



Power Shift


How energy, politics
and innovations
shape commerce

SPRING 2012

RENEWABLES & PROFIT PAGE 10

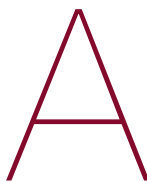
THE IMPACT OF LEED PAGE 16

ENERGY ENTREPRENEURS PAGE 18



How do you negotiate with a supplier who just announced she's raising the cost of her products by 50 percent? Working in groups of four or five, juniors in Gabelli's new **integrated business core curriculum** tested their skills in communication under fire through an exercise that featured eight challenges like this one.

Learn more:
www.gabelliconnect.com/comm-sim



As the global community seeks ways to protect our natural resources and preserve the Earth for future generations, the business world is responding.

People are becoming aware that to lessen the probability of future world crises, we must act now to slow the depletion or destruction of our natural resources. That awareness is pushing nearly every industry in new directions.

Renewable energy sources have carved out a new business sector. Scientists and economists alike are investigating how to transition from traditional means of powering to environmentally friendly methods. In this issue, we discuss the economics of energy and what it will take to make renewable energy as beneficial to investors as it is to the planet.

Many members of the Fordham community are engaged in profit centers born from the demand for energy-related products and services. Here, you will read about some of the latest ventures—such as biofuels and urban farming—that are creating career paths for Fordham entrepreneurs.

Other industries are evolving by changing their standards. Consider real estate design and development, a sector that has evolved dramatically with a focus on bringing nature into our built environment. This magazine investigates how environmental certification systems such as LEED are affecting revenues and influencing the next wave of trends in “green” building.

And, through the eyes of our faculty and a team of graduate students, you will learn how municipalities are not only designing buildings to be environmentally sensitive, but also planning development to create fully “smart cities.”

At Fordham Schools of Business, we believe in the vital role business education plays in shaping the minds and spirits of future leaders so they are able to make this world a better place.

Please join us on the following pages as we explore the vast opportunities unfolding as the business community identifies environmentally friendly solutions for some of our time’s most pressing challenges.

Donna Rapaccioli, Ph.D.
Dean, Fordham Business Faculty
Dean, Gabelli School of Business

David Gautschi, Ph.D.
Dean, Graduate School of
Business Administration

Contents

FEATURES

- 10 Paths to Profitability
- 16 The Green House Effect
- 18 Growth Industries

DEPARTMENTS

- 2 News
- 8 Fordham in NYC
- 22 Talk
- 24 Bits

FORDHAM BUSINESS

Editor-in-Chief
Donna Rapaccioli

Contributing Editor
David Gautschi

Managing Editor
Claire Curry

Editorial Consultant
Nicole Gesualdo

Contributing Writers/Reporters
Marialisa Arnold (FCRH '89),
Barbara Esposito, Brett Johnson,
Stevenson Swanson

Fordham University President
Joseph M. McShane, S.J.

Provost
Stephen Freedman

This magazine is published by the office of the dean of the Fordham University business faculty, with offices at 441 E. Fordham Road, Bronx, NY 10458.

Fordham Business welcomes your comments and suggestions. E-mail the managing editor: c Curry5@fordham.edu.

Opinions expressed in this publication may not necessarily reflect those of the Fordham University faculty or administration. Copyright © 2012, Fordham University Schools of Business.

Cover image © Bjorn Stefanson/Shutterstock



Photograph: Bill Dentison

When renovations are complete in fall 2012, Hughes Hall from the outside will look very much like it did before, as shown here in 2009. Inside, it will be a new energy-efficient world.

Hughes Hall gets “smart”

When Hughes Hall on Fordham’s Rose Hill campus opens in September 2012 as the new home of the Gabelli School of Business, the exterior will retain its French Gothic style, in the way it was built a century ago. But within its walls will be an energy-efficient suite of classrooms and offices that reflects this decade’s environmentally friendly building techniques.

It was no easy task to maximize Hughes’ efficiency while maintaining its historical integrity, said Marco A. Valera, the university’s vice president of facilities management. “The challenge was to find ways to make the building sustainable, retain its character and meet the many new needs of the business program.”

Making this happen involved gutting Hughes completely: Construction crews scooped out the entire inside, leaving only the stone shell. They built a new interior floor by floor, using a “smart building” approach that incorporates state-of-the-art operating systems. Fordham worked with HLW, a firm that designed two prominent “green” offices in New York City: Google’s East Coast headquarters and the *New York Times* building at 8th Avenue and 41st Street.

The new Hughes incorporates wood from renewable forests and terrazzo flooring made from partially recycled glass. A high-efficiency heating system will help the building to use less energy. So will a new low-flow plumbing system, Green Star-rated computers and screens, LED lighting and motion sensors.

The only modifications to the exterior are new entrances on the north and south sides of the building and a glass mansard roof, a solution that maintains Hughes’ architectural integrity while hiding rooftop operational systems and inviting electric-bill-reducing sunlight.

“The combined results from the energy-efficiency enhancements mean that the building is expected to exceed energy codes by 35 percent,” Valera said.

The reward? John Spaccarelli, the university’s director of special projects, who is overseeing the design and construction and managing the project’s timeline, said the new building will meet the standards of the LEED program, which stands for Leadership in Energy and Environmental Design.

Fulbright grant punches a Gabelli alumnus' ticket to Brazil

Yamil Roger-Nasser (GSB '10) won a Fulbright English Teaching Assistantship that sent him in March to Brazil, where he is teaching English for nine months at the Universidade Federal de Goiás. He also is engaged in a project to promote recycling in his adoptive Brazilian city, and he plans to present its government with a formal proposal to improve its recycling program.

After he graduated, Roger-Nasser was an operations manager at The HopeLine, an organization that coordinates food orders for local pantries. He also served as a translator and transcriber for the New York City-based International Language Service. He most recently worked as a marketing coordinator for Univision, America's largest Hispanic television network.

This multilingual alumnus says his "inherent passion for languages and cultures"—he speaks Spanish, English, Portuguese and Mandarin Chinese—originates from his Spanish and Lebanese heritage and his experiences living in Colombia, Cuba and Puerto Rico.

A desire to explore diverse cultures led Roger-Nasser to study business at Fordham, where he participated in a Global Outreach trip to Lima, Peru, volunteering in an orphanage for children with disabilities. "I returned inspired to do and

be more for these people, yet I understood I could only do this effectively if I continued my education."

Roger-Nasser also studied abroad in China during college. "Adapting and integrating myself as an American to this culture was one of the most fascinating and challenging experiences of my life," he said. In his senior year at Fordham, he pursued a community-service assignment at LIFT—The Bronx, an organization that helps low-income city dwellers combat poverty through education.

