

IT IS LIKELY OF LITTLE SURPRISE THAT LABORATORIES AROUND THE WORLD ARE INCREASINGLY CONSIDERING "GREEN" LABORATORY PRODUCTS, IN ORDER TO INCUR A LOWER ENVIRONMENTAL IMPACT AND INCREASE THE QUALITY OF THEIR OWN PRODUCTS.

In fact, 3% of laboratories are actually required to purchase green products, and while that number may sound low, 55% are likely to increase those purchase requirements in the future. From pipette tips, petri dishes, and centrifuge tubes, to chemicals, office supplies, and equipment, less wasteful and less hazardous alternatives to traditional lab products are now readily available on the market.

Being green has a variety of definitions. In the laboratory setting, one common meaning is when less toxic chemicals are used. Instead of solvents, stains, or dyes that are hazardous for both the environment and the researchers, laboratories can select safer alternatives.

Other green options include buying products that conserve materials during manufacturing and packaging. For instance, consumables made from recycled material, or those sold in bulk to reduce packaging. Laboratories can also participate in recycling programs in which the vendor takes back pipette tip boxes, solvents, chemical waste, or packaging materials that would not normally be accepted in traditional recycling plants.

While these measures are being adopted across industries, this report will provide an overview of key trends of green products specifically designed for the laboratory. The data is derived from a survey of over 400 labs conducted by K.C. Associates in April 2014 (continued from 2008 and 2011 studies).

In summary, according to the K.C. Associates survey, green products have increased in popularity and importance since 2008, and are projected to continue to increase in the next three to five years as well. A total of 442 completed surveys were returned, providing a Confidence Level of 95% + 4.7.

Key findings from this survey include:

- *Government, Pharmaceutical, and Environmental laboratories are most likely to purchase green products whereas Hospitals are least likely.*
- *The most encouraged type of green product is Office Supplies and the least encouraged are Laboratory Automation products, although all 10 possible responses were considered of Neutral encouragement.*
- *While all 10 possible responses of reasons for selecting green products are considered Very Important, Reducing/Elimination use of Toxic Chemicals is considered most important.*
- *Of the 10 possible responses of reasons, the importance of each has steadily increased since 2008.*
- *In the next three to five years, 55% of laboratories said the requirement to buy green products would increase, while 44% said it would stay the same.*
- *Web Searches, Manufacturer's Website, and Electronic/Web Catalogs were the top three preferred sources for gathering information about green products for the laboratory.*

ENCOURAGEMENT OF ENVIRONMENTALLY FRIENDLY

“GREEN” PRODUCTS FOR THE LABORATORY

When asked if they were encouraged to purchase green products for their work in the laboratory, participants of the survey identified their organization’s actions, the results of which are compiled in Chart A.

Overall, only 3% are mandated to purchase green products for the laboratory. This varied, however, by market segments. Hospitals were the least likely to be required to purchase green products (at 0%).

