

Outlook On Biotechnology: Industry Leaders • Convention Attendees • General Public



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Methodology

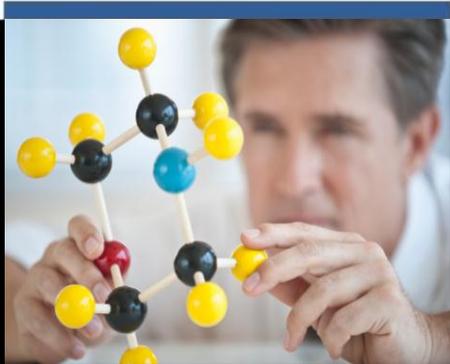
On behalf of the Biotechnology Industry Organization (BIO), Public Opinion Strategies and Hart Research Associates conducted three surveys:

- **A national online survey of N=169 biotechnology industry leaders.* Conducted May 14-24, 2012.**
- **A national telephone survey of N=800 registered voters. Conducted May 20-23, 2012; margin of error $\pm 3.5\%$.**
- **An in-person/online survey of N=1,402 BIO Annual Convention Attendees. Conducted June 18-19, 2012.**

**Industry leaders are defined as Presidents, CEO's and other senior executives of BIO member companies.*



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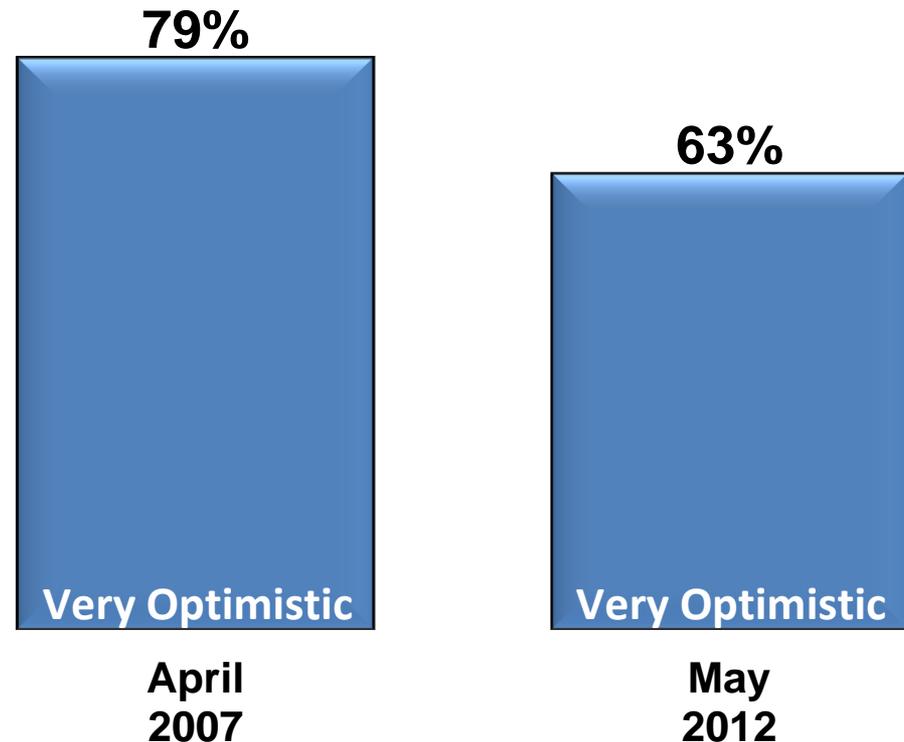


Industry Leaders' Outlook On The Biotechnology Industry

The vast majority of industry leaders are optimistic about the future of the biotech industry; although optimism has declined somewhat compared to five years ago.