These experiences inspired Roger-Nasser to pursue a path that weaves together cultural breadth and social development. "My goal is to bring a better life to others," he explained. "I am certain the Fulbright [assistantship] will play a significant role in accomplishing this goal."

Fulbright winner Yamil Roger-Nasser (right) is proposing a recycling plan for the Brazilian city of Goiânia, Goiás (below).



© Clauria Oseki/Getty Images



© Bryan Coi/Shutterstock

Plant arrays are used in operations like the one proposed by GBA student Anindita De to grow produce on the rooftops of city buildings.

To grow this business idea, no soil needed

For this year's Walmart Better Living Business Plan Challenge—a competition that gives winners up to \$20,000 to fund a sustainable product or business idea—MBA student Anindita De (GBA '12) pitched "Papai's Garden," a hydroponic rooftop garden venture. Using a pump system, her garden would recirculate water and nutrients to plants without needing soil.

De, 31, says her 36-year-old brother inspired her idea, named in his honor. "He has mild intellectual disability, a cognitive condition where an individual's IQ level measures below 70 to 75," De explained.

Presented with the challenge to create a sustainable business solution, she saw an opportunity to also create better employment options for individuals like her brother who live with developmental disabilities.

"My idea is to build confidence and enrich the lives of people who are functioning adults with developmental disabilities by employing them and teaching them hydroponic gardening skills," De said. "Then [we'd] sell the fresh, locally grown food to retailers, supermarkets, Fresh Direct and farmers' markets."

De's proposal didn't win a prize, but she still plans to establish a pilot program that would employ 10 people. She projects that in 15 years, the garden would provide meaningful employment to 1,000 high-functioning disabled people. She's scouting rooftop space in New York City and evaluating how to raise \$430,000 to launch the pilot.

"I want to help more people like my brother who have the potential but don't have the platform or the resources," De added. "Everyone has the potential, given the right resources, to do their best."

Fordham is first in nation to add undergraduate value investing curriculum

Thirty-five students are broadening their business knowledge through a new specialization in value investing offered by the Gabelli School of Business.

“This investment methodology is taught at the graduate level at a sampling of universities nationwide, but Fordham University is the first to offer a specialization in value investing for undergraduate business students,” says finance lecturer James Russell Kelly, who developed all three courses in the specialization and is teaching the first, Introduction to Value Investing, this spring. “What we’re doing here is really groundbreaking.”

This term’s course includes a series of guest lectures by Wall Street guru Bruce Greenwald, director of the Heilbrunn Center for Graham & Dodd Investing at Columbia Business School and co-author of *Value Investing: From Graham to Buffett and Beyond*, the class’s primary textbook.

Value investing was developed in the 1930s by Columbia professors Benjamin Graham and David Dodd. Unlike con-

ventional security analysis, this investment method is based on a detailed analysis of a company’s current and past balance sheet, income and cash-flow statements.

What makes value investing unique, Kelly says, is that “it doesn’t rely on future earnings, but rather evaluates a company’s current assets and liabilities and its historical performance.”

Warren Buffett and Fordham’s undergraduate business school’s namesake, Mario Gabelli (GSB ’65), are among those who have built successful careers by applying the principles of value investing.

To complete the value investing specialization, students must take two additional courses: Behavioral Finance and Advanced Topics in Value Investing. These will be offered during the 2012-2013 school year.



James R. Kelly of the finance area designed all three courses in Gabelli’s new value investing specialization, the first undergraduate program of its kind in the United States.

Students in the Foundations of Sustainable Business class visited Washington, D.C., in the fall to see houses like this one, built for the U.S. Department of Energy's Solar Decathlon. A team of university students designed each structure to showcase sustainable building techniques. This one was created by the University of Calgary.



Photograph: Catherine Miguels (GSB '12)

New minor in sustainable business debuts

Reducing our carbon footprint, preventing poverty and moving toward renewable energy are among the topics students are exploring in a new six-course minor offered through a partnership between the Gabelli School of Business and Fordham's arts and sciences colleges.

The minor's introductory course, Foundations of Sustainable Business, debuted in fall 2011 and has the unique feature of bringing together a business professor and a liberal arts professor at the front of the classroom. Prominent guest speakers participated in class meetings, too.

Michael Pirson, assistant professor of management, who co-taught the course last term alongside Darryl McLeod, an associate professor in the Fordham College at Rose Hill economics department, encourages students to think about business models that incorporate a concern for society and the environment in addition to profit, or what he calls a "three-pronged bottom line."

Pirson wants his students to know that their business careers can have a positive social impact. "The class is thinking about these issues as opportunities and about how

we can come up with solutions," he said. "Students feel empowered because they feel they are part of the solution instead of part of the problem."

The idea that led to the introduction of the sustainable business minor came from Mike Noel (GSB '10), who researched and presented a proposal for what became its framework. "I thought we should have a minor that educates students about the rapidly changing business environment," Noel said. "It's empowering to use education beyond just getting a job and collecting a paycheck. We can make money and save the planet at the same time."

Noel consulted with business professors John van Buren and Sharon Livesey on the proposed curriculum. A valuable collaboration with the university's arts and sciences divisions brought the very first inter-school minor into being.

"This is a perfect example of how our students help to shape the business curriculum," said Donna Rapaccioli, dean of the Fordham business faculty and of the Gabelli School of Business. "Mike Noel's contributions are changing the way we educate the leaders of the business world."

Solar proposal sheds light on global business strategy

Armed with a proposal to help provide 1 million households with solar-derived light and energy by 2013, a team of GBA students competed against 249 schools in the Hult Global Case Challenge. This competition charges university teams from around the world to devise solutions to the planet's most pressing problems.

Fordham's team—including Anindita De, Kallol Ganguli, Ericka Goodman, Vivek Shankam and Kusuma Thimmaiah—worked on a plan to improve the supply chain and distribution of solar energy and alternative lighting to African nations such as Tanzania, Malawi and Kenya.



Photograph © Javarman/Shutterstock

A GBA student team worked on a proposal to harvest the energy of the sun in African countries such as Kenya, above, to provide energy to local communities.

Learning business ethics by example

Real-world business can test a person's ethical mettle. Nothing drives that point home like hearing from people who have lived it. Three guest speakers visited Rose Hill this year to tell their tales of negotiating the ethical divide—two of whom landed on the right side and one who did not.

The two who exemplified ethical conduct—Harry Markopolos, the forensic accountant who identified Bernard Madoff's business as a Ponzi scheme, and Sherron Watkins, a former Enron vice president who called out her own company's faulty accounting practices—appeared as part of a new business-ethics lecture series co-sponsored by the Gabelli School of Business and Ernst & Young.

