



SARATOGA TECHNOLOGY + ENERGY PARK

NEXT STEP

A periodic update on the
Saratoga Technology + Energy Park

January 2005 • Issue 2

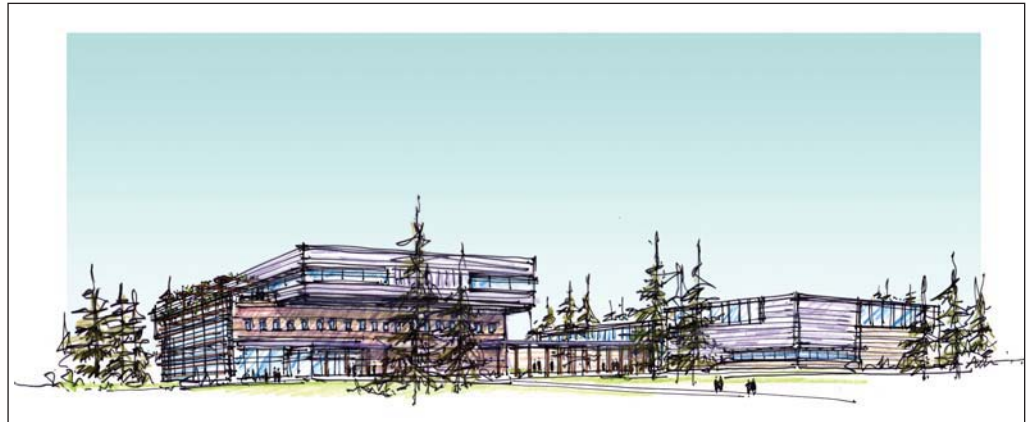
DEVELOPMENT TEAM FOR STEP ANNOUNCED

The New York State Energy Research and Development Authority (NYSERDA) announced that Idea Partnerships, LLC, has been chosen to lead a team that will design, finance, construct, and manage a new buildings totalling 100,000 square feet at the Saratoga Technology + Energy Park (STEP) in Malta. A joint effort of NYSERDA, the University at Albany, and the Saratoga Economic Development Corporation (SEDC), STEP is an integral component in Governor Pataki's plan to make New York State a hub for clean-energy and environmental technologies.

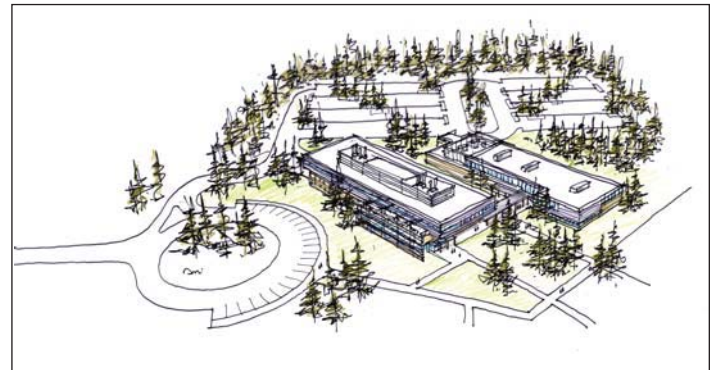
The 280-acre STEP site has been designated as the home for a research technology park dedicated to encouraging the development of clean-energy and environmental technologies. National statistics indicate that the market for these technologies will grow from \$7 billion per year to about \$82 billion annually by 2010.

The seven businesses that have been housed in STEP's existing 23,000 square-foot facility have benefited from technology development and prototyping support through the University at Albany, funding and technical support through NYSERDA, and expanded economic opportunities through the SEDC. The new buildings will be designed not only to accommodate the growth of existing STEP tenants, but also to attract more clean-energy and environmental technology companies to the Park.

"The growth of the Saratoga Technology + Energy Park underscores how the State is using its resources to nurture economic growth," said NYSERDA



President Peter R. Smith. "Governor Pataki has charged NYSERDA with promoting and developing new energy technologies in the State, and the number of businesses now taking advantage of STEP illustrates our success in this area. The construction of a new, state-of-the-art building at the site, combined with existing incentives, will make the site extremely attractive to new energy and environmental technology firms."