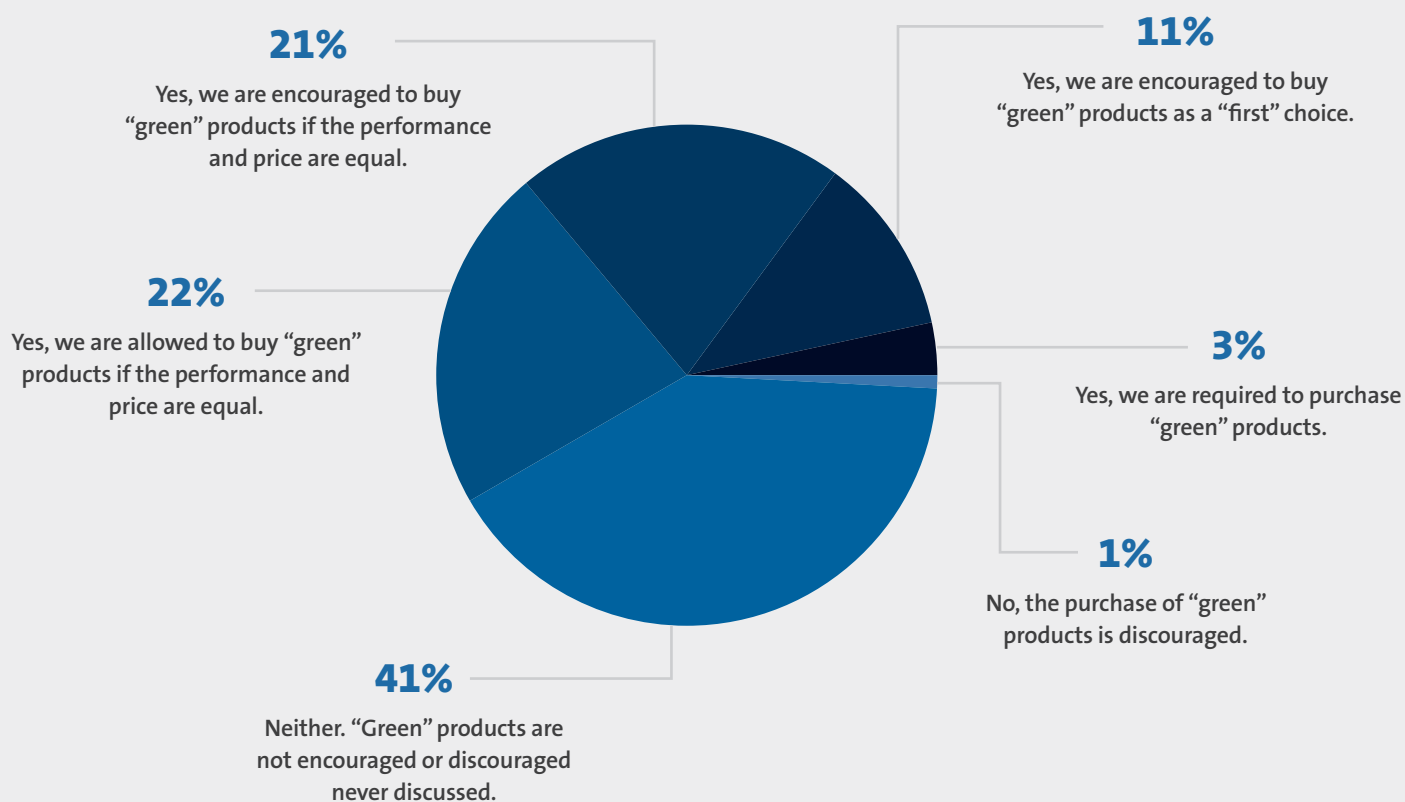
Participants from Government and those in Pharmaceutical and Environmental/Water were most likely to be required to purchase these products, at 9%.

Only 1% of participants indicated that the purchase of green products was discouraged, but 41% stated they were simply never discussed, and as such, were neither encouraged nor discouraged. Also of note in Chart A: 11% surveyed said they were encouraged to buy green products as their ‘first choice’, potentially placing the importance of environmentally friendly products above the factors of price and performance.

CHART A

↑ SURVEY DETAILS

ORGANIZATION’S ENCOURAGEMENT TO PURCHASE “GREEN” PRODUCTS FOR THE LABORATORY



“GREEN” PRODUCTS EQUALLY ENCOURAGED

FOR ALL TYPES OF PRODUCTS

Participants were asked to differentiate this encouragement by the type of products used in the laboratory, using a scale of 5 to 1, where 5 is *Always Encouraged to Be Green*, and 1 is *Never Encouraged to Be Green*.