Markopolos told his Fordham audience that while he sensed almost immediately what Madoff was doing, it took him eight and a half years—using a four-member team and some of his own capital—to fully track the organization's dealings across two continents. It also took Markopolos serious time to persuade others, he said: Though he reported the information he uncovered to the financial press, the industry and the U.S. Securities and Exchange Commission, it wasn't until the financial markets plummeted in 2008 and

Madoff investors began cashing in on their investments that the Ponzi scheme was fully revealed.

Watkins, who spoke in February, reflected on the role she played in Enron's unprecedented decline and 2001 bankruptcy. She told students how her choice to speak out against the company's financial misconduct brought unwanted attention and hardship, but she emphasized the importance of sticking to one's ethical standards despite adversity. Watkins advised graduating seniors in particular to be cautious about working for companies where ethical transgressions are inherent in the corporate culture.

Students got a glimpse of the other side of the ethical coin from Walt Pavlo, a former senior manager at MCI who went to federal prison for wire fraud and money laundering. The white-collar criminal described his lapses, recounted the story of his conviction and discussed the lessons he learned from his mistakes. Erin Reddington (GSB '12) said that "it was interesting to learn how Mr. Pavlo's crime unfolded and how so many people got involved in something that seemed so wrong. To me, his experience confirms the importance of business ethics in education."



U

pping your urban IQ

How to make a smart city even “smarter”

As a center of global finance, media, fashion, arts and entertainment, New York City is brimming with smart people.

But is it a smart city?

The term “smart city” has been gaining currency as a way to sum up a host of ideas about how to make urban areas not only more livable in the 21st century, but also more efficient and environmentally sustainable. At its heart, the concept relies on the intelligent use of information technology, or IT, to inform decision-makers.

IT’s role makes smart cities a natural focal point for Business Design Through Information Technology, a graduate-level business class offered this spring at Fordham. As part of the course, students work in groups to find IT solutions to some of the biggest challenges facing cities today—from public safety and transportation to energy and education.

Fordham’s location makes New York City a perfect subject for this project. In turn, that perfect subject presents a perfect challenge: With its dense population, aging infrastructure and entrenched interest groups, New York City is no easy candidate for transformation into a smart city. Factors like these make it even more fascinating to study.

“Right now, I would say New York City is somewhere in the middle,” said Wullianallur “RP” Raghupathi, Ph.D., professor of information systems at the Fordham Schools of Business, who teaches the course. “Part of it is the grand challenge of older cities: How do you transform an older city into a smart city? But there are a lot of exciting, technology-driven things going on here in New York.”

In his class, students divide into small groups to ferret out statistical information about all the systems involved in running the city, including transportation, health, education, sanitation, water and sewers.

Equipped with that information, they propose “smart” solutions to improve the city’s sustainability. These can range from easing congestion by adjusting the timing of traffic lights to reducing residential energy use by installing special meters that can adjust thermostats remotely.

“They’re actually developing recommendations for the City of New York,” Raghupathi said. “If this had been done by a consultant, the city would be paying them hundreds of thousands of dollars.”

Students are discovering that areas such as energy management, transportation and the environment are interconnected, Raghupathi said: “By managing energy smartly, for example, we can have reduced carbon emissions, thereby improving the environment.” Students also have learned about the need to be aware of possible “rebound effects” of smart city design. “We might make one component smarter and more effective, but it may have a negative effect on another component,” Raghupathi explained. He points his class toward a study that explores telecommuting’s positive effect on carbon emissions as well as its consequences, such as the increased use of electronics, IT infrastructure and power.

Mita Menezes, a second-year student in the combined MBA and MS in information systems program, said one reason the class appealed to her was its emphasis on IT-enabled transformation, something she hopes to incorporate into a sales and marketing career. “It asks, ‘How can we use IT to drive smarter decision-making and smarter planning throughout the city?’” she said.

Sustainability has become an organizing principle in Raghupathi’s academic work and inspires research among Fordham’s business faculty. Last year, the Center for Digital Transformation, an interdisciplinary research center, was founded within the Fordham Schools of Business to examine how digital technology can shape business and society, especially by promoting sustainability.

“There is a lot of discussion about what sustainability means,” Raghupathi said. “For some, it might mean ‘don’t waste,’ or ‘don’t spend money you don’t have.’ But the metaphors of sustainability might be very different in a developing country versus a developed country. In a developed country, sustainability might mean how technology can benefit society in terms of job creation and education.”

The Center for Digital Transformation is sponsoring a Smart Cities symposium in mid-May, bringing together a wide range of government officials, business executives and academics to discuss the opportunities and obstacles in the design and development of smart cities. Raghupathi said that his graduate course leads into this symposium, which was inspired in part by an annual smart city exposition in Barcelona, Spain. “I hope we can do one annually,” he said. “Why not have one in New York, the greatest city in the world?”

Karen Parrish (FCRH ’82), a vice president at IBM who runs the software group in the company’s Smarter Cities initiative, said Raghupathi, who has received two IBM grants to help develop his digital technologies curriculum, “has done a phenomenal job of linking theory with practice.”

Increasingly, Parrish said, businesses are looking to hire students who have studied analytics, which uses a variety of techniques to organize and analyze the flood of data that IT generates to allow business executives and civic officials to make informed decisions.

“If you know data, know how to analyze it, how to apply it and make money from it, you’re going to have a job,” said Parrish, also the Center for Digital Transformation’s executive-in-residence.

In her current role at IBM, Parrish said she has been flooded with inquiries from cities around the world that want to transform themselves into smart—or at least smarter—places to live and work. Her clients tend to have two major concerns.

First, by far, is public safety. But that doesn’t mean just law enforcement. Parrish notes that about 1 million people a year are moving into cities, and by 2050, an estimated 75 percent of the world’s population will live in urban areas.

“Many cities cannot manage the rapid growth of their populations,” she said. “They can’t get water to their people fast enough or build roads fast enough.”

The second biggest concern is quality of life—factors such as social services, childcare, welfare and health care.

