



2006-2010

Sustainable Global Enterprise Immersion Project Descriptions

The following is a list (alphabetical by company) of the sponsored projects conducted by teams of students from 2006-2010 under the supervision of Dr. Mark Milstein, Director of the Center for Sustainable Global Enterprise. It contains brief descriptions of the sponsoring organizations and a broad overview of the project that was sponsored.

For further information, please contact Professor Milstein at mm462@cornell.edu.

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A123 Systems

Competitive Assessment (2010)

A123 Systems (www.a123systems.com) designs, develops, manufactures, and sells advanced, rechargeable lithium-ion batteries and battery systems. The company's batteries and battery systems provide a combination of power, safety and life for transportation, electric grid services and portable power applications. A123 Systems believes that lithium-ion batteries will play an increasingly important role in facilitating a shift toward cleaner forms of energy. Through materials science and battery engineering, the company has developed a broad family of high-power lithium-ion batteries and battery systems. This family of products, combined with strategic partner relationships, is meant to position the organization to address next-generation energy storage solutions.

Project: A123 Systems was interested in a competitive assessment of the industry, including the top 10 cell product competitors. The SGE Immersion team researched and analyzed a range of competitive attributes, including product features/benefits, product costing, manufacturing process and costs, and competitor financial structures. Competitors ranged from large multinationals (e.g., Sony, LG, Johnson Controls/Saft) to smaller start ups (e.g., BAK, BYD). The team provided specific information about the competitive landscape, as well as detail on the underlying process which would enable the organization to continue to refresh the data and hence the quality of their competitive assessment over time.



ACCIONA

Wind O&M Business Model Development (2009)

ACCIONA (www.accionacom) was created in 1997 through the merger of Entrecanales & Tavora and Cubiertas & MZOV. ACCIONA develops and manages energies, infrastructures and services that share common customers through its six business lines: Infrastructures, Real Estate, Energy, Water, Urban and Environmental Services, and Logistic and Transport Services. The company's stated mission is to be a leader in the creation, development and management of infrastructure, energy and water; contributing actively to social wellbeing, sustainable development and the creation of value for its stakeholder groups.

Project: ACCIONA was interested in developing a new wind O&M business. The SGE Immersion team analyzed both the market size as well as companies providing O&M services and remote monitoring services to the wind industry; developed a market segmentation analysis; and identified the value proposition for each of the providers. The team helped determine what needs were and were not being met currently in the marketplace and benchmarked O&M and remote operations offerings in the North America market.



AES Eletropaulo

Strategic Analysis of Electrical Connections Regularization Program in Paraisopolis, Brazil (2008)

AES Eletropaulo (<http://www.aeseletropaulo.com.br>) is the largest distributor of electricity in Latin America. AES Eletropaulo distributes electricity to 24 municipalities in the metropolitan area of Sao Paulo, Brazil - including the capital - which together house a population of 16.5 million. In 2006, AES Eletropaulo customers consumed 31.65 thousand GWh (gigawatt hours), representing 35% of the state's and 9.4% of Brazil's power consumption. In the same period, AES Eletropaulo reported net revenues of \$8.3 billion.

Project: AES Eletropaulo began an Electrical Connections Regularization program in the low-income community of Paraisopolis, in Sao Paulo. The program benefited some 70,000 people who lived in the second largest shanty town in Sao Paulo. As is common in most shanty towns, residents of Paraisopolis lacked regular and safe electricity services. The company wanted to refocus all the activities involved in the Paraisopolis program around a more holistic, bottom-up approach involving the community. The team conducted a strategic analysis of the Paraisopolis ECR program and offered recommendations for the future of AES Eletropaulo's activities there.



American Governor

International Expansion Strategy (Spring 2010)

American Governor Company (AGC) (www.americangovernor.com) provides critical support for existing hydro turbine governor systems and controls for hydroelectric power plants. Since its founding in 2000, AGC has supported more than 1000 power plants with parts, field service, repairs, engineering services, and training. AGC has also emerged as a leading company in digital governor upgrades, unit automation, and plant automation. AGC was recently awarded the largest known governor control system upgrade contract in history. The project scope is to upgrade 146 units (over 12 GW) in 21 US Army Corps of Engineers hydroelectric power plants over the next 5 years. AGC is a swiftly growing small business with facilities in Pennsylvania, Wisconsin, Washington and Tennessee.

