



**Investors in Innovation:
Survey of Alternative Energy
Investors and Analysts**

February 2, 2009



CONTENTS

INTRODUCTION	3
SURVEY FINDINGS.....	5
CONCLUSIONS	12
MARKET DATA.....	13
ABOUT WAGGENER EDSTROM WORLDWIDE	14
ABOUT THE “INVESTORS IN INNOVATION” SURVEY SERIES.....	14
ABOUT THE NARRATIVE NETWORK	14

INTRODUCTION

2008 was a gut-wrenching year for alternative energy investors. On the heels of 80 percent gains in the S&P Global Clean Energy Index in 2007, most alternative energy indices declined sharply in 2008 (see “Market Data” section), underperforming broader markets by wide margins. The 70 percent drop in the WilderHill Clean Energy Index (ECO), for example, brought the benchmark to the lowest level since its inception. The Claymore Global Solar Energy Index (TAN) declined 74 percent from its 52-week high, nearly double the corresponding drop in the S&P 500.

Widespread business media coverage and sell-side research typically attributed this decline to a variety of factors, particularly the global credit crunch, falling oil and gas prices, capacity backlog, and the lack of liquidity in project financing.

Despite the downturn in 2008, public discourse about the industry’s long-term potential remained predominantly positive during the year. Media interest in the industry rose sharply in 2008, driven in large part by unprecedented mid-year energy price spikes, the recurring themes in the presidential campaigns and the subsequent enthusiasm about the Obama Administration’s policy priorities. By year’s end, media stories routinely heralded clean technologies as the next big innovation and the world’s (or, at least, America’s) best, albeit distant, hope for reinvigorating economic growth.

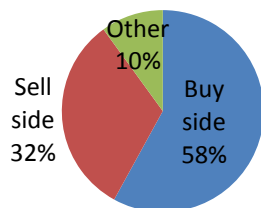
Humbled but hopeful, the industry enters 2009 with a variety of potential performance catalysts and valuation risks looming on the horizon. To help make sense of these variables and to uncover trends influencing investor attitudes and behaviors, Waggener Edstrom Worldwide conducted two studies:

- Primary research – A survey of alternative energy investors and analysts
- Secondary research – A quantitative study of the key drivers of alternative energy media coverage

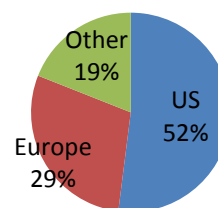
Combining qualitative and quantitative research, the financial community survey focused on the key issues likely to shape the industry’s course in 2009 and beyond. The survey launched on Jan. 2, 2009, and closed on Jan. 20, 2009. Eighty-one respondents participated in the survey: 47 institutional investors, 26 brokerage analysts, 5 independent research firms and 3 other industry participants.

Respondents to the Financial Community Survey

Respondent Affiliations



Respondent Locations





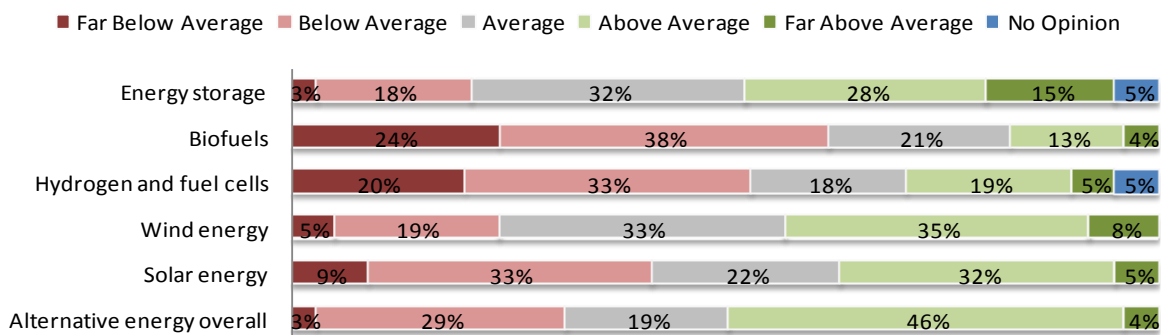
In addition to the quantitative survey and in-depth interviews, we analyzed key trends and drivers of alternative energy media coverage, using our proprietary Narrative Network™ text mining and mapping methodology. The full Narrative Network findings are detailed in the accompanying report.