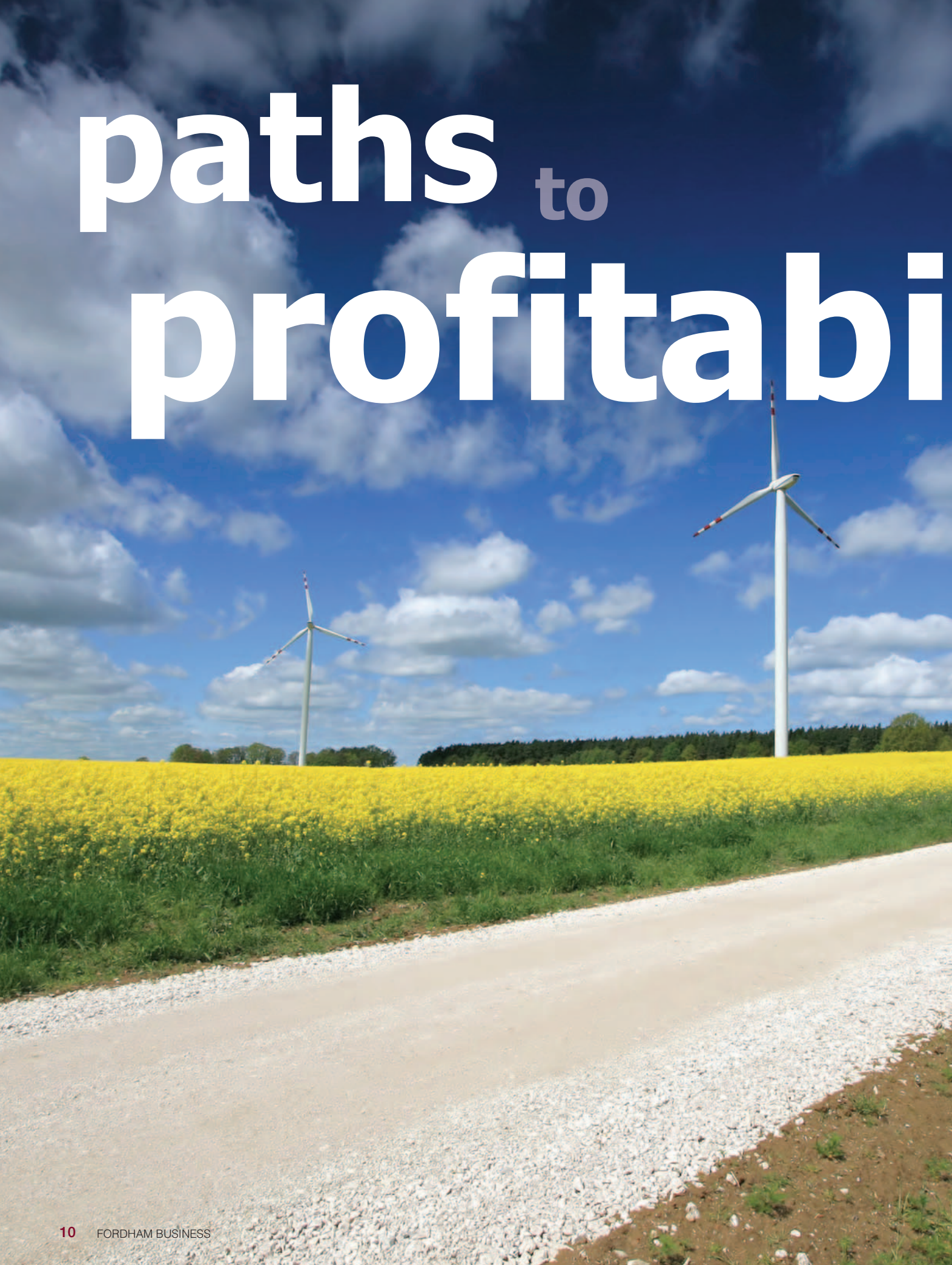
“It’s important to focus on your residents,” Parrish said. “Are they finding the jobs they need? How do we keep businesses in a city? How do we attract tourists?”

Even a city as large and complex as New York can benefit from smart technologies, she believes.

“I think New York City can be as smart as it wants to be,” she said. “Politics and money and culture get in the way. But the technology exists; the knowledge exists.”

Stevenson Swanson writes about energy, the environment and cultural issues.

paths to profitabi





lity

Sure, renewable energy sources make sense in terms of protecting the Earth for future generations.

But will they have a chance unless they make financial sense, too?

By Barbara Esposito

C

limate scientists are clear: The sooner we wean ourselves off fossil fuels, the better. But it could be decades before renewable energy becomes economically viable on its own. That's time, environmentalists say, we simply don't have.

"Modern" renewable sources—solar, wind, geothermal and bio-fuels—account for only about 5 percent of our national energy mix. The U.S. Energy Information Administration's *Annual Energy Outlook 2011* predicts that under current policies, their use will increase 73 percent—to about 13 percent—by 2035, but their overall share will remain small. Fossil fuels still will comprise 78 percent of U.S. energy use, with nuclear energy responsible for an additional 8 percent.

It's not that the "renewables" sector isn't growing; it's just that it has such a long way to go. The question is whether our Earth can afford to wait for renewables to reach profitability on their own. If our reliance on fossil fuels does not change, and quickly, some scientists predict that the resulting rise in global temperatures could be nothing short of devastating.

But do we step in? And if so, how?



“The reality is that producing renewable energy is very expensive relative to other sources at the present time,” said Ehud I. Ronn, Ph.D., professor of finance at the University of Texas at Austin and a visiting professor at the Fordham Schools of Business in the fall 2011 semester. “Solar and wind production costs, for example, are about four times that of natural gas. For renewables to be viable, we need to bring costs down.”

Ronn discussed the market implications of the U.S. Energy Information Administration’s projections at the Climate Change Economics and Energy Finance Symposium held at Fordham University’s Lincoln Center campus in March.

“The U.S. corporate sector may wish to be a responsible energy consumer and producer,” he said. In a free-market economy, however, cost often governs a company’s decision to pursue renewables or to go the traditional route. “It has to be more than ‘enlightened self-interest,’” he added.

Voluntarily choosing the “green” path may actually hurt a company financially, said Sris Chatterjee, Ph.D., professor of finance and business economics at Fordham.

Professor Chatterjee pointed to a study published in the *Journal of Environmental Economics and Management* that he shared recently with his Gabelli School of Business honors

Even by 2035,
according to current U.S. government predictions,
only about 13 percent
of the energy we use
will come from renewable sources.



students. The study found that when companies announced that they were joining the federal EPA's Climate Leaders, a now-defunct program targeting reductions in greenhouse gas emissions, their stock returns declined.

While the researchers did not divulge the specific performance of each of the 181 Climate Leaders companies, the program's roster included major corporations—3M, IBM and Pfizer, to name a few—as well as small businesses from a broad range of industry sectors in all 50 states.

The phenomenon is enough to make business leaders wonder: Does a move like this make sense?

“This raises the question as to why firms would take actions that hurt the shareholders,” Chatterjee said.

When it comes to stock price, government incentives such as tax subsidies have the opposite effect, according to Ronn. If a company pursues renewable energy because the government is making it worthwhile, investors are apt to respond by buoying the firm's shares. “Simply put, if governments reduce the cost of a product, rational investors will demand more for it,” Ronn said.