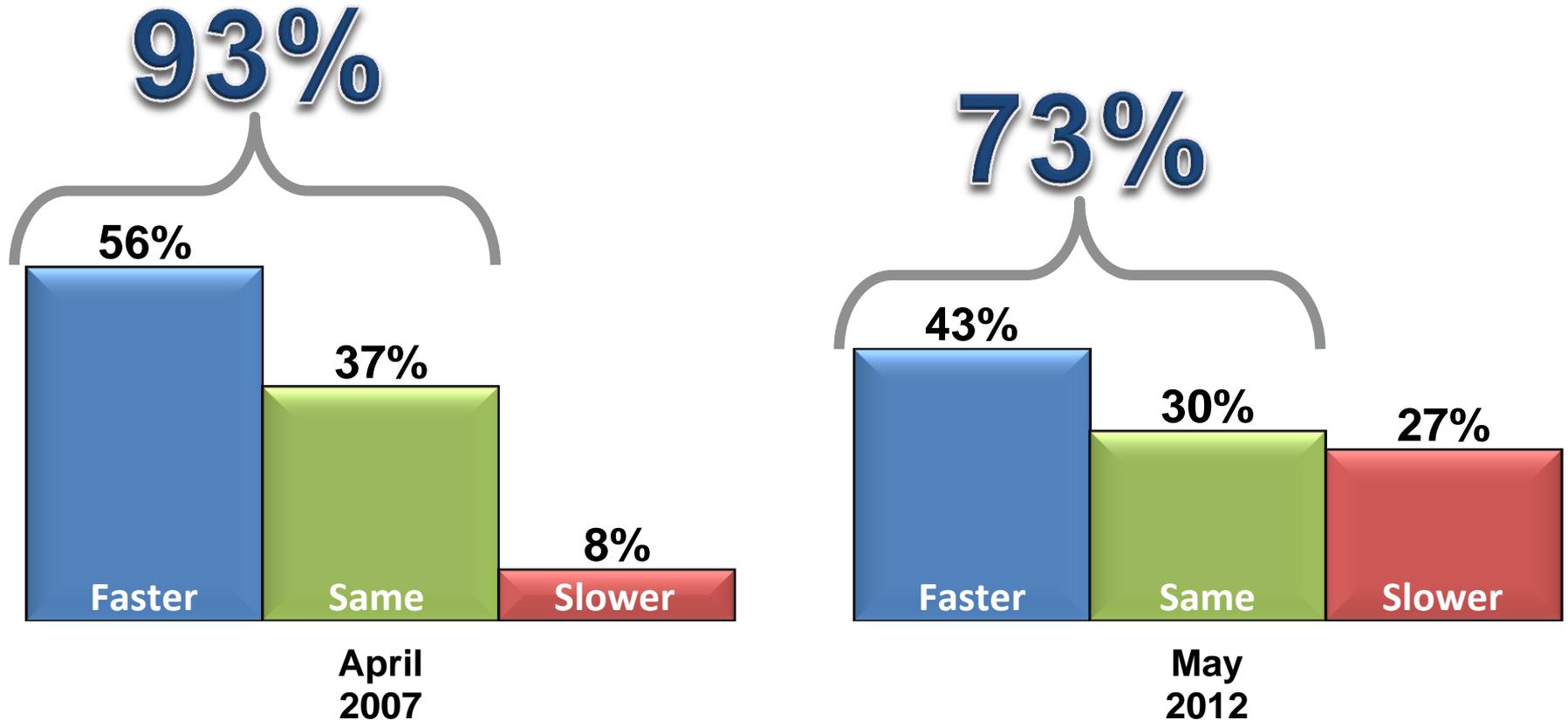
How optimistic are you that, in the future, the biotechnology industry will continue to develop new therapeutics and products to help address global needs in health care, agriculture, energy, and the environment?

Optimism Among Industry Leaders



The majority of industry leaders believe over the next decade the pace of discovery will be faster or the same as it is today.

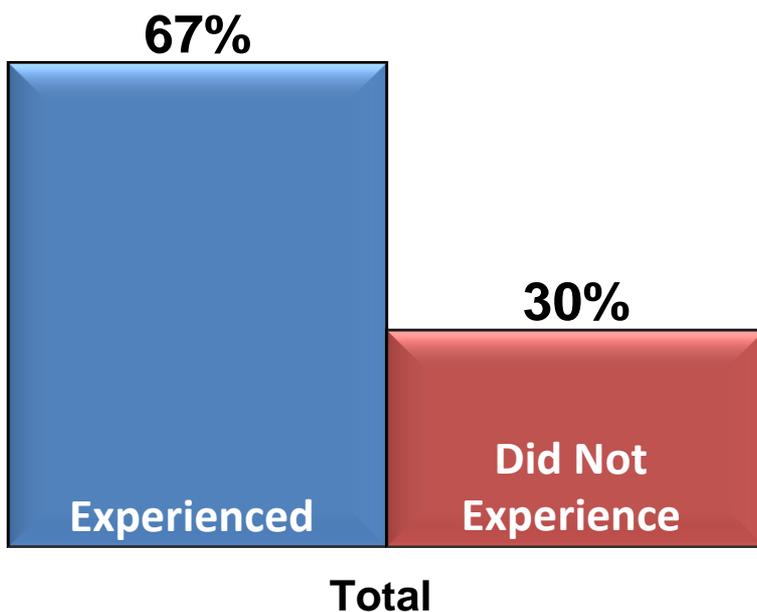
Thinking about the next 5 to 10 years, do you think the pace at which scientific discoveries are made in the biotech industry will be faster, slower, or about the same as it is today?