Several points of consensus – weak or strong – emerged in the findings of the financial community survey. Despite the bloodletting in the alternative energy sector in 2008 (or, perhaps, because of it), 50 percent of respondents expect alternative energy stock to outperform the broader markets in 2009, largely due to the expected impact of the Obama Administration’s energy policies. Respondents also overwhelmingly expect oil and gas prices to stabilize or increase in 2009, and certainly in the long run, further enhancing the relative economic appeal of green energy. The survey also found broad support for government incentives as an essential stimulus for the development and wider deployment of alternative technologies.

SURVEY FINDINGS

Generally positive outlook on the performance of alternative energy stocks – Despite the challenges in 2008, 50 percent of respondents expect alternative energy stocks to outperform the broader markets in 2009. They are particularly optimistic about energy storage (mainly batteries), wind, and solar. Interestingly, performance expectations for the broad category of alternative energy stocks are measurably higher than for any of the specific subcategories such as wind or solar. Respondents seem least optimistic about biofuels and the hydrogen/fuel cell categories.

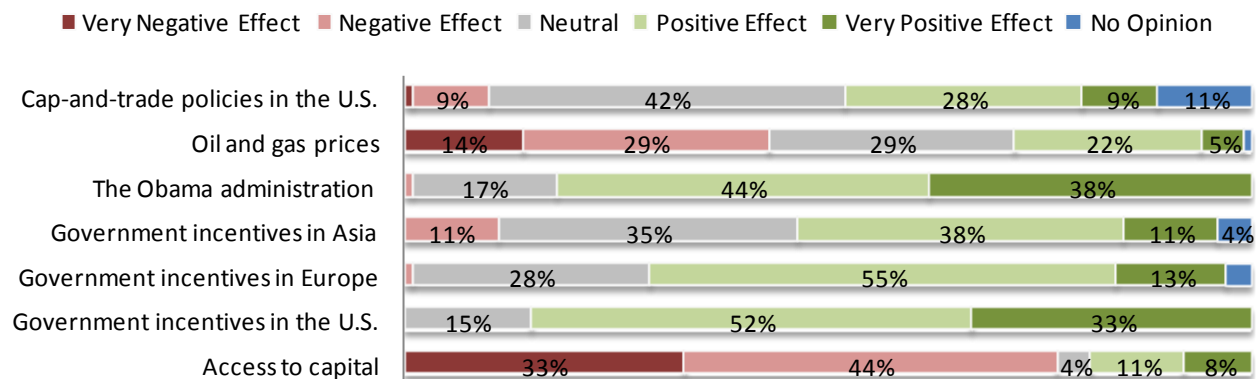
Compared to broad market indices, what is your outlook on the performance of alternative energystocks in 2009?



Performance catalysts and valuation risks – Overwhelmingly, respondents see the Obama Administration, and government incentives more broadly, as a positive or very positive performance catalyst for alternative energy stocks. (We would add that state and federal regulatory moves will also impact the clean technology markets at least as much as incentives.) Not surprisingly, credit constraints emerged as the most potent perceived risk factor. Further, a large minority of respondents sees oil and gas prices as a risk factor, presumably because low oil and gas prices can dampen the economic case for clean technologies (See below).

5

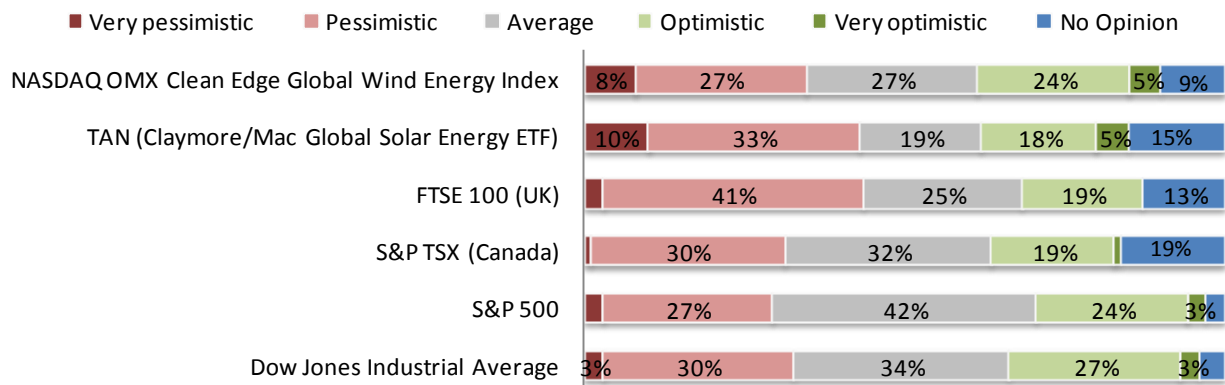
How do you think the following factors/variables will affect the performance of alternative energystocks in 2009?