Second-generation biofuels offer a good example. This energy source, derived from wood chips and the inedible parts



From top left, photos © Meryll, Tomas Sereda and Alexey Stiop/Shutterstock



of plants other than corn, is benefiting from \$510 million in U.S. government support—and is forecast by *Bloomberg New Energy Finance* to climb 10 percent in value annually over the next 20 years. No wonder California's Cool Planet BioFuels, whose revolutionary negative carbon-based fuels are based on plant photosynthesis, has attracted big-name investors like Google, BP, GE, ConocoPhillips, Constellation Energy and NRG.

But Cool Planet BioFuels may not have a thriving generation of successors on its heels. Government renewable-energy incentives are erratically implemented and disappearing, said Nicholas A. Gianasca, Esq. (LAW '87), a partner at Blank Rome LLP who served as a moderator at Fordham's March symposium. Last year, the renewable energy cash grant for wind and solar expired, and the production tax credit for wind is set to expire at the end of 2012. An investment tax credit for various technologies, including solar, will remain through 2016. Government incentives like these face growing opposition in Congress as members grapple with how to fund them—and must field tough questions on why we are underwriting renewables if they are not inherently competitive in the first place.

What fuels gas prices?

In February 2012, gas prices nationwide hit an average of \$4 a gallon and stayed there—leaving many Americans wondering why.

There are three potential reasons for gas price increases, said Ehud I. Ronn, Ph.D., professor of finance at University of Texas at Austin and visiting professor at Fordham Schools of Business: price speculation, typically defined as financial investors purchasing crude-oil futures contracts; geopolitical tensions; and rising demand for oil due to economic growth. While some members of the U.S. Congress blamed speculation for this year's price increase, Ronn disagreed at press time.

"I do not believe that speculation is the reason and I therefore focus instead on geopolitical tensions and/or economic growth," explained Ronn, whose fall 2011 Fordham undergraduate and graduate classes covered financial risk management and hedging exposure to energy price fluctuations.

"Geopolitical tension is a supply-side concern—a concern that supplies from the Persian Gulf will be curtailed," he went on. "Economic growth is a demand-side driver—namely, greater demand as developed or developing economies require more energy to accommodate growth." To determine whether February's price increases were supply- or demand-driven, Ronn examined the correlation between crude-oil future prices and the stock market, as represented by the S&P 500. Demand-side results in a positive correlation, and a supply-side crisis results in a negative correlation.

"While the correlation has declined slightly at the present time—indicating some evidence of supply-side effects, presumably caused by Persian Gulf uncertainty—the correlation remains strongly positive and is consistent with the predominance of a demand-side driver," Ronn said.

Essentially, it's a classic "good news/bad news" situation: What's driving up prices is the drive to improve our economy, with just a touch of global uncertainty. It's a simple conclusion for Ronn: "A strengthening economy in the United States is causing gas prices to increase."

—B. Esposito

What the U.S. government has subsidized for decades are efforts to "clean up" fossil fuels. In fact, federal programs that encourage electricity producers to use clean-burning coal are about twice as large as the subsidies for renewable sources, according to a 2007 *Federal Financial Interventions and Subsidies in Energy Markets* study that Ronn shared at the symposium. Renewable-energy critics contend that fossil-fuel subsidies make sense because the returns on the government's investment are significantly greater—namely, in the amount of energy produced. To Ronn, that's exactly the point.

"It's a prudent national policy to subsidize research into what may one day enable the renewable-energy market to stand on its own, but not to support actual production until costs come down," he explained. "Current mandates impose regulations that give corporations no choice but to make those investments."

Giannasca believes that one key to fostering steady, sustainable growth for renewable energy is a national "renewable portfolio standard"—a piece of legislation that requires utilities and other providers to produce a specified fraction of their electricity from renewable sources. Right now, these standards are set at the state level, meaning there are more than 35 different mandates at work around the country. The rules also differ from state to state for "renewable energy certificates," the credits that companies often purchase to meet any given renewable portfolio standard.

"Everyone in the industry should be rowing in sync, following a minimum national mandate and standards," Giannasca said. "It comes down to stimulating a consistent, coherent renewable energy market."

"The federal government has a definite, limited role in a free-market economy," he continued. "In the renewable-energy sector, government should take consistent and financially prudent steps to get the industry on its feet, then get out of the way."

Barbara Esposito is a freelance writer based in New York.

The green house effect

By Claire Curry

It's been more than a decade since the LEED rating system—signifying Leadership in Energy and Environmental Design—hit the real estate industry and put a spotlight on “green” building.

According to the U.S. Green Building Council, the group that established the system in 2000, nearly 9 billion square feet of building space is rated on LEED standards today, and 1.6 million more are certified daily worldwide.

LEED certification verifies that buildings are designed and constructed to meet specific environmental guidelines. It has become a standard that designers and builders aspire to achieve on their projects. In more and more municipalities, it's becoming a mandatory requirement.

How has the green building movement affected real estate development? Are newly constructed LEED-certified buildings attracting more tenants and higher rental income? Does it pay to transform existing buildings into energy-efficient structures?

While there's no doubt the benefits outweigh the costs in terms of protecting the environment, whether owners and developers are realizing returns on the investment is a more complicated question.



© Pakhnyushcha/Shutterstock

“LEED certification tends to increase real estate values by giving buildings a ‘gold-star effect,’” said Colin Cathcart, an associate professor at Fordham and co-founder of New York City-based Kiss + Cathcart Architects.

Cathcart added that green standards can increase the value of a real estate asset in a number of additional ways, such as improving indoor air quality. “This increases asking prices,” he explained—because the proven health benefits of indoor environmental quality are attractive to buyers and renters of both residential and commercial space.

While most agree that green design raises property values, it's difficult to measure whether energy-saving makeovers on

existing buildings—for example, the installation of solar panels, geothermal HVAC systems or high-efficiency spray foam insulation—actually pay off. And even if they do, the return on investment, depending on the upgrade, may not show up on utility bills for months or possibly years.

“We don’t yet know what the payback is,” said James J. Houlihan (GSB ’74), partner at Houlihan-Parnes Realtors, LLC, a White Plains-based real estate company that operates more than 30,000 residential units and in excess of 5 million square feet of commercial space around the United States. “We’re always looking at programs to use the best technology and improve our energy efficiency,” he added.

Switching to cleaner fuel was one of the first steps toward going green for most owners and developers who wanted to upgrade the energy efficiency of their existing buildings. State “energy grants,” offered by agencies such as the New York State Energy Research and Development Authority, encourage energy-efficient building improvements through tax abatements and exemptions.