Project: Although the majority of American Governor's sales were in North America, experience with the international market showed significant promise. Using American Governor's existing product lines (parts, field service, repair/refurbishment, training, digital governor upgrades), the SGE Immersion team determined a business strategy for accelerated international expansion. The team recommended immediate, actionable steps American Governor could take to expand internationally, which included geographical focus areas, personnel investment (new staff, new training in languages, etc.), partnerships with distributors and OEMs, and sales networking focus.



American Governor Company

Small Hydro Business Plan (2009)

Project: Presently there are tens of thousands of dams in the United States, but only about 2,000 are used to produce power. Many of these sites are potentially excellent locations to develop small/mini/micro hydroelectric plants. The SGE Immersion team worked to develop a business model to pursue these projects. AGC sought an actionable plan for developing this new, renewable business.



American Governor Company

Business Model Transformation (2009)

Project: AGC was considering transforming its business model to better serve the core needs of its customers, who were concerned about equipment availability, reliability and performance – not products per se. Instead of focusing on equipment sales, AGC wanted to move toward a service model based on multi-year contracts with hydro owners who would receive guarantees about operations and performance. The SGE Immersion team developed recommendations for a new business model for AGC.



Cascade Engineering

Water Purification Technology Commercialization Plan (2006)

Cascade Engineering (www.cascadeng.com) is a leader in engineered plastic systems and components. They provide innovative expertise and intelligent solutions for the automotive, solid waste and industrial markets. Their capabilities range from compounding and testing, integrated design analysis and prototyping to large tonnage molding and plastics processing. And their global partnerships allow them to provide leading-edge products and services, while maintaining a strong commitment to lean manufacturing and environmental stewardship.

Project: The SGE Immersion team analyzed the commercialization opportunities for a plasticized water purification device. Traditionally, the device had been constructed from concrete, which limited its production and distribution. Working with a consortium of stakeholders, the team developed plans for deployment to low-income markets suitable for more distributed (family and multi-family) applications.



Clean Energy Group

Clean Technology Investment Strategies (2006)

Clean Energy Group (www.cleanegroup.org) is a non-profit organization dedicated to greater use of cleaner energy technologies, such as fuel cells and solar, in newly restructured energy markets. CEG was organized in January 1998. CEG promotes policies and programs that support replacement of the existing electricity generation system with new, less polluting clean energy technologies in the U.S. and abroad through creative financing, business partnerships, public policy and advocacy. CEG works with nonprofit officials from around the U.S. that are responsible for over \$3.5 billion in new clean energy funds. CEG now manages the Clean Energy States Alliance (CESA) (www.cleanenergystates.org), a new nonprofit organization assisting these funds in multi-state strategies. It also manages the Public Fuel Cell Alliance (PFCA), a new consortium of public fuel cell funders working to collaborate on fuel cell and hydrogen technologies. CEG also works with public officials in Europe interested in trans-Atlantic efforts to build clean energy markets.

Project: The SGE Immersion team examined the opportunity for CEG’s Clean Energy Investment Working Group to develop enhanced, environmentally responsive investment strategies in the clean energy sub-sector which would deliver competitive returns. The team recommended investment strategies for institutional investors in relevant asset classes, including private equity, public equity, real estate, and project finance.



Dow

Affordable Housing Opportunities (2008)

Dow (www.dow.com) is a diversified chemical company that offers a broad range of products and services to customers in more than 175 countries, helping them to provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products. In 2006, Dow had annual sales of \$49 billion and employed 43,000 people worldwide. The company has a stated commitment to principles of sustainability, particularly through Responsible Care – the voluntary, industry-wide commitment to safely handle chemicals from inception in the laboratory to ultimate disposal.

Project: Dow’s 2015 Sustainability Goals, *Products That Solve World Challenges*, commits the company to achieve breakthroughs in three targeted areas of world need. One targeted area was “Affordable Housing,” but the company lacked a systematic approach to addressing this identified world challenge. The SGE Immersion team worked to identify the strategic options for Dow in the affordable housing arena, and recommended a three year plan that would increase the company’s participation in the large and growing segment. The team identified links not only for the Dow Building Solutions business and the Dow Sustainability Group, but also specified broader opportunities for the company as a whole.