This question revealed some gaps between buy-side (i.e., investors) and sell-side (i.e., brokerage analysts) perceptions, with the buy side often voicing more optimistic views – a pattern that runs contrary to expectations that buyers would be more habitually skeptical than sellers. For example, buy-side respondents seem somewhat more optimistic about the impact of the Obama Administration on alternative energy stocks, with 85 percent characterizing the likely impact as positive or very positive, compared with 76 percent of sell-side respondents. But in a sign of higher optimism on the sell side, only 32 percent characterized the likely impact of oil and gas prices as negative or very negative, compared with 54 percent of buy-side respondents.

Mixed views on the performance of indices – Against the backdrop of broad-based uncertainty in global capital markets, our respondents were somewhat more optimistic about the DJIA and S&P 500 than the FTSE 100. Notice that even though respondents are generally optimistic about the relative performance of alternative energy stocks in 2009, they expressed a more pessimistic outlook on the two particular alternative energy indexes we highlighted in this question. This disparity could stem from respondents’ preference for stock-picking over index investing.

What is your outlook on the performance of the following indices in 2009?



6

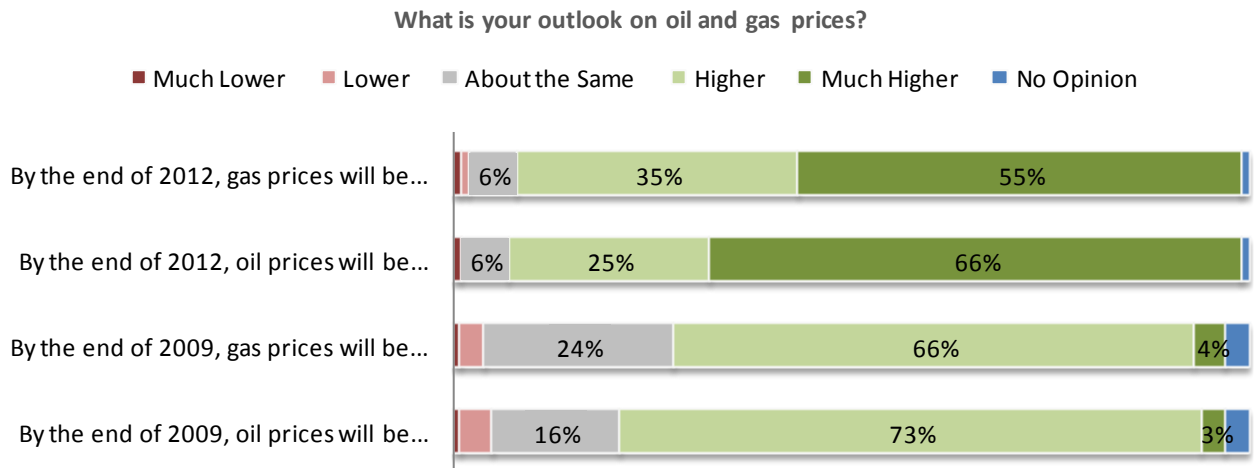
Here again, the survey revealed signs of higher optimism and lower pessimism on the buy side. Thirty-six percent of buy-side respondents said they were optimistic or very optimistic about the DJIA in 2009, compared with 27 percent of sell-side respondents. Conversely, with regard to the TAN solar energy ETF, 52 percent of sell-side respondents were pessimistic or very pessimistic, compared with 42 percent of buy-side respondents.