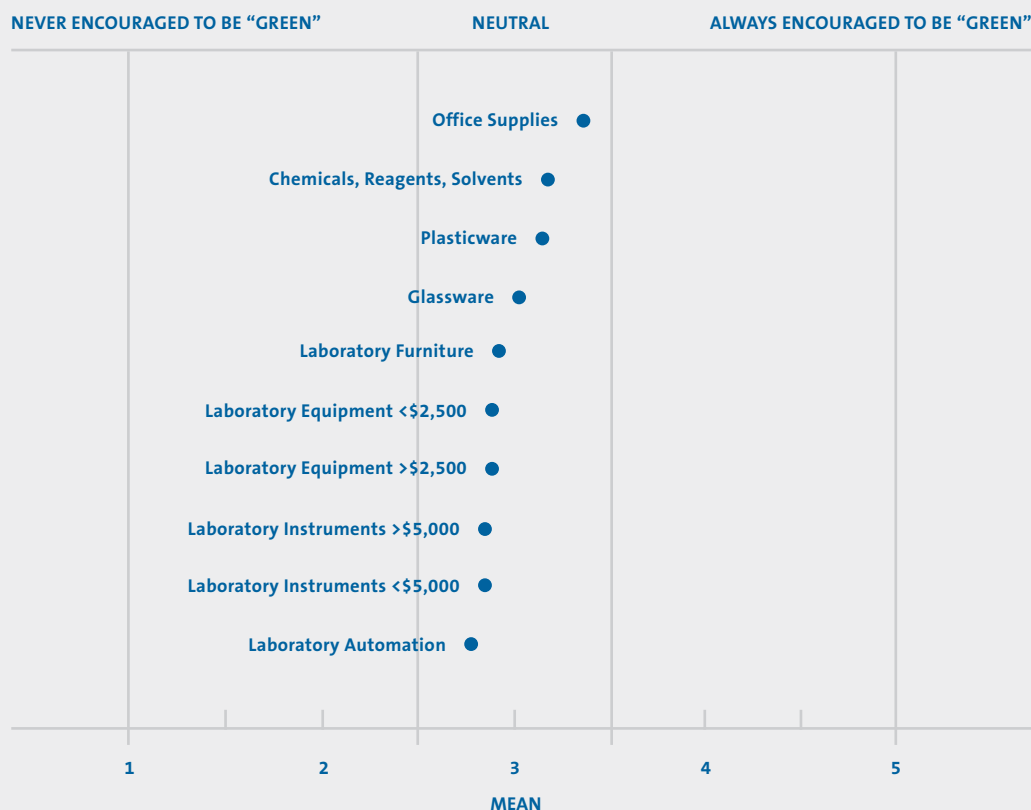
The results show the category of Office Supplies was encouraged most frequently, however, the calculated means are all very close. See Chart B for reference.

If trends continue, it's estimated that each of these categories will continue to shift toward stronger encouragement; especially as technological advancements are made in the more technical products labs must use. In the meantime, the chart suggests purchasers are making efforts to “go green” with supplies that are easiest to introduce into their labs, are likely still cost-effective, and currently offer a variety of manufacturers and options available.