The logo for Dow Corning, featuring the words "DOW CORNING" in white, uppercase letters on a black rectangular background. Below the black background is a teal-colored rectangular bar.

Dow Corning

The Value of Sustainability to the Advanced Technologies and Ventures Business (2007)

Dow Corning Corporation (www.dowcorning.com) is the world's largest silicone producer, achieving sales of \$3.8bn in 2005. The business comprises 3 major business units; Core Products, Specialty Chemicals and Advanced Technologies.

Project: The SGE Immersion team examined the strategic options available to Dow Corning's Advanced Technologies business in the area of sustainability. The team made recommendations to the ATV business leadership regarding those options.

The logo for Dow Corning, featuring the words "DOW CORNING" in white, uppercase letters on a black rectangular background. Below the black background is a teal-colored rectangular bar.

Dow Corning

Clean Coal Technology Assessment (2007)

Project: The SGE Immersion team examined the potential global market for clean coal technologies, including market size, structure, geographic opportunities, and drivers of growth. The team made recommendations for the company for potential product/service needs in the clean coal market.



The miracles of science™

DuPont

Sustainability Strategy (2006)

Founded in 1802, DuPont (www.dupont.com) puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation and apparel.

Project: The SGE Immersion team worked with DuPont's sustainability group to help refine corporate efforts to work with the company's businesses to formulate strategic direction and tools that would allow the company to better identify the issues/opportunities associated with sustainable growth.



Emerging Markets Group

Business Linkage Challenge Fund Project Analysis (2006)

Emerging Markets Group (www.emergingmarketsgroup.com) is an international development consulting firm that serves donor agencies and sovereign governments. Based in their corporate offices in Brussels, London, and Washington DC, and in project sites around the world, their professionals are committed to excellent client service, sustainable development impact, and to improving peoples' lives.

Project: The SGE Immersion team analyzed the effectiveness of the Business Linkages Challenge Fund (BLCF), a program funded by the UK's Department for International Development (DFID) meant to engage the private sector to accelerate growth and poverty reduction in developing countries. The team worked to develop an evaluation tool to understand whether or not projects met their intended goals, and why.



ENVIRONMENTAL
CREDIT
CORPORATION

Environmental Credit Corporation

Analysis of Carbon Emissions Offsets and Clean Energy Credits for Cornell (2007)

Environmental Credit Corp. (www.envcc.com) was a leading supplier of high quality environmental credits to emerging global financial markets. The company was establishing a large and reliable source of carbon credits through cost-effective, long-term projects that reduce greenhouse gases. Through partnerships with farmers and waste managers, ECC created and monetized environmental benefits while enhancing overall enterprise efficiency, economic performance, and sustainability. As a participating member and offset credit provider of the Chicago Climate Exchange (CCX), ECC created, aggregated, registered and traded certified carbon credits in the US and internationally. ECC was pioneering the development of new protocols and new markets for carbon and other environmental credits, including renewable energy certificates and air and water quality credits. By creating economic value from environmental benefits, ECC was demonstrating a commitment to a sustainable balance between profitability and environmental stewardship.

Project: The SGE Immersion team examined the opportunity for Cornell University to reduce its carbon emissions profile. The team considered a broad range of options including participation in carbon emissions offsets, clean energy credits, and the implementation of innovative incentive programs that would impact the teaching, research and outreach at the University.



Freeplay Energy PLC & Freeplay Foundation

WEZA Commercialization Plan (Spring 2006)

Freeplay Foundation*

Freeplay Energy PLC (www.freeplayenergy.com) seeks to maintain its leadership in creating and developing the market for self-sufficient energy products internationally. The company accomplishes this through both the establishment of their own products in the market, and the formation of strategic alliances with partners that bring compatible technology and market leadership. They are committed to balancing the imperatives of both profit and social justice, by providing excellent returns to shareholders and stakeholders, whilst maintaining complete integrity and contributing to the personal fulfillment of employees, the communities in which they operate, and beneficiaries of their products.