“I agree with the consensus that 2009 will be a tough year for the market. We might see a slight recovery in the second half. Nothing major. Alternative energy too will have a tough year. It’s unclear how soon credit markets in Europe – especially project finance – will open up. It’s going to be very hard for these companies to provide clear guidance. We may see a brief rally in Q1, but I don’t think this will last.” – U.S. Analyst

“The reason that some of these stocks are down as much as they are is not just that demand is uncertain in the short term and there’s pricing pressure but also because some of these companies are facing extinction. Their balance sheets are weak, and they can’t get financing.” – U.S. Analyst

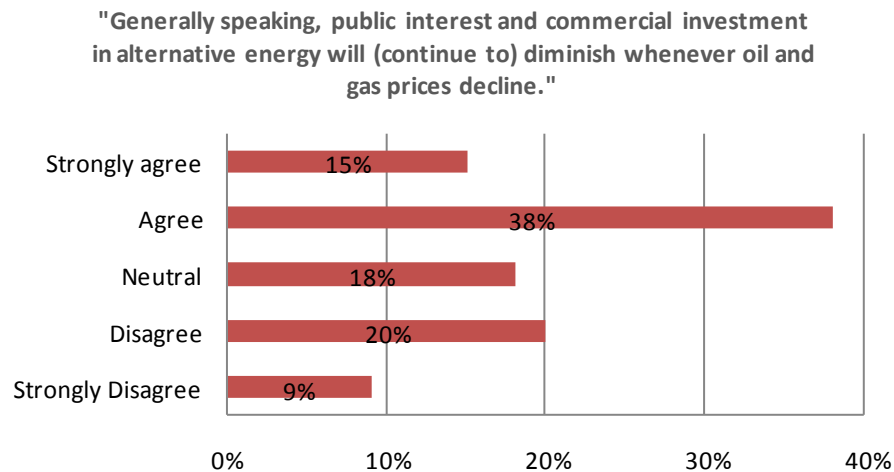
"The broader markets will decline in 2009, not as much as they declined in 2008, but they will go down."
– U.S. Portfolio Manager

Oil and gas prices – Respondents overwhelmingly expect oil and gas prices to stabilize or increase in 2009, and certainly in the long run. Indeed, the consensus about the return of high energy prices is strikingly strong. We did not find any significant gaps between buy-side and sell-side responses to this question.



7

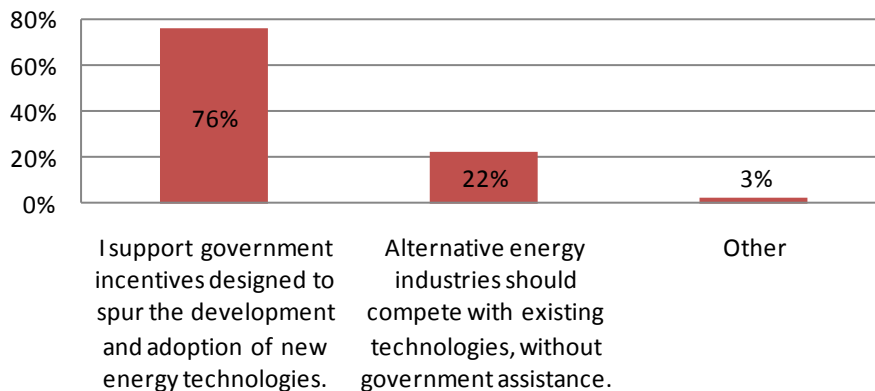
Impact of oil and gas prices – Fifty-three percent of the respondents agreed or strongly agreed with the statement that “Generally speaking, public interest and commercial investment in alternative energy will (continue to) diminish whenever oil and gas prices decline.” Several of the respondents qualified their responses, noting that short-term fluctuations in the prices of these commodities may not do much to weaken the economic merits of alternative sources, but a sustained decline could pose a serious risk for clean technologies.



Somewhat surprisingly, sell-side respondents were more likely to strongly agree with this statement (28 percent) than buy-side respondents (11 percent).