Idea Partnerships is a specialized real estate development company that plans, organizes, and carries out all aspects of public-private partnership development projects, from institutional strategic planning and policy development, to land use planning, financing, and property/asset management for knowledge-based communities and their technology parks. As a small and highly focused niche firm, the company brings unique expertise to the development of STEP. Its team has experience not only in the development of dozens of technology parks (continued on page 2)

STEP DEVELOPMENT plans call for a minimum of 77% open space. Growth will be market driven in this knowledge community. The first 100,000 square feet will be two connected buildings – one to house light manufacturing, the other will be multi-tenant, flexible office and laboratory space.

The implementation of New York's Renewable Portfolio Standard (RPS) will provide incentives for clean-energy and renewable companies to move to the State and to consider locating at STEP.

To read more about the RPS, see the story on page 3.

TOWN OF MALTA PLANNING BOARD UPDATE

On October 26, members of the STEP team presented an update on development plans and activities to the Town of Malta Planning Board.

Bob Callender, NYSERDA's Vice President for Programs gave an overview of the developer selection process, and introduced Bill Morlok, Principal of Idea Partnerships.

Bill provided an overview of the first 100,000 square feet of development as the first two buildings in STEP forming the basis of this knowledge community. Each building will have a footprint of 25,000 square feet. One will be a 25,000 square-foot manufacturing facility with a

30- to 35-foot high bay; Starfire Systems will be a primary tenant.

The adjoining building will be a three-story building of 75,000 square feet that will accommodate offices and laboratories. Starfire will be moving its corporate offices to that building, which will also be home to the Building Performance Institute, the North American Board of Certified Energy Practitioners, and Global Resource Options.

NYSERDA plans to use its current building for early-stage clean-energy and environmental technology companies that plan to move to and grow at STEP.

DEVELOPMENT TEAM

(continued from page 1)

across the country, but in designing energy-efficient, environmentally responsible facilities. Idea Partnership's development experience includes Innovation Park at Penn State and the Oklahoma Technology & Research Park, sponsored by Oklahoma State University, Meridian Technology Center, and the City of Stillwater.

The STEP development team assembled by Idea Partnerships includes Perkins & Will (architects), PWI Engineering (building engineers), The Saratoga Associates (landscape architects), Bergmann Associates (civil engineers), First Albany Capital (finance advisors), and CB Richard Ellis (commercial real estate).

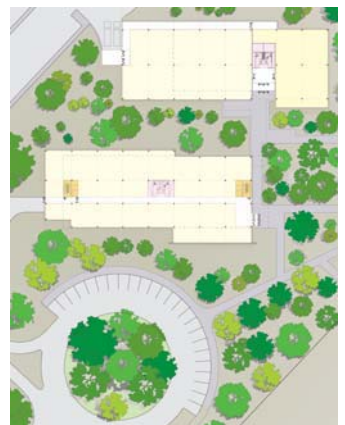
"We're excited to have the opportunity to bring this innovative project to fruition," said Eva Klein, one of Idea Partnerships' managing members. "Alternative energy isn't the wave of the future in New York, it's now one of the State's most vibrant industries." William Morlok, Ms. Klein's partner added, "All of us at Idea Partnerships are looking forward to putting our design and management expertise to work at the STEP site. I'm confident that we have the experience, creativity, and knowledge to ensure the continued success and growth of the Saratoga Technology + Energy Park."

Under the terms of the STEP agreement, Idea Partnerships will obtain financing to construct approximately 100,000 square feet of laboratory, production, and office space subject to certain green-building design guidelines. It is expected

that four of the STEP tenants will move into the new building and occupy approximately 40,000 square feet of space. The remaining space at the new building and the resulting available space in the current building will be leased to other clean-energy and environmental technology companies.

Funding opportunities are available for businesses moving into the Saratoga Technology + Energy Park to reduce the risks associated with developing new technologies.

Further information about STEP is available on NYSERDA's web site at www.nyserdera.org or at step.nyserdera.org



GREEN-BUILDINGS are planned at STEP. These renderings show the initial 100,000 square feet of buildings.



WITH NYSERDA, the team working to attract clean-energy and environmental firms to STEP is led by Idea Partnerships with the commercial real estate company CB Richard Ellis.