Owners and developers take advantage of such opportunities to replace roofs, entrances and windows and to upgrade equipment. Some properties qualify for grants or low-interest loan programs that help pay for the improvements. “The improvements can directly increase the bottom line and also increase the long-term value of the property,” Houlihan said.

At this point, he said, paybacks on LEED-inspired improvements can be projected or estimated but not guaranteed.

“Payback, it should be made clear, is unpredictable because energy utilization and rates are ever-changing,” added Cathcart. “For example, my firm predicts paybacks on a ‘straight-line’ basis even when we suspect oil prices are going up.”

Certainly, climate change and the prospects of future energy crises will shape long-term results. But green building seems here to stay. In fact, the movement put Jonathan Murphy (GSB ’11) in business. As founder and president of GreenShield Consulting Group, LLC, Murphy helps companies to evaluate and improve their buildings’ energy efficiency.

“LEED certification is improving the industry as a whole,” he explains. “It not only raised green awareness in the construction industry, but it’s trickled down to raise consumer awareness as well. Homeowners, prospective buyers and renters are more aware of energy efficiency and are recognizing that a building’s construction will greatly impact their utility bills.” This incentive of lower bills, Murphy adds, often encourages consumers to pay more to live in a green building.

So how much does it cost to offer green space? Murphy said certifying a building with a LEED rating typically costs an extra 1 to 3 percent: “That may sound like a large number, but considering the scale of most construction costs, it’s not. Also, it increases the asset value of the building and should be looked upon as an investment. I’ll be paying a bit more up front, but saving over the long term.”

“And it doesn’t have to be that long: Many efficiency upgrades will deliver payback in as little as six months to five years.”

What will follow LEED?

Net-zero buildings—designed to create on site all of the energy they use in a year—and those that rise to the Living Buildings Challenge, a more radical and abstract certification system initiated in the Northwest, are two emerging trends in architecture today, said Colin Cathcart, an associate professor at Fordham and co-founder of Kiss + Cathcart Architects.

The nonprofit Community Environmental Center commissioned Cathcart’s firm to design Solar 2, an environmental learning center on the East River. This two-story structure will be New York City’s first carbon-neutral net-zero building. Its 8,000 square feet encompass classrooms, labs and exhibition space. Sheltered outdoor space will feature a performance stage, porch, ramps and seating areas.

“The project is itself a teaching tool,” Cathcart said, “because it illustrates the interrelations of natural and urban systems.”

Meanwhile, the Living Buildings Challenge, a certification program initiated in the Pacific Northwest by the Cascadia Green Building Council, which uses “petals” as its form of ranking, is more “qualitative and subjective” than LEED and promotes the most advanced measurements of sustainability, Cathcart said. It judges buildings in categories such as water, energy, health, materials, site, equity and beauty.

What further sets this certification system apart from LEED is that it evaluates projects only after they are built and operational for a minimum of 12 months. To earn full program certification—or “living” status—the project must demonstrate proven performance in these various areas for at least one year.

In addition to designing Solar 2 as a net-zero project, Cathcart said his firm will aim for “a petal or two of the Living Building Challenge” as well.

—Claire Curry

growth indu

Energy entrepreneurs bank on social trends

By Brett Johnson

If there were ever a silver lining to the recent financial crisis, it's that the United States' "green" economy emerged as a buzzworthy business sector. Supported by billions in stimulus-plan dollars, clean energy and environmental sustainability-related industries became all the rage. While high unemployment and limited job growth gripped most of the nation, green businesses added more than half a million jobs between 2003 and 2010, according to a Brookings Institute report.

The news wasn't lost on generations of business school students, who in previous eras may have been more apt to angle for jobs on Wall Street than to take an entrepreneurial risk in an uncertain economy. Yet many savvy entrepreneurs have transformed heightened social awareness into start-up ventures with an eye on profit and the potential to address some of the world's greatest environmental concerns.

As undergraduates in Fordham's Gabelli School of Business, neither Dan Cardiello (GSB '09) nor Rob Montesano (GSB '10) expected to take a corporate job upon graduation. Sharing an entrepreneurial spirit, they envisioned their own paths.

"When I graduated, I turned down three job offers in the worst economy since 1929," Cardiello said. "My parents were not thrilled."

But the college buddies had a plan. Once Montesano earned his degree, they would launch a business together. They mulled a few possibilities, including video gaming, but ultimately explored alternative energy—an area their instincts told them would take off as more industries looked to preserve the Earth's natural resources.

The duo launched Terraform Energy, LLC, a waste-management company based in Trenton, New Jersey, that remediates, filters and refines waste vegetable oil from restaurants. They convert it into yellow grease and supply it to firms that manufacture biodiesel, organic plastics and biodegradable rubbers, plastics and waxes.

For the first two years, the partners operated on a lean budget, storing containers of oil in Cardiello's parents' backyard and devoting long hours to learning the industry. Over time, their client base of local restaurants began to grow.

Fast-forward three years: Terraform now serves more than 80 food-service clients, has warehouse space in New Jersey's Duck Island Terminal and a second office in Hunterdon County, and generates new business through a commission-based sales staff. The partners are soliciting national chains and preparing for a major round of investment.



stries



Plants are being cultivated on the rooftop of the Four Seasons Hotel in Philadelphia using hydroponic towers developed by Garden Up, a startup that Boris Alergant (GSB '11) helped launch with CEO Scott Seger.

Photographs courtesy Garden Up

“[Before we started], we didn’t know anything—we’re not chemical engineers,” Cardiello admitted. “It was a baptism by fire. Fordham gave us the confidence to know that while we might not know everything about biofuels, we can learn and do it better than anybody.”

These entrepreneurs are among a growing number of business school alumni who are capitalizing on the increasing demand for energy-related products and services and turning it into new business projects.

Boris Alergant (GSB ’11) says his new venture in vertical farming was inspired at first by a Business Policy class taught by Benjamin Cole, an assistant professor in the Fordham Schools of Business. After learning about entrepreneurs who—even in the worst economic climates—launched successful start-ups and transformed them into huge conglomerates, Alergant devised a business plan of his own.

This former finance major considered possibilities in database management and bio-plastics. It wasn’t until Alergant talked to Scott Seger, a partner at the venture capital firm where Alergant held an internship in summer 2009, that he heard about organic urban farming, known as “vertical farming,” and realized it could be his most viable option. The burgeoning industry grows crops in space-saving structures in areas where sprawling farmland is in short supply, including cities.