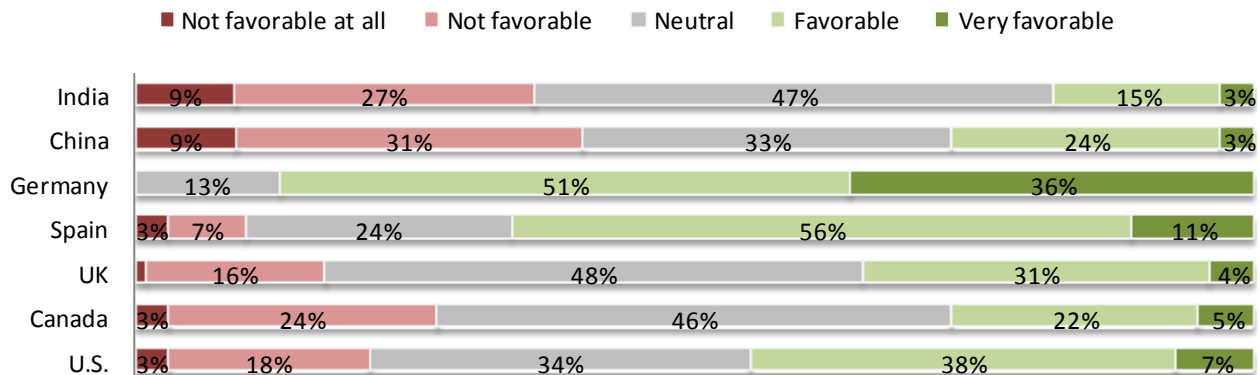
Broad support for government incentives – Respondents overwhelmingly “support government incentives designed to spur the development and adoption of new energy technologies.” Several buy-side respondents noted that their investment thesis on alternative energy stocks hinges largely on continued and/or expanded government incentives. As one might expect, sell-side respondents were more likely to support government incentives (84 percent) than buy-side respondents (68 percent).

Which statement comes closer to your view of government incentives?

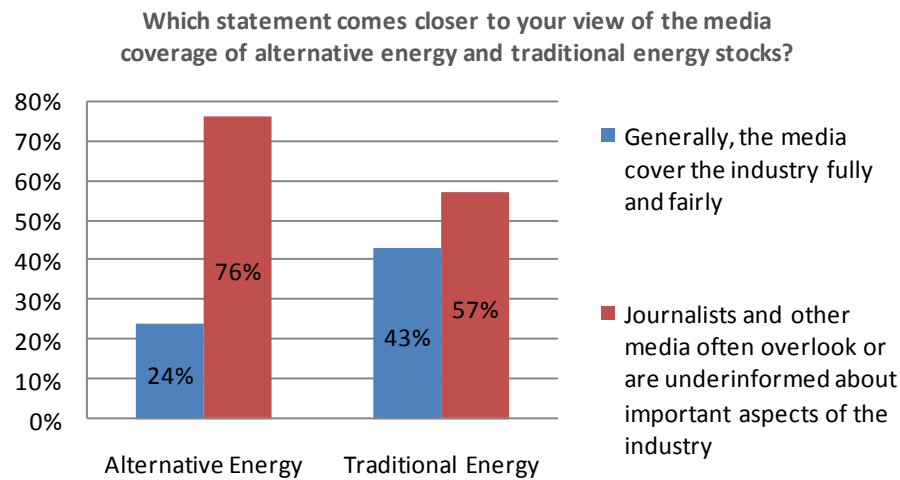


Spain and Germany provide the most favorable operating environments for alternative energy companies, according to survey respondents. These countries have long been perceived as Clean Tech havens, largely due to the stability of their government incentives.

What countries currently provide the most/least favorable operating environment for alternative energy?



Generally negative perceptions of alternative-energy-focused media coverage – A great majority of respondents believes that the media coverage of alternative energy often overlooks important aspects of the industry, missing the real story due to excesses in either skepticism or enthusiasm. Specifically, respondents pointed to what they perceive as a positive bias in the mainstream media that fails to draw distinctions between technological feasibility and commercial viability. Similarly, some respondents said that they see evidence of a negative, or “short bias” in business/financial media. Respondents hold comparatively more positive views of the media coverage of traditional energy stocks.



“In mainstream media, the biggest problem is the empty positive bias in the coverage of solar. They ask their readers and viewers to imagine a world powered by solar or wind. It’s a happy and hopeful narrative that doesn’t explain why these stocks are down 80 percent. Similarly, in the business media, there’s a short bias.” – Solar Energy Analyst

“Media coverage of alternative energy makes people aware of the topic, but it doesn’t focus enough on the economics of the business and the viability of various technologies.” – Portfolio Manager