STEP AND NYSERDA

RENEWABLE PORTFOLIO STANDARD

Through the Renewable Portfolio Standard (RPS) adopted by the New York State Public Service Commission (PSC) last fall, New York State has adopted a renewable energy policy designed to increase the portion of electricity generated from renewable energy sources sold to consumers in New York State to at least 25% of the State's energy mix by 2013. To meet the 25% target, it is estimated that New York State will need to add approximately 3,700 megawatts of renewable resource generation capacity. The RPS program will consist of two tiers of eligible resources: a "Main Tier" consisting of medium-to-large scale electric generation facilities, and a "Customer-Sited Tier" consisting of smaller, on-site – or "behind-the-meter" technologies.

A major objective in implementing the RPS program is to sustain a market for renewables without perpetual dependence on government-mandated subsidies. The PSC determined that an approach incorporating and supporting the growth of competitive retail markets for renewable resources and customer choice for renewables has a greater chance of producing a self-sustaining renewable energy industry. Therefore, RPS program was designed to rely on a successful and thriving voluntary green power market to contribute at least one percent of the overall 25% goal. The complementary role for green marketing creates an incentive for proactive participation by consumers and other energy stakeholders to successfully meet or surpass the 25% goal and assist in the increased use of renewable energy resources. In light of the RPS initiatives, the STEP team is working to attract clean-energy, renewable companies to the Park.

STEP SPEAKER SERIES

This fall, NYSERDA implemented a STEP Speaker Series, a monthly brown-bag lunch seminar. The Speaker Series provides an opportunity for STEP tenants and other interested attendees to get together on an informal basis for a business-related presentation. The Speaker Series will be held September through

May. Presentations begin at noon, and allow for a question and answer period. Speaker Series are held in the Starfire conference room, 10 Hermes Road.

Previous presenters include:

- Dr. John Huppertz, Marketing Professor from the Graduate College of Union University, on guerrilla marketing
- Larry Schmitt from Inovo Technologies, "Promoting and Managing Innovation and Technology Commercialization"
- David Austin from the New York State Worker's Compensation Board
- Terry Curran, Siena Professor Emeritus, "Strategic Planning for Small Business"

For more information about the Speaker Series, to suggest topics, or make a reservation, contact Kevin Hunt at 518.862.1090, ext. 3259, or Linda Miller, ext. 3286.

MENTORING PROGRAM

To help our STEP companies grow, NYSERDA is working with a group of experienced corporate executives that can assist with management, financial, and marketing needs. These mentors are also available to other NYSERDA R&D companies on an as-available basis. For more information on the Mentoring Program, contact Paula Rosenberg at 518.862.1090, ext. 3270, or Kevin Hunt at ext. 3259.

INTERN PROGRAM

Over the past several months, STEP presentations have been made to Union College and the Graduate College of Union University, Skidmore College, Siena College, and Rensselaer Polytechnic Institute professional development staff. Understanding the goals of STEP and the benefits that could be derived from student association with STEP companies, each school enthusiastically agreed to participate in an intern program, providing access to students within the college and other institutions.

For more information on the Intern Program, or to receive the STEP Intern Guide with information about the participating schools, please contact Kevin Hunt at 862-1090, ext. 3259.



STEP NOTES

- In November Starfire Systems was awarded \$168,949 under NYSERDA's Advanced Transportation solicitation to continue to demonstrate the Starfire ceramic brake system for buses and fleet vehicles.
- Advanced Energy Conversion (AEC) has been working with NYSERDA mentors on business planning and presentations to Venture Capitalists. AEC is the second STEP tenant to present at the Smart Start Venture Forum – Starfire presented in 2001. AEC is seeking funds to commercialize its solar photovoltaic (PV) inverter.
- The North American Board of Certified Energy Practitioners (NABCEP) was the first company to take advantage of the STEP intern program, hiring a Siena College senior and marketing major who will be receiving school credit for the current semester and intends to stay with NABCEP through the spring.
- Global Resource Options will provide a 2.5 kW utility-tied PV system that will provide power to Advanced Energy Conversion's operations and allow for ongoing testing of their solar PV inverter.
- The Saratoga County Empire Zone Board has allocated \$200,000 to Starfire Systems and \$40,000 to Advanced Energy Conversion.
- Telecommunications at STEP now include fiber and cable.