CHART B

↑ SURVEY DETAILS

“GREEN” PRODUCTS USED IN THE LABORATORY



IMPORTANCE OF CHARACTERISTICS WHEN

PURCHASING “GREEN” PRODUCTS

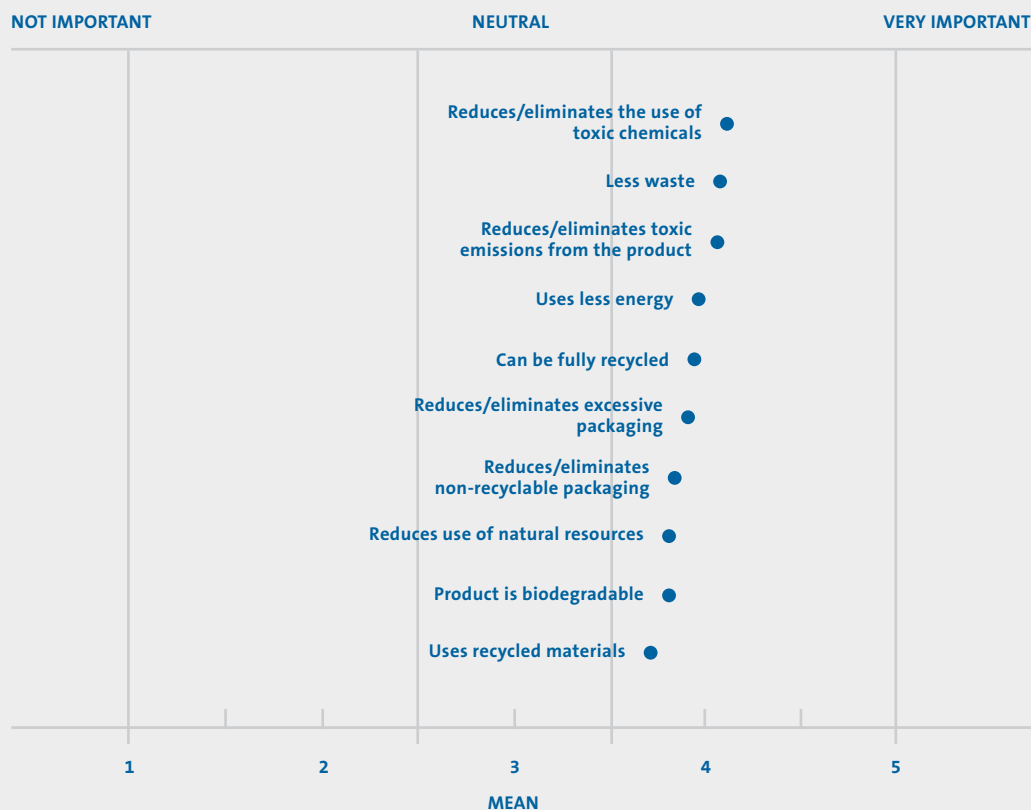
To help determine the driving forces behind the trend, participants were given a list of ten (10) possible characteristics and reasons for selecting green products. They were asked to rate each on the importance of that reason.

The results are shown in Chart C. *Reduces/eliminates the use of toxic chemicals* was rated the highest, with a mean rating of 4.09, followed closely by *Less waste*, with a mean of 4.06, and *Reduces/eliminates toxic emissions from the product*, with a mean of 4.05.

CHART C

↑ SURVEY DETAILS

REASONS FOR SELECTING “GREEN” PRODUCTS FOR THE LABORATORY



IMPORTANCE OF THE REASONS FOR SELECTING

“GREEN” PRODUCTS FOR THE LABORATORY

The following chart (D) compares these responses with the surveys completed in 2008 and 2011. The importance of the reasons for selecting green products for the laboratory has been increasing since 2008 when this was first studied. (*Reduces/eliminates non-recyclable packaging* was the only new question introduced in the 2014 study.)

The overall survey results does show a general shifting towards the increase of importance for acquiring green