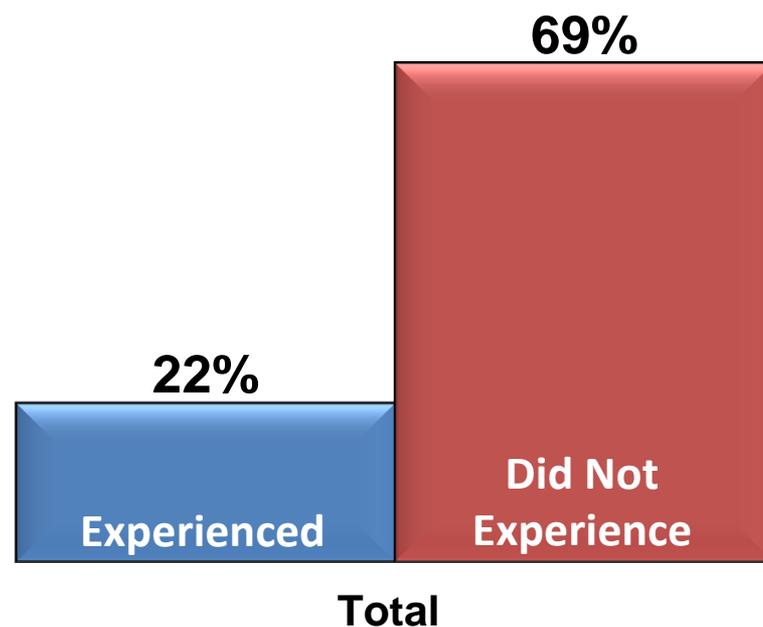
The relatively subdued outlook in 2012 compared to that of 2007 may be due in part to the challenge of attracting investors/capital.

Please indicate if your business has experienced any of the following over the last one to two years...

Had difficulty attracting venture capital / private investment.



Been able to utilize tax policy / tax incentives to attract private investment.





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Industry leaders tell us in their own words the reasons they have had difficulty attracting venture capital/private investment over the last couple of years.



And, as industry leaders think about the next five to ten years, lack of capital is of critical concern, but so is partisan gridlock in Washington and regulatory burdens.

The following is a list of issues or challenges facing biotechnology companies. Please rate how difficult you think each of these challenges will be for biotechnology companies over the next 5 to 10 years.

Very Difficult Challenge (%8-10)	April 2007	May 2012
The partisan gridlock in Washington, DC	--	68%
Regulatory burdens	55%	62%
The lack of available capital	33%	62%
Government regulatory agencies not having the funding or resources needed to provide timely oversight and approval	--	56%
The lack of public understanding of the biotechnology industry	38%	41%
The cost of technology	44%	38%
Securing new patents and the expiration of existing patents	28%	31%
Federal, state and local taxes	9%	27%
The lack of qualified workers and the cost of training staff	19%	15%
Mandatory labeling on genetically engineered foods or foods containing genetically engineered ingredients	--	15%

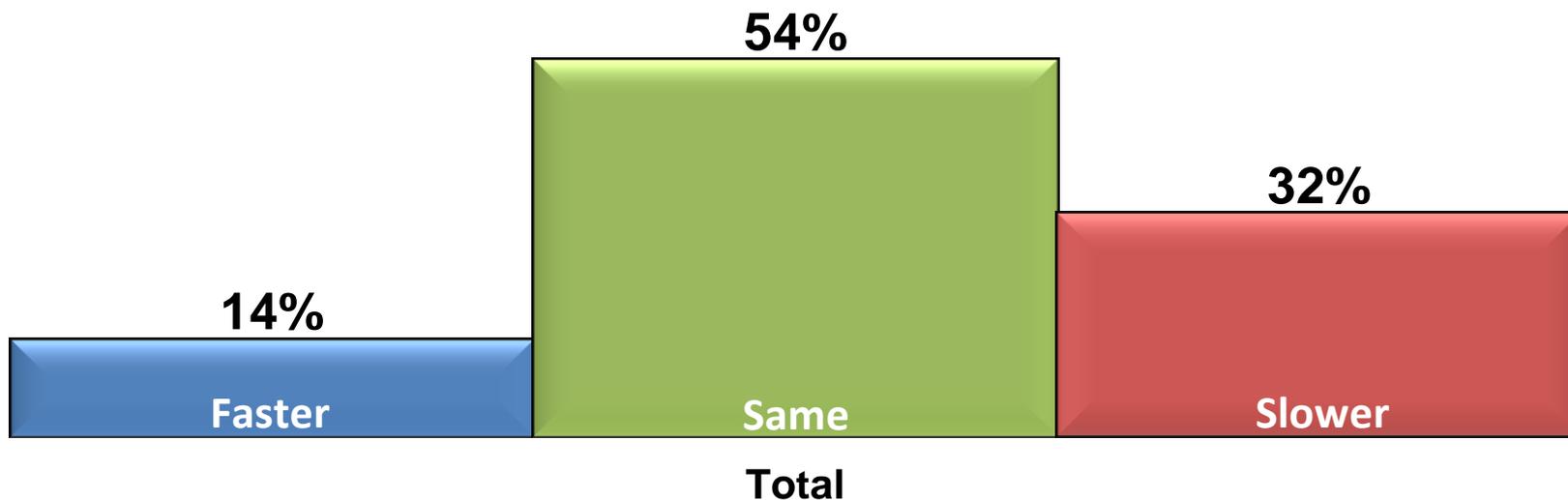
The majority of industry leaders say federal government regulation has had a negative impact on the industry.