STARFIRE SYSTEMS

In the fall of 2002, Starfire Systems, Inc. became the first manufacturer to move into STEP. Starfire currently employs 22 advanced-materials technologists and other staff, and expects to employ 100 or more within the next three years.

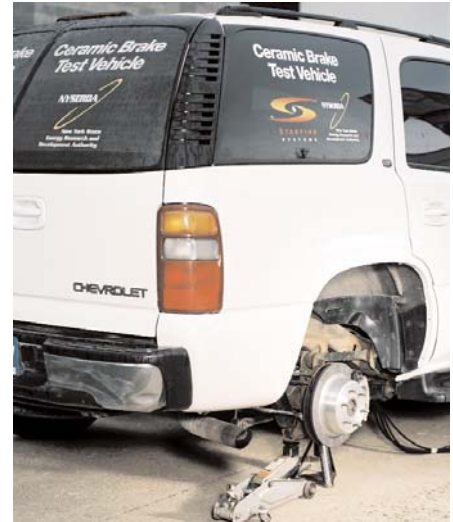
Starfire develops and manufactures ceramic-forming polymers that are processed into high-temperature, high-performance silicon-carbide ceramic composites. Starfire's polymers represent an innovative, lower cost, energy-efficient process for manufacturing silicon-carbide products and was developed through research conducted in conjunction with NYSERDA.

The materials Starfire produces with Starfire polymers are incorporated into a number of applications, including the semiconductor industry, which is expected to grow rapidly in New York State with the recent arrival of

SEMATECH North. Additional uses for Starfire's technology include aerospace and military applications, diesel filters, automotive parts, and machine tools.

Recently, NYSERDA helped Starfire obtain a \$1.7 million federal grant from the Advanced Technology Program of the National Institute of Standards and Technology (NIST) to develop ceramic-matrix composite boards for next generation packaging systems for electronics.

Starfire has also obtained funding from NASA, the U.S. Air Force, through the Small Business Innovative Research (SBIR) program, and other sources, and will be working on collaborative transportation and advanced-materials projects with other NYSERDA R&D partners.



Starfire Systems is realizing "very promising" results in initial tests of its lightweight composite brake technology designed to improve city fuel economy in SUVs by more than 15%. An increase in gas mileage of 8% per axle was recorded during dynamometer tests by an independent lab that simulated New York City driving conditions with a full-sized 2003 Chevrolet Tahoe equipped with Starfire's STARBrake™ composite rear rotors.

ADVANCED ENERGY CONVERSION

Advanced Energy Conversion, LLC (AEC) is a manufacturing and R&D company whose technologies impact a number of program areas of interest to NYSERDA.

With expertise in electric machines, power electronics, and embedded controls, AEC is developing and commercializing energy-conversion components and systems for distributed generation, transportation, and military applications.

AEC has developed and will be manufacturing a utility-interactive solar-photovoltaic inverter, and intends to install a photovoltaic array on STEP's roof this spring, funded in part through a NYSERDA R&D project.

AEC has also developed an energy-efficient starter-alternator that may be tested on the NYSERDA/Starfire test vehicle. The starter-alternator is currently being installed in a new generation of New York City taxicabs produced by Alternative Fuel Technologies.



Advanced Energy Conversion has developed, and plans to manufacture, a utility-interactive solar-photovoltaic inverter as part of its embedded controls research and development.

THE BUILDING PERFORMANCE INSTITUTE

The first company to move into STEP in 2002 was the Building Performance Institute (BPI). BPI employs seven people, and promotes excellence in the building trades via a trade-based certification process.

Building performance contractors apply a systematic approach to home improvement that addresses all aspects of the building system with respect to health and safety, building durability, and energy efficiency.

BPI-certified contractors are tested on their building-science knowledge skills as well as their ability to apply BPI's standards and to perform the inspections necessary to properly diagnose building performance.

Homeowners implementing improvements recommended by BPI-certified contractors can lower their energy bills, as well as create a safe, healthy and comfortable environment.



The Building Performance Institute works with contractors to promote health and safety, as well as energy efficiency in residential buildings.

NORTH AMERICAN BOARD OF CERTIFIED ENERGY PRACTITIONERS

NABCEP, the North American Board of Certified Energy Practitioners, is developing national standards and certification for renew-

able energy professionals.