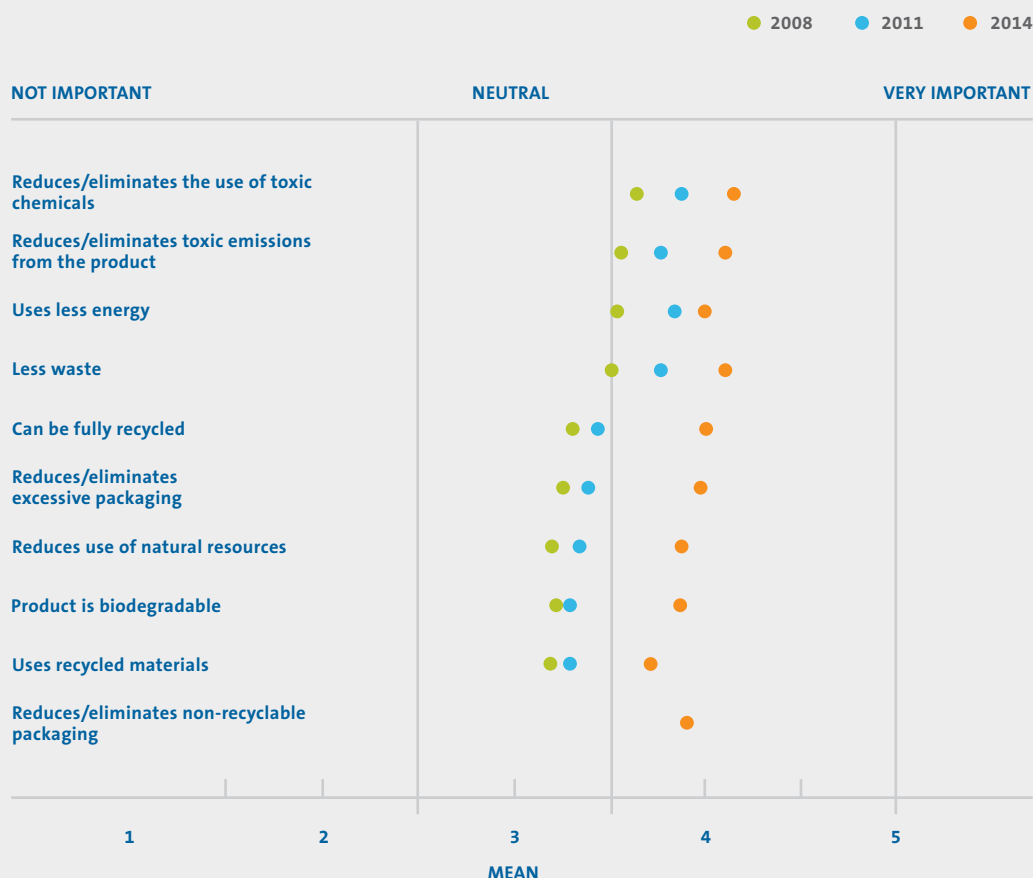
products in laboratories, so the shift seen in these questions is not necessarily surprising. What is of particular note from this chart is the gap between the years.

For example, a product that can be fully recycled saw a large jump in importance from the 2008 and 2011 results. A product that is biodegradable is another that is becoming top of mind in laboratories. All reasons are now more closely weighted together than in prior years' results as well.

CHART D

↑ SURVEY DETAILS

CHANGES IN THE REASONS FOR SELECTING “GREEN” PRODUCTS FOR THE LABORATORY (2008 TO 2014)



**PURCHASE OF “GREEN” PRODUCTS IN THE
NEXT THREE TO FIVE YEARS**

When asked if the requirements to purchase green products would increase, decrease or stay the same in the next three (3) to five (5) years, only 1% indicated it would decrease. Forty-four percent (44%) said it would stay the same while 55% indicated there would be an increase.

The survey also drilled further in to these responses, to see at what level participants expected the requirements to rise in the future.

The chart below breaks down the levels of increase from the 55% of participants who indicated they expected to see a rising shift in the coming years.

Twenty-eight percent (28%) said it would be a modest increase in requirements (which was identified to be a 1% to 10% increase). In addition, 26% said the increase would be 11% to 20% and an additional 21% said the increase would be 21% to 30%.

