

Another valuable use of our product has been to verify air quality data. One major retailer was interested in implementing an energy efficiency program in its stores, but found that in some cities, local building and ventilation codes were at odds with the company's energy efficiency goals. As an example, the local ventilation codes in Chicago are some of the most restrictive in the country. Our client was tasked with the goal of reducing energy usage in its large Chicago-area stores, but was also faced with high ventilation requirements that increased the energy costs. This is a concern in the cold Chicago winter months, since when more air than necessary to maintain air quality is brought in through the ventilation system, it must be first heated to the desired temperature -- which means wasted energy. We worked with the retailer and the city to ensure the indoor air quality standards are met, and now furnish a monthly report to both parties showing continuously updated indoor air quality measurements. Because the stores could use our technology to prove all requirements were met, a variance was granted and the stores were able to operate at an effective reduction of almost ½ of the prescribed ventilation rate. The resulting energy savings on a per store basis was in excess of \$2500 per month.

Again, I would like to thank the committee for the opportunity to share our approach with you today. Our approach is simple, but effective, and can help save a great deal of energy starting now. I hope the examples I have provided this morning will help as you form the policies that guide our country's energy future.