The Freeplay Foundation (www.freeplayfoundation.org) was established in 1998 as an extension of the company's commitment to development and empowerment. The foundation seeks to enable access to information and education to the most vulnerable populations through appropriate and sustainable technologies particularly self-powered radios. The Freeplay Foundation is committed to promoting the importance of radio as a vital communication medium in the developing world.

Project: The SGE Immersion team focused on the development of a business for an innovative, distributed energy product – the *Weza*. The team worked with the Freeplay Foundation, Freeplay Energy, CARE Rwanda and the Kigali Institute of Science and Technology (KIST) to develop a plan to provide Weza to 50 Rwandan individuals/groups who would become Freeplay Weza Enterprise Pioneers. Pioneers received a Weza business start-up kit complete with Weza, low-risk financing, and technical/business training, enabling them to provide energy services, on a fee for service basis, in their communities.



Gates Automotive Center
Sherwin Williams
NAPA

Strategic Marketing Plan (2009)

For nearly 20 years Gate Automotive Center (www.gatesautocenter.com) built a reputation on combining the most advanced automotive repair technology with open, honest, active customer service. The company grew to dominate automotive repair- service, collision, and towing- on the west side of Rochester, NY. The company was building a new facility on the southeast side of the city to offer all of Rochester a fair, safe, clean option for servicing their vehicles.

Sherwin Williams (www.sherwin-williams.com) has been in business since 1866. The Company's core business is the manufacture, distribution and sale of coatings and related products.

The National Automotive Parts Association (NAPA, www.napaonline.com) is then national leading automotive aftermarket supplier. The company distributes over 375,000 parts and accessories for automotive and industrial applications through over 6,000 stores nationwide.

Project: the automotive industry has been very slow to change practices, in part due to the fragmentation of the industry, where competition is intense and most companies are concerned about making distinct business investments. Gates Automotive saw an opportunity to become a model business in the industry. The company wanted to invest in a new water-based paint product produced by Sherwin Williams, and marketed by NAPA under the name *Martin Senior*. Gates was slated to be only one of a handful of shops outside of California – and the first in New York State – to adopt this product. The SGE Immersion team worked with Gates, in partnership with Sherwin Williams and Napa, to develop a strategic marketing plan for this new business which included an assessment of the environmental benefits and value proposition of the new shop, as well as an implementable marketing plan for growing the business based on the new *Martin Senior* technology.



GE

US Solar Market Analysis (2010)

GE (www.ge.com) makes a wide range of products for the home and business, including Appliances, Consumer Electronics, Home Comfort and Safety, Lighting, Automotive, Aviation, Commercial, Energy, Healthcare, Retail, Security, and Transportation. Through the company's Ecomagination initiative, the company is investing in energy technologies—from renewables to hydrogen to the next generation of nuclear power. Global Research Centers (located in Shanghai, Munich, Bangalore and Schenectady) and across each of GE's six businesses are developing a broad technology portfolio to help customers and society meet a range of energy and environmental challenges.

Project: GE was targeting the utility-scale PV market through the equipment sale of a 600+ KW inverter and next-generation thin film solar modules. Analyst forecasts varied significantly on how PV was going to be deployed in the US over the next decade, but some experts predicted that commercial and residential rooftops would make up over 50% of market. The SGE Immersion team examined whether GE could build a long-term, profitable business in the rooftop market. The team recommended how Solar should best position itself to build a profitable business in the US Solar Market.



GE

Customer Segmentation for Global Wind Services (2009)

Project: The SGE Immersion team developed a marketing strategy for GE's global wind services business. Specifically, the team developed customer segmentation insights for global wind services by through rigorous evaluation of the installed base and interviews with various parts of the value chain. The project required working closely with the lead of services commercialization to meet the needs of different segments of the market, as well as the development of a roll out plan for the business.



GE

Ecomagination Campus Program (2007)

Project: The SGE Immersion team provided recommendations to create an integrated "Ecomagination Campus Program" that would enable the company to help market ecomagination products as solutions for campuses trying to aggressively reduce energy use, water use, greenhouse gas emissions, and operating costs.