↗ SURVEY DETAILS

FUTURE NEED FOR “GREEN” PRODUCTS IN THE LABORATORY

CHART E

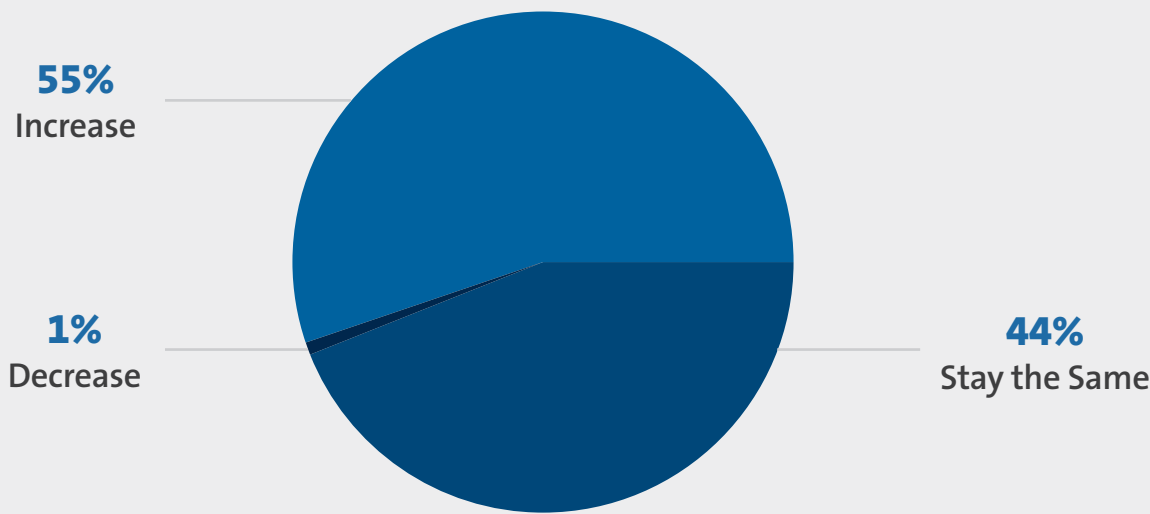


CHART F

| | 1-10% | 11-20% | 21-30% | 31-40% | 41-50% | 51-60% | 61-70% | 71-80% | 81-90% | 91-100% | >100% |
|----------|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|-------|
| Increase | 28% | 26% | 21% | 7% | 10% | 4% | 1% | 1% | 1% | 0% | 1% |

SOURCES OF PARTICIPANTS'

INFORMATION

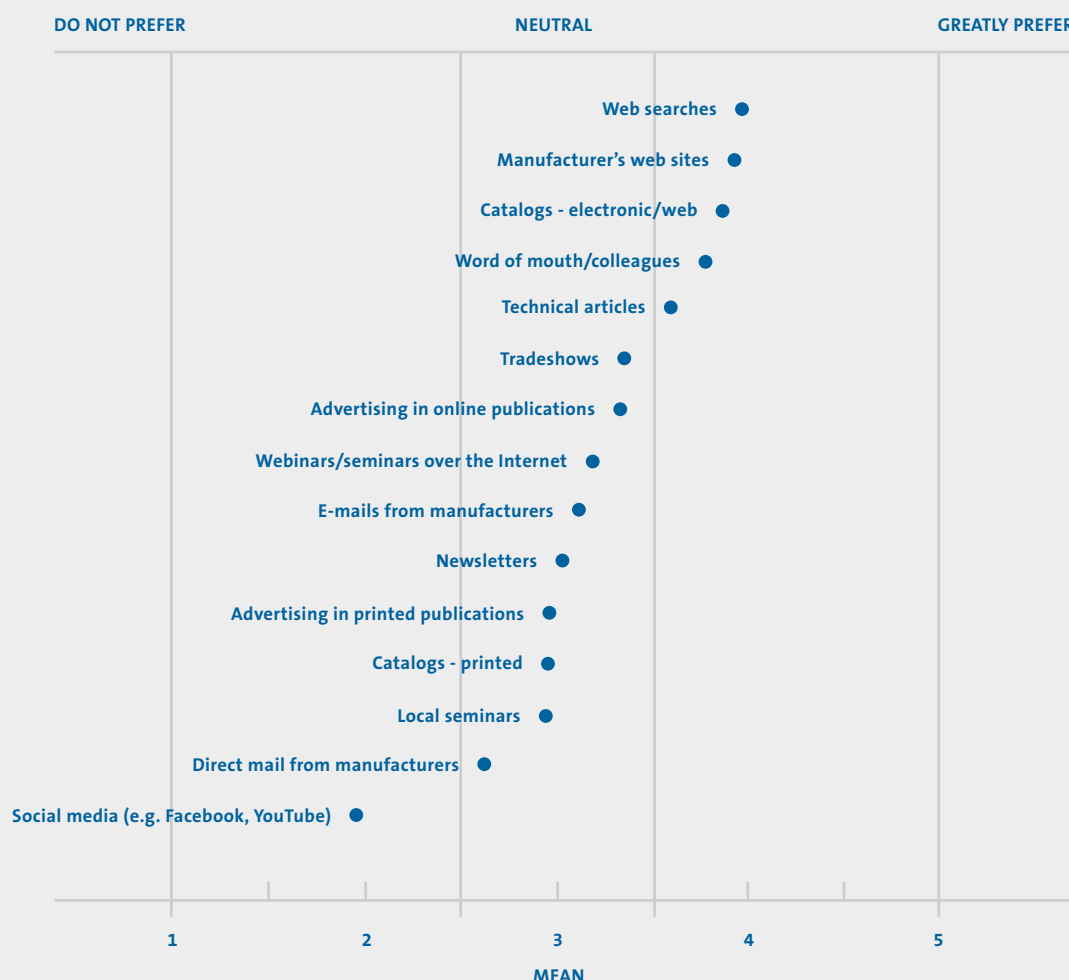
Products used in the laboratory are considered to be “technical” products, so as with similar industries, end-users tend to gravitate toward technical sources for more information on products of interest. Participants of the 2014 survey were asked to rate the importance of a list of 15 possible sources of information about green products they use in the laboratory. (See Chart G for results.)