In general, would you say federal government regulation in the biotechnology industry has more of a positive impact on the industry, a negative impact on the industry, or has it not made much impact one way or another?



And, few industry leaders believe the federal approval process for biotech products will be accelerated in the next ten years.

Thinking about the next 5 to 10 years, do you think the federal approval process for biotech products will be faster, slower, or about the same as it is today?



Yet, improving the approval process rates as the most helpful action the government could take. Encouraging investment through tax policy ranks a close second.

The following is a list of actions the federal government could take with respect to the biotechnology industry. Using the scale below, please rate how helpful each action would be to the biotech industry.

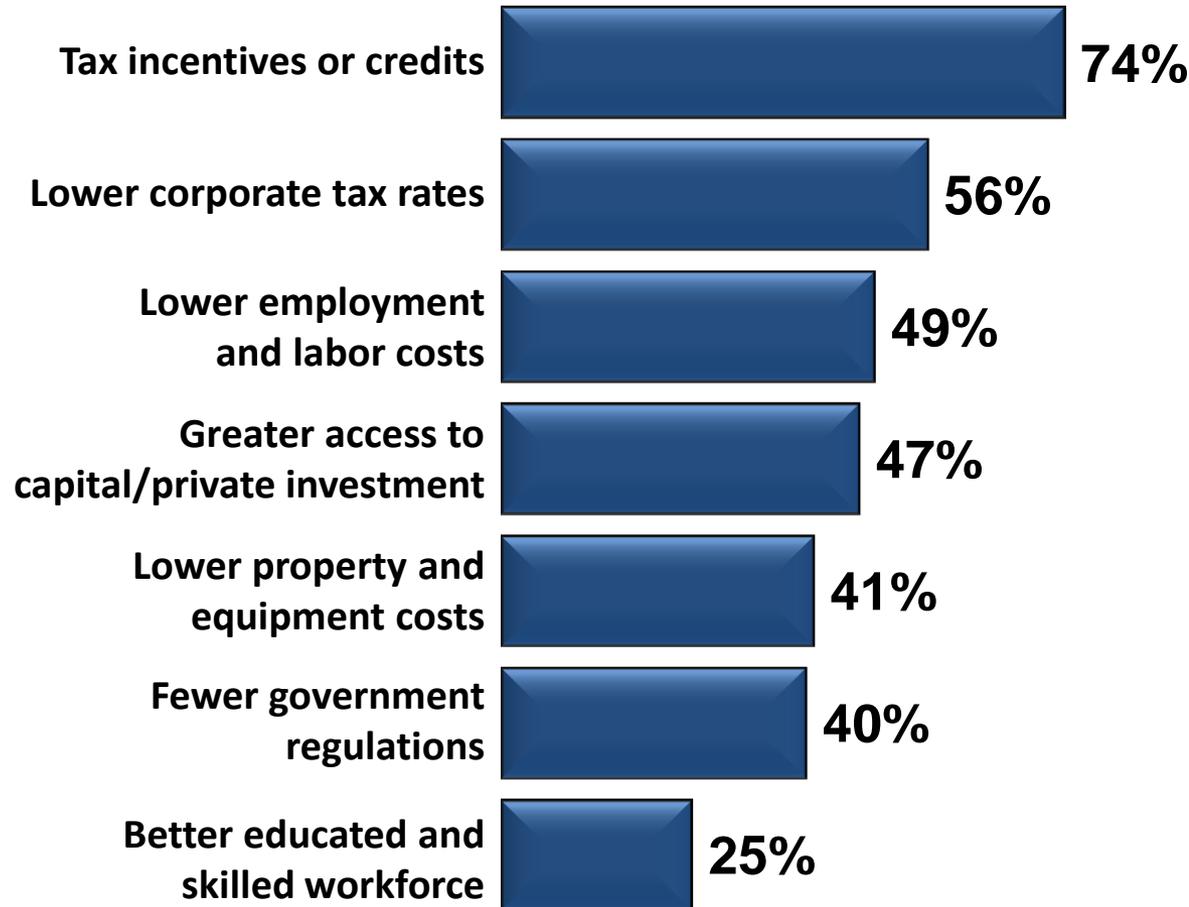
% Very Helpful (%8-10)	April 2007	May 2012
Making the federal regulatory approval process more efficient and transparent, but without compromising consumer safety	--	82%
Encouraging private investment in biotechnology through tax policy and incentives	--	77%
Avoiding price controls on biotechnology products in the United States	71%	62%
Increase federal funding for biomedical research	59%	53%
Maintaining or increasing reimbursement rates for Medicare Part D drugs and biologics	--	52%
Increase federal funding for the development of advanced (non-food) biofuels	41%	39%
Developing a framework for follow-on biologics that resembles the European approach	29%	27%

More than half of industry leaders report being approached to move their company's operations overseas; tax incentives are by far the primary offer.