In October 2003, NABCEP began this process by administering its first

national exam for installers of solar photovoltaics to create electricity.

GLOBAL RESOURCE OPTIONS

Global Resource Options (GRO) is a full-service renewable energy design, sales, installation, and service firm. GRO is also a distributor for BP Solar photovoltaic equipment and pre-packaged systems.

Global Resource Options installs a variety of net-metered solar photovoltaic systems throughout New York and New England.



DAYSTAR TECHNOLOGIES

DayStar Technologies, Inc., a developer of low-cost, thin-film solar cells and solar cell production technologies, is one of the newest companies to join STEP.

In the summer of 2004, DayStar Technologies completed an Initial

Public Offering (IPO), has moved its facilities from California to Saratoga County, and is planning to expand its next-generation processes at STEP.

DayStar Technologies joined STEP in 2004. Governor George Pataki (center) was on hand for the announcement with NYSERDA President Peter Smith (left) and DayStar CEO John Tuttle (right).



CARBON CERAMICS

Carbon Ceramics Co., LLC is joining STEP from North Carolina's Research Triangle Park, the largest research park in the world, where 100 research and development organizations reside. Carbon Ceramics

is an R&D firm that produces carbon-based ceramics by a pyrolytic process for energy-related applications.

Moving to New York State will allow Carbon Ceramics to collaborate with

other advanced materials companies in the Tech Valley area like Starfire Systems, Inc., and accelerate development of their technology in energy-related applications.

EMPIRE ZONES PROGRAM TAX BENEFITS

The Empire Zones Program is a vital component of New York's effort to revitalize and expand the State's economy.

Empire Zones, formerly called Economic Development Zones, are geographically defined areas where businesses have access to vacant land, existing industrial and commercial infrastructure, a skilled workforce, and abundant resources, such as power and water. Empire Zones are particularly attractive in that they offer numerous tax incentives for qualifying businesses located within the zone.

Provided a business becomes "Zone Certified," the benefits to those companies locating within an Empire Zone may include:

- **SALES TAX EXEMPTIONS**
Companies are granted a 10-year exemption from State sales tax on purchases of goods and services used in the Empire Zone.
- **TAX REDUCTION CREDIT**
Companies are allowed a refundable credit against business or income tax equal to a percentage of taxes attributable to the zone enterprise. The definition and calculation should be addressed by a Zone Coordinator or by the Department of Tax and Finance.
- **WAGE TAX CREDIT**
\$1,500/year per full-time employee (FTE) is available for up to five years for companies hiring full-time employees in newly created jobs. If hiring from a special target group as defined by Empire State Development, the tax credit is \$3,000/yr/FTE.
- **INVESTMENT TAX AND EMPLOYMENT INCENTIVE CREDITS**
Businesses creating new jobs and making investments in production, equipment, and property may qualify for tax credits up to 19% of the cost of the eligible investment.

- **NEW BUSINESS REFUND**
Businesses new to the State are entitled to a 50% cash refund of unused wage tax credit and investment tax credit amounts. Other businesses may carry forward unused credits indefinitely.
- **UTILITY RATE SAVINGS**
Niagara Mohawk and other participating utilities reduce the cost of the transmission of electric and gas to Zone-certified companies.
- **ZONE CAPITAL CREDIT**
Zone-certified businesses and approved community development projects may apply for Zone Capital Credits through their local Zone Administrative Board. Once approved, the applicant project may offer equity investors and contributors a 25% credit against their New York State personal or corporate income taxes. Check with your local Zone for details and credit availability.
- **SALES TAX REFUND OR CREDIT**
Purchases of building materials to be used for commercial or industrial real property located within the Zone are eligible for a refund or credit of New York State sales tax.

The following benefits are also available to companies that build or purchase real estate within an Empire Zone. However, unless a company owns its own building at STEP, these are not applicable, even though they tend to be the most lucrative.

- **REAL PROPERTY TAX CREDITS**
Certified companies are allowed a refundable credit against business or income tax equal to a percentage of real property taxes paid in the Zone.

In Saratoga County, please contact Shelby Schneider, 518.587.9405 for more information.



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NYSERDA

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