Grassroots Business Fund

Fundraising/Partnership Plan (2010)

The Grassroots Business Fund (GBF, www.gbfund.org/) supports high impact intermediaries that provide sustainable economic opportunities to thousands of people at the base of the economic pyramid. Such intermediaries can help poor, underserved populations realize their economic and social potential, replacing traditional dependence on aid and charity. They can add value by financing and supporting entrepreneurial activities, and delivering affordable goods and services that raise incomes and improve lives. These large intermediaries typically face major business challenges. Many require substantial business support, but get little help from the private sector because of the work required and the modest, long-term financial returns. These intermediaries often need a nuanced mix of capital, technical assistance, and market access. GBF's role is to help create, strengthen, and expand such intermediaries, so that they can better assist larger numbers of beneficiaries to build larger, more sustainable, and productive businesses.

Project: The SGE Immersion team sought to design an effective road show for GBF which was interested in seeking additional funding for future growth. Reviewing GBF successes and how the organization was communicating that to key supporters, the team worked to specify the social enterprise landscape and how GBF fit within it; generate the messaging/road show(s) which would enable GBF to effectively communicate its unique work and value added; and recommended which funders/partners should be the target audience for GBF for fundraising as determined by potential funder/partners' goals (geography, special sector, type of funding, social impact).



The Hersha Group

Sustainability Strategy (2009)

The Hersha Group of Companies – Hersha Hospitality Trust (HT) (www.hersha.com), Hersha Hospitality Management (www.hershahotels.com), and Hersha Development Corporation – has the capability and expertise to take hospitality projects from conception through development, construction and pre-opening, to successful and profitable hotel operations. Hersha Hospitality Trust (HT) is an NYSE listed real estate investment trust (REIT) focused on the acquisition and aggressive management of primarily upscale hotels in metropolitan markets such as New York City, Boston, Philadelphia, and Washington DC. The Company owns interests in 76 hotels with approximately 10,000 rooms with global brands such as Marriott, Hilton, Hyatt and Starwood. Hersha Hospitality Management is a nationally recognized hotel management and asset management organization that manages over 55 hotels across the Eastern United States. Hersha Development Corporation, one of the nation’s leading hotel development companies, has the capability and proven expertise in developing and repositioning hotels in the highest barrier to entry markets in the U.S. including New York City.

Project: The SGE Immersion team worked with Hersha to develop this strategy by benchmarking existing guidelines and standards across the industry and major brands, identifying short and mid-term investment opportunities, crafting a strategic marketing strategy for the company’s sustainability activities, and identify emerging trends within the industry that could present Hersha with opportunities for competitive advantage in the marketplace. With sustainability becoming a more salient issue for the hospitality industry, more brands were developing sustainability guidelines, with great variation between and among them. There were large gaps between stated guidelines and actual implementation. Few hoteliers had thought deeply about the revenue generation opportunities that might emanate from a more nuanced understanding of sustainability as a driver of innovation and competitive advantage. Hersha wanted to develop a more comprehensive sustainability strategy which not only benchmarked industry best practices, but also began to identify potential revenue generation opportunities for the company.



IBM

Socially Responsible Aggregation Platform (2008)

IBM (www.ibm.com) strives to lead in the invention, development and manufacture of the industry's most advanced information technologies, including computer systems, software, storage systems and microelectronics. IBM works to translate these advanced technologies into value for their customers through professional solutions, services and consulting businesses worldwide.

Project: The SGE Immersion team worked with IBM to explore potential opportunities for designing delivery of solutions for the BOP on a Socially Responsible Aggregation Platform which used I/T and Communications Technology (ICT) as a foundation hub for providing beneficial outcomes to communities and fair profits to firms. The team investigated potential business models and key aggregation areas whereby IBM could create a socially beneficial outcome and a profitable line of business in India because one of the challenges that corporations face in rolling out beneficial new services to the poor and disenfranchised, especially in rural areas, is that the basic structural elements do not exist to allow them to access this population. In many areas this lack of a local “market structure” can be a cause of systemic poverty and social maladies. The population, therefore, pays a substantial socio-economic penalty. Since every potential supplier who would like to reach these people has to individually solve the “access” issue, inertia caused by prohibitive economics is typical. The access issue is compounded by the population's lack of an official identity. Individuals find it difficult to build a credit history, access insurance, access social services and healthcare, prove citizenship, etc, because they are unable to prove who they are over time and across transactions. An identity solution would be an integral component of the socially responsible aggregation platform. Innovative solutions and business models can alleviate structural inefficiencies, thereby creating opportunity to provide a positive outcome for the both ends of the market (supplier/consumer). The model trades on the economic waste in the middle.