52%

Been approached by a foreign government or foreign business development organization to move company's operations overseas.

Offers Made By Foreign Gov't/Org to the 52% Approached To Move Overseas (N=88)

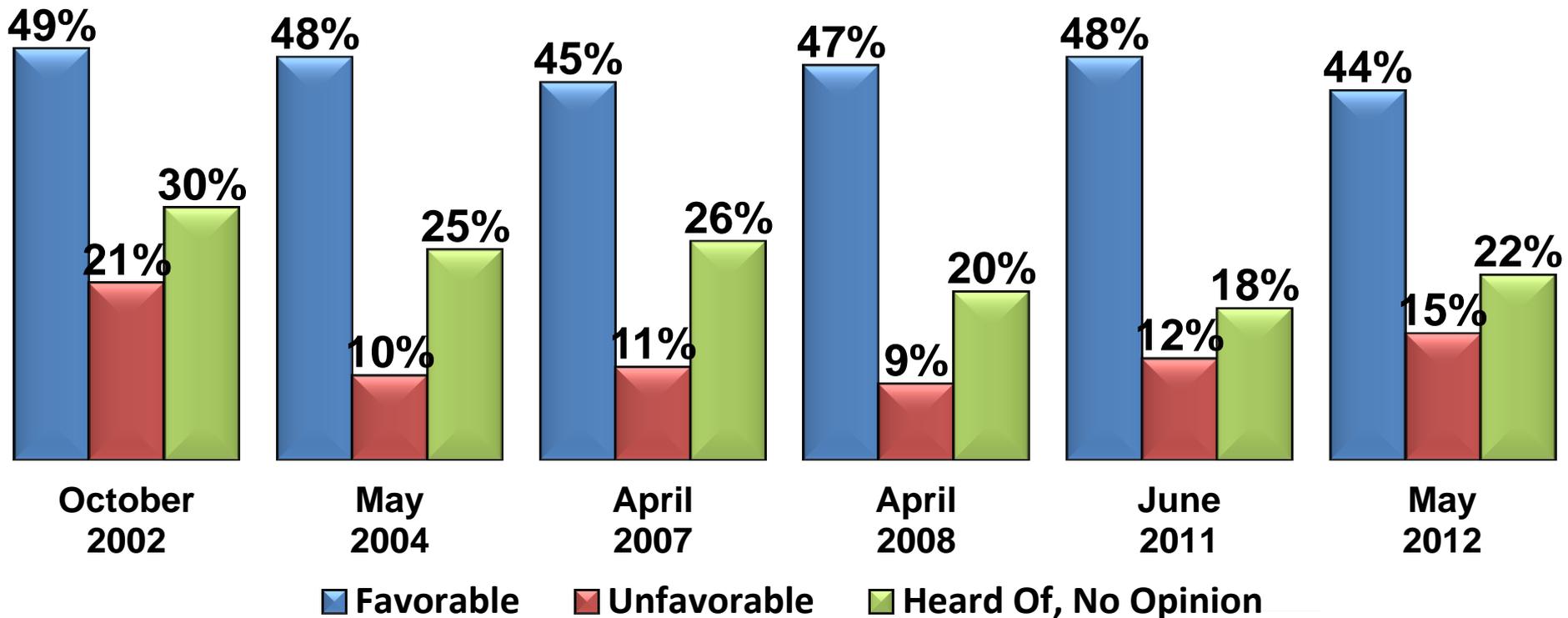




The Public's Outlook On The Biotechnology Industry

A plurality of voters rate biotechnology favorably.

Please tell me, is your opinion of biotechnology companies very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable? If you are unfamiliar with biotechnology companies just tell me and we'll move on.





Voters were given some information about biotechnology companies.

Biotechnology companies use biological processes and technology to develop medicines and cures for hard to treat, life threatening diseases. Biotechnology companies also develop different forms of alternative energy, environmentally friendly products, agricultural methods to increase food production to alleviate hunger and malnutrition, and protections against bio-terror threats.

After hearing just a brief summary, voters' impression of biotechnology increases significantly.