Since 1999, Columbia University scholar Dickson Despommier—who was a guest speaker at the Gabelli School of Business last fall—has argued that vertical farming is a necessary alternative. If, as reports suggest, 80 percent of the world’s population will reside in urban areas by 2050, then there will be a greater need to produce food in closer proximity to where people live. Despommier envisions growing food in 30-story skyscrapers or in large buildings using artificial light and organic materials.

Though such buildings have yet to be built, there are urban farms in many cities, such as Brooklyn’s Gotham Greens and San Diego’s Home Town Farms. They grow food locally while dramatically reducing fuel costs and pesticide use. The 15,000-square-foot rooftop facility in Brooklyn produces about 550 pounds of greens per day.

Alergant imagined having a similar impact on local food economies. Seeking out assistance from business incubator programs, he convinced Seger to transform his existing non-profit, Smart Rooves, into a for-profit company. Good Company Ventures, a Philadelphia incubator that offers professional guidance to a select group of start-ups, helped the team shore up a new business plan. After that four-month mentorship program, they started Garden Up last June.

The New York City-based company manufactures and sells commercial and retail hydroponic garden towers to customers who want to grow their own herbs, fruits and vegetables. As



Garden Up’s vice president of strategic planning and business development, Alergant works with Seger, who took on the role of CEO, and with Gary Zeller, the chief science officer and polymer chemist who designed the towers. Garden Up’s hydroponic method uses an organic nutrient solution that filters through a drip system to grow plants without soil.

There are four Garden Up towers on the roof of the Four Seasons Hotel Philadelphia that grow plants and rare Japanese herbs. The hotel plans to expand to 10 towers this year. “There’s a whole ‘roof-to-table’ dining trend,” Alergant said.

This approach to hyper-local eating—where restaurants grow ingredients steps away from their kitchens—is popping up across the nation. Bell Book & Candle, which opened in New York City in 2010, self-supplies up to 60 percent of its ingredients from similar rooftop hydroponic towers. And there are others, from Oliverio’s in Beverly Hills to Roberta’s in Bushwick, Brooklyn.

Alergant has arranged for Garden Up towers to be used at Riverpark, a Manhattan restaurant owned by *Top Chef* host Tom Colicchio, and on the roof of a New York Parks Department building, where staff will grow plants and measure the effect the towers have on the building’s interior temperature. The company’s products go beyond commercial applications, too—towers come in various sizes and can be used to grow fresh produce even in a small apartment.



Dan Cardiello (GSB '09), left, at his alternative energy company's New Jersey warehouse.

A growing number of
business school alumni are
capitalizing
on the increased demand for
energy-related
products and services.

The market for Garden Up's grow-organic-at-home tower systems is promising. A 2011 Thomson Reuters-NPR poll surveyed 3,000 adults, 58 percent of whom said they'd rather eat organic food. Sales of organic food and beverages rose from \$1 billion in 1990 to \$26.7 billion in 2010, according to the Organic Trade Association. Some estimates predict sales to reach \$40 billion by 2014.

For now, Alergant said the company has been "bootstrapping it," soliciting orders and starting a fundraising campaign to shore up inventory. The goal is to get Garden Up towers sold in big-box retailers and on a home shopping network. "We'd like to be the standard for urban farming," Alergant said.

In addition to taking advantage of the profit potential of energy-related products and services in a new era of environmental consciousness, these entrepreneurs are carving out careers that will preserve the Earth's resources and make the world a better place.

"The benefit and payoff are a lot higher than in a corporate job," Alergant said. "I'm working for myself. I'm working toward a goal. At the end of the day, it's satisfying."

That sense of fulfillment also comes with knowing they are part of the solution. If other urban-farming models are any indication, Alergant's company has the potential to reshape how we produce and consume food. Unlike traditional farming, Garden Up towers can be maintained and protected from untimely weather or pests.

Meanwhile, Dan Cardiello and Rob Montesano also have a prime opportunity to further develop Terraform Energy, so that waste vegetable oil can be used to create a greater volume of alternative energy sources, such as biodiesel. Given the rising costs of traditional fossil fuels, the partners may be in a perfect position to offset those prices.

With any start-up, especially in a tough economy, there are bound to be unforeseen challenges and inherent risks. So far, it's a gamble these Fordham alumni are willing to take.

Brett Johnson is a writer based in Brooklyn, New York.

Room for debate:

Is shale gas mining the future of energy? Or an eco-disaster?

P

roponents of domestic energy production might view shale-gas mining as an unparalleled boon, a way to lessen U.S. dependence on foreign oil that merits every bit of its wildfire-like spread through our shale-rich regions. Environmentalists counter that the highly technical “fracking” process of extracting fuel from rock carries risks—especially to our groundwater—that firmly outweigh any energy gains.

Here, two members of the Fordham community weigh in on a debate that has tapped passions that run as deep as the Marcellus Shale, a much-disputed ribbon of natural-gas-infused earth that runs from West Virginia to New York.



Mary Anne Sullivan, Esq. (TMC '73), is a partner and head of the energy regulatory practice at Hogan Lovells US, LLP, in Washington, D.C. Her background also includes an appointment as General Counsel of the U.S. Department of Energy.

Q: Why is shale mining such a hot topic?

The natural gas shale resource is enormous and has the potential to increase our energy independence. We have more than enough gas to meet domestic needs and to export. And while natural gas is a fossil fuel, its carbon emissions are perhaps 50 percent lower than coal, which currently provides nearly 40 percent of our electricity. Switching to natural gas-fired generation can be part of our response to the threat of climate change, creating a “bridge” to future carbon-free power sources at a much lower cost than such sources are available today.

Q: What concerns the critics?

Fracking is a highly industrial process, and equipment, chemicals and infrastruc-

ture have descended upon communities that had not previously seen gas or oil production. It was an economic boon for some, but a big intrusion without apparent benefits for many others. Moreover, there were not always adequate regulatory standards, and some of the early industry players may not have paid adequate attention to protecting the environment and minimizing adverse effects.

Q: What's the next step?

There are several. Industry must continue to clean up its act—literally and figuratively—mitigating and minimizing the impact on communities. This includes big things, such as ensuring the protection of groundwater, and smaller things, such as avoiding heavy truck traffic across small country roads 24 hours a day. Regulators need to ensure there are clear, enforceable rules for the industry, so that the public can have confidence that production is being conducted safely and that bad actors are punished. Finally, the U.S. Department of Energy should approve the pending applications to export natural gas so that the nation can realize the full benefit of this important resource. This could become a vibrant export industry that creates thousands of jobs, offsets the impact of our oil imports on our balance of payments and reduces carbon emissions in the countries to which we export the gas.

Q: Should the U.S. government step in?