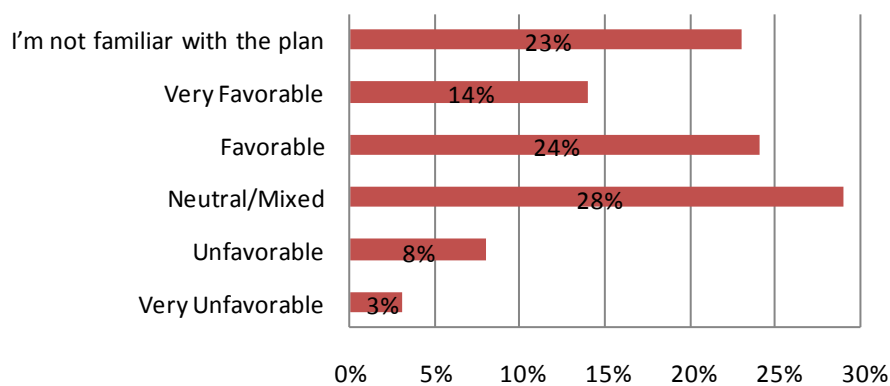
Our analysis of media coverage provides some support for respondents’ perceptions of mainstream media’s coverage of alternative energy. Alternative energy featured prominently in the two presidential campaigns and in the communications of the fledgling Obama Administration, and the industry enjoyed a predominantly hopeful narrative in the media, focused more on the promise and potential of alternative energy, and less on the near-term challenges that account for the industry’s woeful performance in 2008. We found surprisingly little coverage in the mainstream media focused on the economics of alternative energy or the current capacity backlog (although both these trends appear to be changing).

We also found that the U.S. media have tended to shy away from some polarizing topics such as nuclear power, which was a key driver of alternative energy coverage in the E.U. Similarly, compared with the mainstream media, we saw more extensive coverage in the blogosphere of the controversial topic of “peak oil production.”



Mixed views of the T. Boone Pickens plan – Given the volume of advertising and editorial coverage of the T. Boone Pickens plan for achieving America’s energy independence, it seems surprising that 23 percent of the respondents said they were not familiar with the plan. Thirty-eight percent of the respondents said they held favorable or very favorable views of the plan. All the very unfavorable ratings of the plan came from buy-side respondents. The Pickens plan proposes an ambitious wind power development agenda combined with broader use of natural gas as a transportation fuel in order to provide a bridge to a time when green technologies can meet a greater portion of U.S. energy needs.

What is your view of the T Boone Pickens plan for achieving America’s energy independence?



One respondent, a private equity investor, expressed a view clearly aligned with the main themes of the T. Boone Pickens plan:

We have had great difficulty in finding commercially viable investment opportunities in the alternative energy space.

Anyone who says such opportunities exist on any broad scale is likely relying on a subsidy to underpin their investment, or is betting on substantial innovation that is yet to arrive, or is betting that oil goes back to \$140 to help the comparative economics, or is investing in a highly localized project (i.e. wind farm in one isolated area).

Our bread and butter for 20 years has been traditional oil & gas investing, principally domestic natural gas. Domestic natural gas is a relatively clean-burning and abundant resource that we don't currently import to any meaningful extent. Investing in natural gas is a viable economic proposition, creates many jobs here in the Homeland, and reduces the country's dependence on imported energy sources.

Recent advances in technology are allowing us to tap the massive shale formations that underlie huge swaths of land in places like Louisiana (Haynesville Shale), North Texas (Barnett Shale), and Pennsylvania (Marcellus Shale). This is the true story of alternative energy, in our opinion.

Of course, natural gas is a depleting resource and thus is not the ideal end-game if you take a 100-year worldview. However, it is a nice, clean bridge for the next decade or two that will allow our country's scientists more time to develop renewable technologies that are viable.

Just one private-equity investor's opinion.

Ratings of communications effectiveness – We asked respondents to name specific alternative-energy and traditional-energy companies that they view as the most or least effective communicators. Below are the most frequently mentioned companies.

Best Communicators

Which alternative energy companies do you consider the <u>most</u> effective communicators?		
	Name	Ticker
1	Vestas Wind Systems A/S	VWS DC
2	First Solar, Inc.	FSLR
3	SunPower Corporation	SPWRA
4	Iberdrola Renovables SAU	IBR SM
5	Q-Cells SE	QCE GR

Worst Communicators

Which alternative energy companies do you consider the <u>least</u> effective communicators?		
	Name	Ticker
1	LDK Solar Co.	LDK
2	SolarWorld AG	SWV GR
3	Suntech Power Holdings Co.	STP
4	Theolia SA	TEO
5	JA Solar	JASO

Stock picks and pans – In response to the question “Please list alternative energy stocks about which you are most optimistic in 2009,” 43 respondents provided specific recommendations. Similarly, in response to the question “Please list alternative energy stocks about which you are least optimistic in 2009,” 33 respondents provided specific recommendations. Below are the most frequently mentioned companies.