Image Before Information

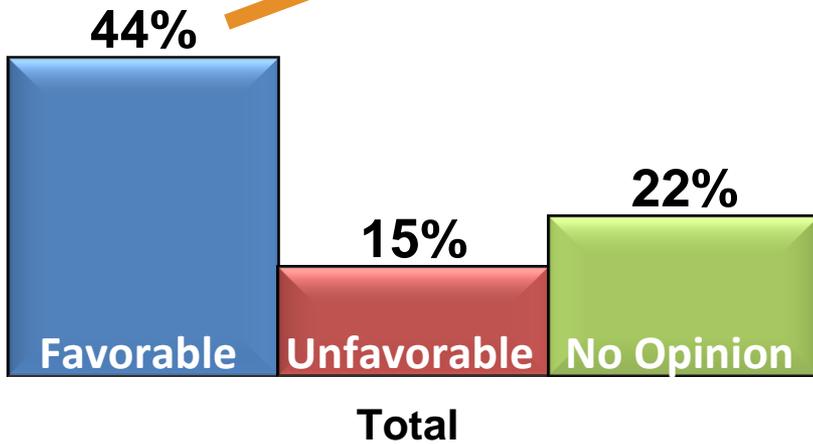
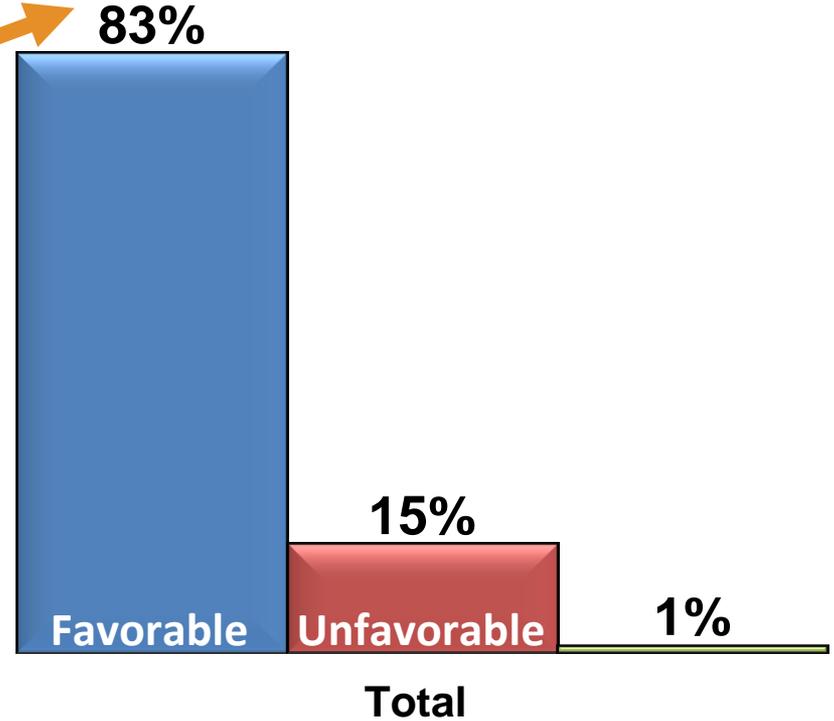


Image After Information



39-point
increase

And, the majority of voters believe the government should help support the industry – either through tax policies or direct funding.

Now, knowing some more about biotechnology companies and the biotech industry, when it comes to this industry and these businesses, what role, if any, should the federal government play?

The federal government should enact tax policies designed to encourage private investment in this industry and these businesses.

30%

The federal government should provide direct funds to this industry and these businesses.

26%

% Total Government Support
56%

The federal government should play no role in helping this industry and these businesses. It should be left to the market and private financing.

40%

June 2011	
Total Government Support	53%
No Government Support	43%



Voters were read a series of statements describing some of the work the biotechnology industry is currently working on or has already produced.

For each statement, they were asked to rate the importance of the contribution (Very important, fairly important, somewhat important, or not important).



Voters rate health care developments at the top of the list of contributions.

Work Being Done By Biotech Companies

Ranked by % Very Important

% Very Important % Total Important

Biotechnology has developed diagnostic tests that keep the blood supply safe and detect other conditions early enough to be successfully treated

74% **83%**

Biotechnology is developing vaccines aimed at preventing many diseases and it has made inroads in the prevention of infectious disease

72% **85%**

Biotechnology has created more than 250 new therapies to help treat diseases such as cancer, Parkinson's, Alzheimer's, HIV/AIDS and diabetes

69% **82%**

Biotechnology is developing advances in personalized medicine, allowing doctors to identify the most effective course of treatment

65% **80%**

Biotechnology helps military units and disaster responders fight chemical weapons and it is developing vaccines against biologic weapons

64% **78%**

Biotechnology uses DNA and gene mapping to develop medical diagnoses tailored to an individual patient in order to determine their risk for diseases

63% **78%**

Top Tier Contributions

A majority of voters say it is very important that the industry employs so many people and pays a high annual wage.

Work Being Done By Biotech Companies

Ranked by % Very Important

% Very Important % Total Important

Second Tier Contributions

U.S. biotechnology employs almost 1.5M people, pays a high annual average wage of more than \$77,000 & supports 6M jobs

56% **71%**

Biotechnology-based agricultural methods reduce the enviro impact of farming by reducing reliance on chemical pesticides

55% **72%**

Biotechnology-based agricultural methods have allowed farmers to increase food production and enhance its nutritional value

49% **66%**

Biotechnology helps create alternative fuels, including advanced biofuels made from renewable, non-food sources

43% **62%**

Although biofuels did not rank as high on the contribution list as other biotech developments, by more than a two-to-one margin, voters support their development.

Now, I am going to read you two points of view about the issue of developing biofuels and bioenergy, and please tell me which comes closer to your point of view...