I do not think new legislation is needed at the federal level, but many believe it is important that there be clear and enforceable standards—whether state or federal—so communities can be confident that fracking is done safely. Some states may need new laws to set safety standards or to establish fees or taxes that will ensure that host communities and state coffers share in the benefit from gas development within their borders.

(Sullivan, cont.)

Q: How does this fight shake out?

This is a resource that should be developed. While there may be locations where drilling should be banned, I see a risk that there will be much broader bans than are warranted unless there is regulation to ensure the environment is protected and that communities realize genuine benefits. Sweeping bans on gas development are unnecessary and will hurt us all.



Sharon Livesey, J.D., associate professor in the Fordham Schools of Business, does research that seeks to advance socially and environmentally responsible practice.

Q: Why is shale mining such a hot topic?

Fracking allows companies to tap hard-to-reach supplies of carbon-based fuels—to stay in the profitable business they already know. Opening up new supplies, however, simply feeds society's addiction to petroleum and increases environmental risk. The U.S. approach to private property complicates the problem. Gas developers can buy rights directly from property owners because they, and not government, "own" the resources on their land. These people benefit, but their neighbors risk losses in land value and health. This seeds conflict by creating winners and losers within communities.

Q: What concerns the critics?

First, the public fears that environmental and health costs of fracking are being ignored by the companies, which are under enormous competitive pressure, and by state regulating agencies. One example: Of the 750 chemicals typically used in fracking, about 650 are known carcinogens, according to a 2011 Congressional report. Companies will not disclose which chemicals they use, saying the information is proprietary. Second, processes for public input into regulatory decision-making have been inadequate. Third, fracking is not really "clean" energy. The production process itself is dirty and contributes to global warming. Because much of the gas produced in the United States will be exported, fracking is as much about increasing oil companies' bottom lines as it is about energy independence. Finally, if job creation is the issue, why not create careers in alternative energy, looking to the future instead of the past?

Q: What's the next step?

Many feel fracking must be stopped because it cannot be made "safe" no matter what regulations are imposed. Every step in the process harms the environment, public health and local economies. Watersheds, landscapes, roads and other infrastructure will bear the scars of this toxic form of industrialization forever. If fracking can't be stopped, however, agencies must promulgate strict regulations and maintain staffs adequate to enforce them.

Q: How does this fight shake out?

You can bet that the industry will be putting enormous funds into direct promotion and advertising as well as into upcoming national,

state and local campaigns, as election results will undoubtedly affect outcomes. The grassroots level is where citizens have a chance, especially if they're backed up by courageous local legislators and attorneys general, such as Eric Schneiderman of New York. With enough public outcry, gas companies, like the banking industry, will have to sit up and consider people and planet as well as profits, making their rhetoric truly part of the reality of energy production.



A hydraulic fracturing rig in the eastern Colorado plains.

You say tomato

A salad by any other name ... may not be nearly as healthy

Fordham scholar explores influences on food choices, yielding surprising results

The next time you choose a snack in a 100-calorie pack or opt for “fruit chews” over “candy chews,” “veggie sticks” over “potato chips” or a “pasta salad” instead of a “pasta bake,” you may have the best intentions, but your mind might be tricking you into making the least healthy choice.

Researcher Beth Vallen, assistant professor of marketing in the Fordham Schools of Business, finds that subtle factors—the way a product is named, the size of a food package or the variety of options on a restaurant menu—affect our decisions about food and actually may drive us to choose less healthy options or to overeat.

People who are dieting, for example, may base their decisions not on the actual nutritional content of a food but on how it is pitched or described to them, Vallen and two co-investigators from the University of South Carolina found, publishing their discoveries in the October 2011 *Journal of Consumer Research*. Yet salads that include high-fat ingredients may not be the most nutritious choice, nor are milkshakes marketed as “smoothies” or sugary drinks dubbed “flavored waters.”

Picture a mix of vegetables, pasta, salami and cheese atop a bed of fresh romaine lettuce. In a study, one population saw

this dish presented as a “salad” while another population saw the same dish termed “pasta.” When it was called pasta, dieters perceived it as less healthy. In another study, people received samples of a product labeled either “fruit chews” or “candy chews.” Dieters opted for the fruit chews, thinking they were making a healthier choice, and ended up consuming more of them as a result.

More surprising is Vallen’s 2009 finding, also published in the *Journal of Consumer Research*, that the presence of healthy offerings on a menu or restaurant display can be enough to trick the brain into choosing the *less healthy* options. For example, when McDonald’s added a salad to its menu, burger sales increased. Consumers say they want healthy options, but it doesn’t mean they’re going to select them.

Vallen and like-minded researchers devote their careers to making sense of unexpected influences on our food choices. Studies like theirs prove how complicated decisions about food and nutrition are. In a *Psychology Today* article about Vallen’s 2009 work, writer Daniel

Marano concluded: “It is the first study to suggest that an individual can experience goal fulfillment by simply having the opportunity to behave in line with a goal, and not necessarily doing the work to achieve it. This so-called ‘licensing effect’ then permits a person to fulfill an alternative goal, which in the case of food is often the desire to indulge.”

Among Vallen’s projects are studies on how people make more indulgent choices when they are late versus on time, and about how they make choices that are consistent with a restaurant’s positioning—for example, an unhealthy dish at McDonald’s or a healthy one at Subway—when dining with others rather than alone.

Bottom line: If eating healthily is a priority, realize that what you see is not necessarily what you get.

Claire Curry is the managing editor of Fordham Business.





Network It

June 28, 2012 • 6:30 p.m. to 8:30 p.m.
Alumni Networking Night for the Gabelli School of Business
The Yale Club • 50 Vanderbilt Avenue • New York City

Who

Gabelli (f.k.a. College of Business Administration) alumni
of all class years and business fields

What

Networking, socializing and a sneak preview of Hughes Hall,
the new home of the Gabelli School of Business

Attend!

Register online: <http://www.fordham.edu/alumnierevents>
Please claim your spot early; registration is limited to 175 participants.



FORDHAM UNIVERSITY

THE JESUIT UNIVERSITY OF NEW YORK

Does Fordham have your correct contact information? If not, please contact the Office of Alumni Relations at 1.800.315.ALUM or alumnioffice@fordham.edu.

www.fordham.edu/gabelli
www.bnet.fordham.edu

Non-Profit Org.
U.S. Postage
PAID
Permit #79
S. Hackensack, NJ



Students in the **Fair Trade** program at the **Gabelli School of Business** set a new record in fall 2012, selling \$3,000 worth of African stone carvings and other artisan goods in a single semester — a **328% increase** over the inaugural 2006 term. All profits from this service-learning program benefit the artisans in Kenya.

Read more:
www.gabelliconnect.com/ftrade-march