Top 5 Stock Picks

“Please list alternative energy stocks about which you are <u>most</u> optimistic in 2009”		
	Name	Ticker
1	First Solar Inc.	FSLR
2	Vestas	VWS DC
3	Sunpower Corp-Class A	SPWRA
4	Iberrola Renovables SA	IBR SM
5	Coventa Holding Corp	CVA

Top 5 Stock Pans

“Please list alternative energy stocks about which you are <u>least</u> optimistic in 2009”		
	Name	Ticker
1	Solaria Energia	SLR
2	Suntech Power Holdings Co.	STP
3	Theolia SA	TEO
4	Vestas Wind Systems A/S	VWS DC
5	Aventine Renewable Energy	AVR

CONCLUSIONS

Severe global economic conditions have unquestionably shaken clean tech industries and businesses across the board. Moreover, the slowdown has produced a sharp drop in energy prices as short-term demand shrinks. These factors have led some to question the political and economic imperative for cleaner, more efficient energy solutions.

Despite a deeply challenging business climate, these survey findings suggest that the financial community still views alternative energy companies with a persistent (if somewhat tempered) sense of optimism. While they believe that mainstream media sometimes tends to create unreasonable expectations for the sector, they also recognize that business press in particular can bring an excessively skeptical eye to their coverage.

At the same time, a majority of respondents agree that market forces alone may not be sufficient to drive alternative energy markets on their own, and that there is an important role for government policy to bridge the gap – particularly when there is a lull in oil and gas prices that they do not expect will last. Broad belief that our recent honeymoon at the pump is but a transient phenomenon should come as encouraging news for anyone concerned about a permanent loss of momentum in the sector.

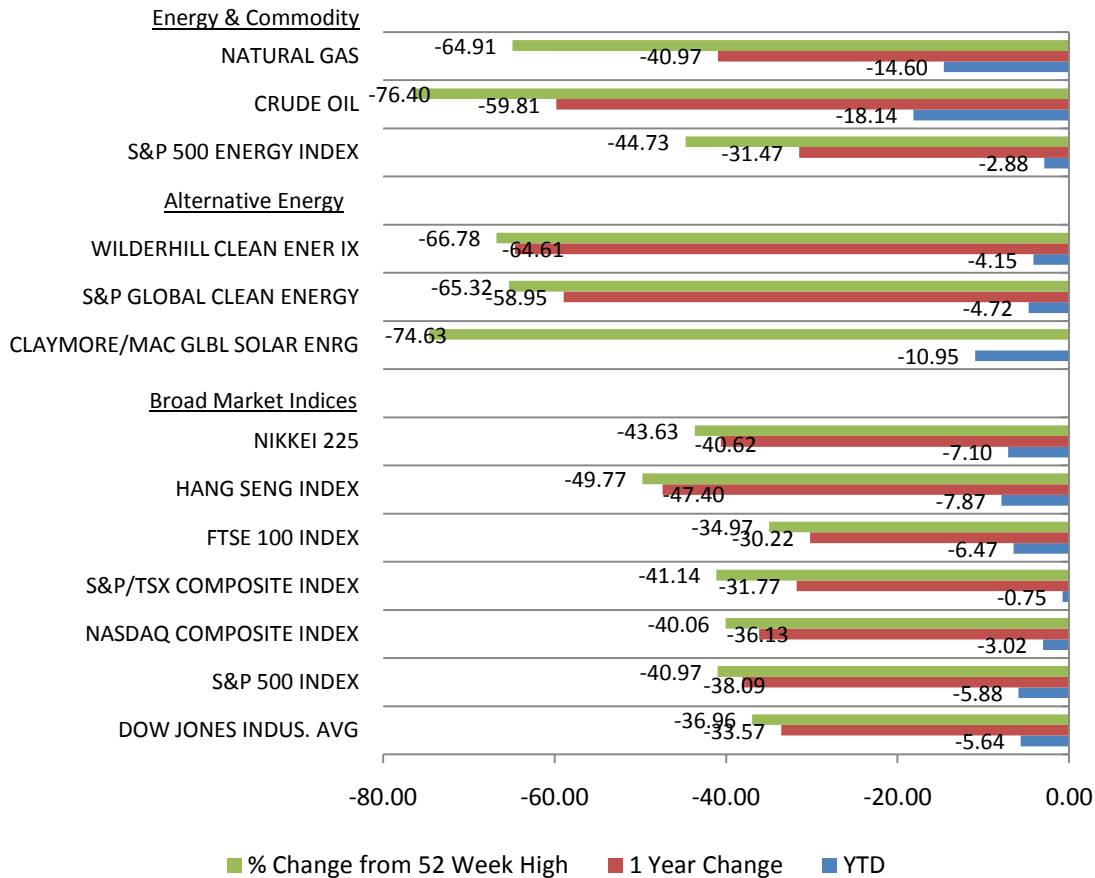
The near-term effect that collapsing energy prices have had on capital spending in both alternative and conventional energy assets should not be overlooked, however, and many analysts are now warning that underinvestment in all kinds of energy technologies has left the world's economies even more vulnerable to the inevitable demand increases that will accompany any financial recovery.