People who SUPPORT the development of biofuels and bioenergy say these sources are expected to provide up to 30% of our fuel needs within the next 10 years, which means we can reduce pollution, reduce our dependence on foreign oil and reduce fuel prices at the pump.

People who OPPOSE the development of biofuels and bioenergy say these sources raise the price of food as more than 40% of America's corn crop is diverted to make fuel, and they require massive government subsidies while at the same time failing to compete with oil and other traditional fossil fuels.

65%
Supporters

30%
Opponents

Support/Oppose

Republican	49%/45%
Independent	67%/29%
Democrat	75%/20%

And, given voters' support for medical developments, it is perhaps not surprising that almost two-thirds favor an FDA accelerated approval process.

Now, I am going to read you two points of view about the issue of making changes at the Food and Drug Administration, that is, the F.D.A., so that drugs can more quickly be approved for patient use and please tell me which comes closer to your point of view...

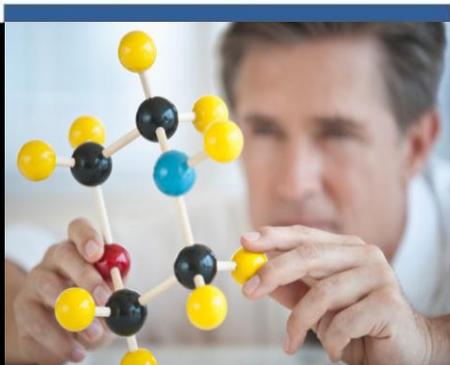
People who SUPPORT making changes at the F.D.A. say it will make it a more efficient government agency. It currently takes 10 to 15 years of review to get a new drug or treatment from discovery to patient. By developing an accelerated approval process that maintains safety standards, the F.D.A. can help speed cures to those most in need, such as patients suffering from cruel and deadly diseases like cancer and Alzheimer's.

People who OPPOSE making changes at the F.D.A. say the government agency plays an important role in protecting people from dangerous drugs and we should not make changes that threaten this critical safety net provided by the agency's thorough review and approval process. An accelerated approval process may compromise the review process and put vulnerable patients at risk to unsafe drugs and treatments.

65%
Supporters

29%
Opponents

	Support	Oppose
Republican	71%	23%
Independent	62%	32%
Democrat	65%	30%



Comparing Outlook on the Biotechnology Industry: Industry Leaders • Convention Attendees • General Public



Convention Attendees and Voters were asked to rate the importance of ten different current issues on a scale of one to ten. Ten means the issue is extremely important and one means the issue is not important.



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After the economy and jobs, finding cures to serious diseases matters most to Americans. It is the most important issue to convention attendees.

Issue Is Very Important (%8-10) Ranked By Voters	Convention Attendees**	Voters
Improving the economy and creating good paying jobs	83%	87%
Finding cures to help patients suffering from serious diseases such as cancer, Parkinson's disease, Alzheimer's disease, HIV/AIDS, and diabetes	93%	77%
Improving the quality of public education*	83%	75%
Reducing the federal budget deficit and government spending	63%	68%
Combating terrorism at home in the United States and overseas*	61%	64%
Reducing pollution to make sure we have cleaner, healthier air and water	81%	60%
Developing alternative energy from renewable resources to serve as a significant replacement for traditional fossil fuels and foreign oil	80%	60%

Top Tier

*Questions half-sampled; each item heard by N= 400 Voters

**Data shown only among U.S. Residents (N=966)

Alleviating the problem of hunger and malnutrition is of great importance to convention attendees and it tops the list in voters' second tier of priorities.

Second Tier

Issue Is Very Important (%8-10) Ranked By Voters	Convention Attendees**	Voters
Alleviating the problem of hunger and malnutrition by increasing food production and enhancing its nutritional value	80%	58%
Securing our borders and addressing the issue of illegal immigration*	43%	57%
Reducing taxes*	48%	56%
Improving the nation's roads and highways*	45%	39%
Increasing taxes to pay for important government programs*	34%	19%

*Questions half-sampled; each item heard by N= 400 Voters

**Data shown only among U.S. Residents (N=966)



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Compared to five years ago, industry leaders and convention attendees are just as optimistic that science and technology can help find cures to diseases

Whether or not they are personally important to you, I would like you to tell me how optimistic you are that science and technology will find solutions and cures to the following problems in the next ten to fifteen years? Are you very optimistic, somewhat optimistic, not too optimistic, or not at all optimistic?

