

## BETHESDA FIRM'S GAME-CHANGING TECHNOLOGY COULD CHANGE APPLIANCE INDUSTRY

A frustrating outing to purchase kitchen appliances prompted John Jabara to start a new company that could change the way consumers decide which coffee maker, clothes dryer or lawn mower to buy.

Standing in an appliance store staring at two equally priced microwave ovens, Jabara realized that he had no way of learning the typical energy consumption of most consumer appliances. The Energy Star program rates some large appliances, such as refrigerators and air conditioners, but does not address many other appliances, such as stoves and clothes dryers.

"I went onto Amazon and I found that of the top 100 electricity-using categories of products that Amazon sells, only about 20 had any kind of government energy rating. I felt there was a real consumer need here," Jabara said.



Jabara founded [Savenia Labs](#) in 2009 and teamed up with engineers from the University of Maryland Center for Advanced Life Cycle Engineering and environmental scientists from multiple universities.

Together, they developed a system of analyzing the lifetime energy use of popular consumer appliances. Staff of the independent testing laboratory survey thousands of consumers to determine typical use patterns for appliances, then study the energy use of multiple, popular brands based

on those patterns.

Savenia then generates labels that display the total, lifetime energy costs of running each appliance.

The research has already generated striking results.

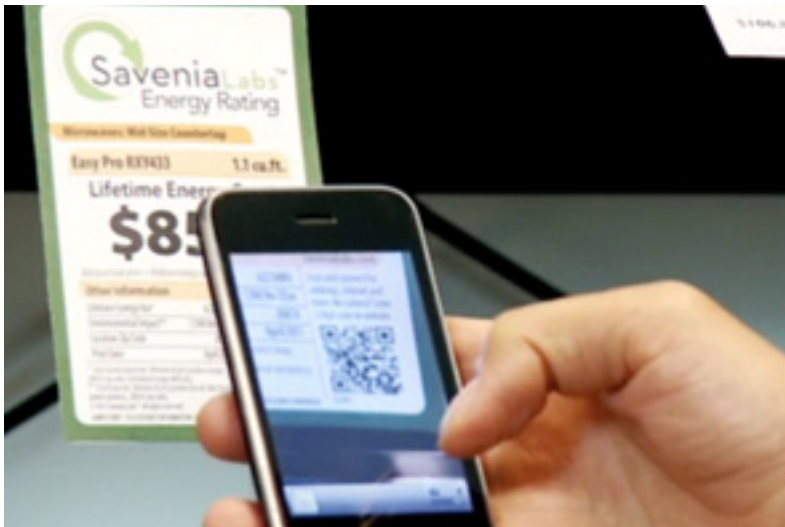
"One example is coffee makers. We found two popular models, each costing \$99. One of them uses \$30 of electricity over its five-year lifetime and the other one uses \$500 of electricity in the same time," Jabara said.

The difference was that the first kept coffee hot in a thermal carafe while the second kept a reservoir of water hot 24/7.

By analyzing popular models of coffee makers, microwaves and toaster ovens, Savenia quantified the energy-use impact of various features, such as elaborate digital displays or 'standby' service. The U.S. Department of Energy estimates that the average American household spends \$100 per year to power "energy vampires" – devices that go into standby mode when they are turned "off." That totals more than 100 billion kilowatt hours and \$10 billion in energy use annually.

Savenia Labs discovered robust consumer interest in its service when it debuted its energy labeling in several True Value Hardware stores in Montgomery County late last year. Before the launch, surveyors for Savenia asked shoppers leaving those stores how likely they would be to return to the store if they needed to buy a kitchen appliance. They repeated the survey after Savenia and True Value installed the energy-use labels. The number of shoppers who said they would return to the hardware stores for an appliance purchase, tripled, Jabara said. Furthermore, actual appliance sales in the stores jumped noticeably.

"Retailers that embrace a system like this give their shoppers more information and that can have really dramatic results in terms of driving consumer traffic and increasing sales because consumers reward a great shopping experience," Jabara said.



In addition to expanding to other retail sites, Bethesda-based Savenia Labs has also rolled out a program that enables manufacturers of high-efficiency appliances to gain certification and add Savenia's energy-use labels to their packaging. The company also developed a web site specifically for smart phone users that enables consumers to pull up energy use information on appliances while they are out shopping.

Jabara who is slated to participate in panel discussion on "Embracing Game Changers" at the 2012 Maryland Clean Energy Summit, said Savenia's system could have big impact on consumer behavior, retail practices, appliance manufacturing and overall energy consumption.

"Once manufacturers know there is a way to get recognized for producing energy efficient products in categories that have been under the radar screen for so many years, that will generate movement in product development. Companies will start emphasizing in their R&D operations more energy efficient technologies," he said.

Jabara added, "We are talking about product categories that are in virtually every household in the United States and in the developed world."

Consequently, greater use of energy efficient appliances and elimination of energy hog features, such as unnecessary digital displays, "could have massive impacts on the grid," Jabara said. "When these changes go through the system, you can think seriously about delaying the building of new power plants. With millions and millions of these appliances sold every year, the impact on the grid could be huge from even small changes. This really could be a game changer."