The results suggest that alternative energy companies hoping to communicate a point of view should remain focused on the long-haul, inexorable dynamics of conventional energy markets. Just as the industry must avoid overselling itself in boom times, it is essential to remind stakeholders that new energy technologies are not mere indulgences that can be written off during a downturn. But companies can communicate that message with the knowledge that rumors of their financial market demise have been greatly exaggerated.

MARKET DATA

Key Indices

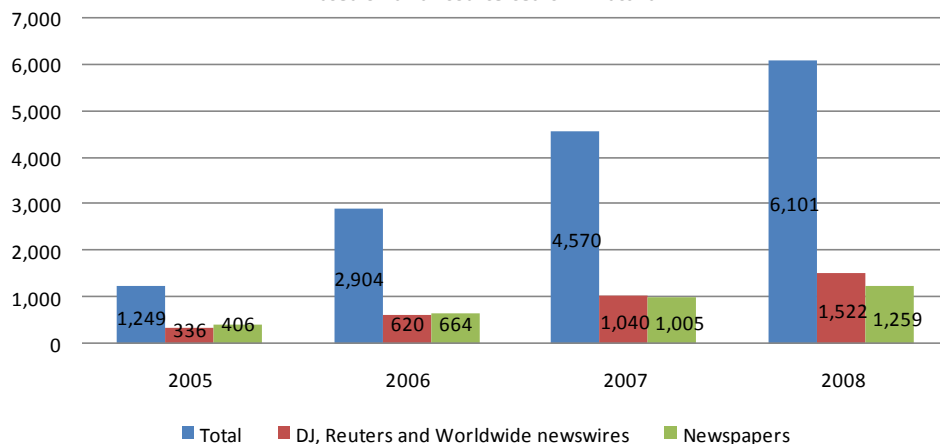
Source: Bloomberg 1/16/09



13

Mentions of "alternative energy" or "clean energy" or "green technologies" in headlines

Based on an all-source search in Factiva



ABOUT WAGGENER EDSTROM WORLDWIDE

Waggener Edstrom Worldwide (WE) is a global, integrated communications agency. For the past 25 years, the independently owned firm has developed strategic communications programs for innovative and world-changing clients, working to influence markets, inspire people and improve lives. In 2008, WE was named European Technology Agency of the Year and in 2006 was named Best Large Agency to Work For by the Holmes Report. WE has also earned numerous honors for its outstanding work on behalf of clients, for its exceptional people and for its innovation in communications. The agency has more than 800 employees in 16 offices around the world, and its Global Alliance program expands the agency's reach to 13 additional international markets. WE offers six global practices: Consumer Marketing, Corporate Communications, Environment, Healthcare, Public Affairs and Technology. More information can be found at <http://www.WaggenerEdstrom.com>.

ABOUT THE "INVESTORS IN INNOVATION" SURVEY SERIES

Waggener Edstrom Worldwide periodically publishes reports based on surveys of key stakeholders in innovation-driven industries. These reports combine the findings of financial community surveys, in-depth interviews with industry thought leaders, and our proprietary analysis of industry-focused media coverage.

14

ABOUT THE NARRATIVE NETWORK™



In today's brand-driven, global marketplace, Waggener Edstrom Worldwide offers the expertise and tools to manage perceptions and identify the voices influencing your customers. Our Narrative NetworkSM media mapping and analysis service uses breakthrough and cost-efficient influence measurement tools for communicators. As part of the Narrative Network service, Waggener Edstrom Worldwide assesses the impact of conversations across the spectrum of traditional and new media to aid strategic communications programs.