% Optimistic Ranked By Industry Leaders	Industry Leaders		Convention Attendees	
	April 2007	May 2012	April 2007	May 2012
Finding cures to help patients suffering from serious diseases such as cancer, Parkinson's disease, Alzheimer's disease, HIV/AIDS, and diabetes	94%	90%	86%	89%
Alleviating the problem of hunger and malnutrition by increasing food production and enhancing its nutritional value	79%	74%	75%	67%
Reducing pollution to make sure we have cleaner, healthier air and water*	54%	72%	60%	74%
Developing alternative energy from renewable resources to serve as a significant replacement for traditional fossil fuels and foreign oil	75%	68%	78%	86%

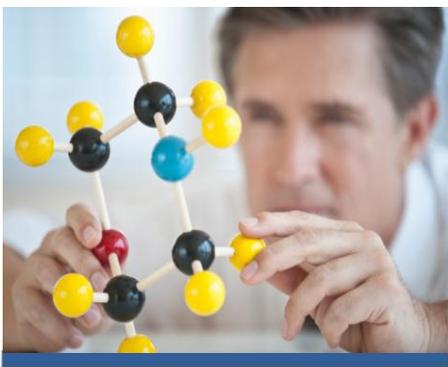
*In 2007: Protecting the environment from pollution and global warming.

Similar to their outlook in 2007, voters show high levels of optimism that science and technology can deal with these problems over the next 10-15 years.

Whether or not they are personally important to you, I would like you to tell me how optimistic you are that science and technology will find solutions and cures to the following problems in the next ten to fifteen years? Are you very optimistic, somewhat optimistic, not too optimistic, or not at all optimistic?

% Optimistic Ranked By Voters	Voters	
	April 2007	May 2012
Finding cures to help patients suffering from serious diseases such as cancer, Parkinson's disease, Alzheimer's disease, HIV/AIDS, and diabetes	86%	85%
Reducing pollution to make sure we have cleaner, healthier air and water*	70%	77%
Developing alternative energy from renewable resources to serve as a significant replacement for traditional fossil fuels and foreign oil	79%	76%
Alleviating the problem of hunger and malnutrition by increasing food production and enhancing its nutritional value	68%	71%

*In 2007: Protecting the environment from pollution and global warming.



Industry Leaders, Convention Attendees and Voters were all asked to review four major goals the biotech industry is trying to reach in the next 10-15 years.

Industry Leaders and Convention Attendees were asked how LIKELY it is the biotech industry will accomplish each goal.

Voters were asked to prioritize the IMPORTANCE of each goal.



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There is shared optimism and prioritization for finding cures to serious diseases. Convention attendees are bullish on developing clean, alternative fuels.

Likely In Next 10-15 Years		Biotech Industry Goals Over Next 10-15 Years Ranked By Industry Leaders	Top/High Priority in Next 10-15 Years
Industry Leaders	Convention Attendees		Voters
87%	84%	Producing disease and drought-resistant crops that reduce the environmental impact of farming while at the same time increasing food production and its nutritional value to alleviate the problem of hunger and famine	56%
86%	90%	Discovering and developing cures to help patients suffering from serious diseases such as cancer, Parkinson's disease, Alzheimer's disease, HIV/AIDS, and diabetes	84%
70%	79%	Producing biological defense technologies that, in the event of a biological or chemical attack, can be used to detect attacks, inoculate people, and treat those who may have been exposed	57%
59%	81%	Reducing pollution and the nation's dependence on foreign oil by developing clean, alternative fuels derived from renewable resources like plants, grass and straw	62%



Summary Observations

Summary Observations

- **Outlook among industry leaders is still optimistic but somewhat subdued compared to five years ago.**
- **Difficulty in attracting private financing is likely a factor, but federal regulations and the lack of tax incentives are also viewed as challenges in the years ahead.**
- **More than half of industry leaders interviewed report being approached in the last two years to move their operations overseas and being offered numerous incentives to do so.**

Summary Observations

- **Industry leaders say the most helpful actions the federal government could take are making the regulatory process more efficient and encouraging investment in the industry through tax policy and incentives.**
- **And, the majority of voters would support both of these actions from the government.**
- **Even though the public is not that familiar with the industry, just a brief description of what biotech companies do generates an almost unanimous positive impression.**

Summary Observations

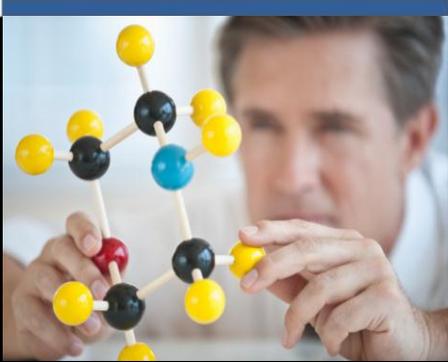
- **The general public rates many of the areas in which biotech is engaged as important, and they are optimistic that solutions will be found in the next 10-15 years.**
- **After the economy and jobs, Americans rate the importance of finding cures to diseases as a top national issue; and of the industry's future goals they rate this as the highest priority.**

Summary Observations

- **However, a majority of the public would still place great importance on other biotech goals involving the biofuels and food/ag sectors.**
- **Importantly, there is a shared sense of optimism among industry leaders, convention attendees and the general public that science and technology will find cures to serious diseases, develop alternative fuel sources, alleviate hunger and malnutrition and reduce pollution.**



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PUBLIC OPINION
STRATEGIES

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