Manufacturers’ websites and electronic catalogs are some of the top sources of information for green products, but web searches also ranked highly – in fact, they were the highest source among respondents. Information from a colleague and technical articles were also considered important among the list.

CHART G

➤ SURVEY DETAILS

SOURCES OF INFORMATION ABOUT “GREEN” PRODUCTS FOR THE LABORATORY



There are of course a variety of ways that a manufacturer can reach purchase decision makers – as the chart shows, they can provide technical information at trade shows, by advertising, conducting webinars, sending newsletters, and attending seminars. Each option often has its own unique set of value propositions however, so these results should be weighed with a marketer's end goal.

For instance, while local seminars are ranked lower on this list, there could be a specific initiative for a company to be seen as thought-leaders in the industry, and local events can provide speaking opportunities that will help set this tone. Often

these items dovetail with each other, and email campaigns can be sent to promote a company's presence at a trade show, or recent publication in a trade journal.

However, web searches ranking the highest source of information is a valuable takeaway, as it demonstrates the level of research a consumer now conducts before making purchasing decisions. It is increasingly important – across all industries – to have developed websites, search engine optimization (SEO) strategies, and resources available to these users, so that their products can be found, evaluated, and ultimately, purchased.

CONCLUSION

It is hard to dispute that “green” products are increasingly in demand throughout the world. In China, a report from December of 2012 states that “seventy percent of [urban Chinese] consumers expressed confidence in the environmental claims of green products,” and that “the demand could help China meet its sustainability targets”.¹

The EPA has developed a portal² that identifies specific programs for users needing resources and information on particular industries and products, and these green initiatives

are now being seen in cosmetics, certified buildings, and even the airline industry.³

This specific survey however, was set to discover the importance of such products in a specific setting, - the laboratory, and what exactly is of importance to researchers, scientists, and decision makers. It is clear laboratories are exploring greener options, and will continue to adopt the practice as technology meets the demands of their industry.

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¹ <http://biosciences.dupont.com/media/news-archive/news/2012/survey-reveals-chinas-growing-desire-for-green-products/>

² <http://www.epa.gov/greenerproducts/>

³ <http://www.theguardian.com/environment/2010/jan/08/aviation-industry-green>