IBM

Virtual Incubator (2006)

Project: The SGE Immersion team worked to develop an IBM-hosted enabler for the global business community facing challenges transforming innovative ideas into viable businesses. The project focused on the development of a virtual business incubator, which eventually became the SME Toolkit now hosted by the IFC of the World Bank Group.



Insinger Machine Company

Strategic Sustainability Strategy (2009)

For over 100 years, Insinger Machine Company (www.insingermachine.com) has been on the leading edge of commercial dishwasher innovation and technology. Insinger delivers warewashing equipment and service to the hospitality, healthcare, education, corrections and military markets worldwide. Family-owned and privately held, Insinger's corporate headquarters and manufacturing facilities are located in Philadelphia, Pennsylvania.

Project: The SGE Immersion team worked with Insinger to develop a proactive, forward looking sustainability strategy consisting of two elements: a strategic marketing plan and technology evaluation process. The strategic marketing plan identified customer segments where the holistic value of Insinger products was communicated in an effective way to grow the company's revenue base. The technology evaluation process assessed whether there were any promising technologies – either not yet commercialized or currently applied in other industries for other uses – that might revolutionize dishwashing and become a basis for developing new markets for the company.

INTELLIGEN Intelligen Power Systems

POWER SYSTEMS LLC
Intelligent Cogeneration

Market Expansion Strategy (2010)

Intelligen Power Systems, LLC (www.intelligenpower.com) is a privately owned company that offers pre-packaged cogeneration systems. Intelligen equipment operates with clean burning natural gas and incorporates advanced emissions correction technologies. Intelligen is a market leader in the pre-packaged cogeneration market for projects between 150kW and 1,000 kW. However, market penetration in the U.S. remains relatively small despite increasing attention focusing on the benefits of cogeneration.

Project: The SGE Immersion team worked to produce a roadmap for scaling the business. The team reviewed paths to market and opportunities for growth with a focus on prioritizing strategies for near term growth. The team provided recommendations for the best approach to leveraging Intelligen's existing capabilities.



Johnson & Johnson

Sustainable Branding & Innovation Strategy (2010)

Johnson & Johnson (www.jnj.com) is a globally recognized brand, particularly trusted for their offerings in health care. 70% of the company's revenues are derived from No. 1 or No. 2 global leadership positions in their respective markets. J&J is comprised of the world's premier consumer health company, the world's largest and most diverse medical devices and diagnostics company, the world's fourth-largest biologics company, and the world's seventh-largest pharmaceuticals company. Based in New Brunswick, New Jersey, J&J has more than 250 operating companies in 57 countries employing 117,000 people.

Project: The SGE Immersion team made recommendations on how to use sustainability to as a value driver within a specific product category. The team benchmarked other company approaches and explored new product innovation opportunities within the platform, including new products, new business models and new services.



MICROVEST
INVESTING IN ONE WORLD

MicroVest Holdings

Base of the Pyramid Investment Strategy (2009)

MicroVest (www.microvestfund.com) is a capital-mobilizing intermediary for microfinance institutions (MFIs) which was co-founded in 2002 by three non-profit development institutions: CARE, MEDA and Seed Capital Development Fund. MicroVest makes direct debt and equity investments in promising, sustainable, existing MFIs across broad geographic developing areas. For the most part, these MFIs today provide only basic microcredit products, and in some cases basic savings products. Other finance-related products (i.e. health insurance, life insurance, product insurance, mortgages, retirement plans, remittance services, etc.) have largely not been created or released with scale.

Project: The SGE Immersion team worked with MicroVest to assess and articulate a commercially-oriented BoP investment strategy appropriate to the company's 2014 goal of having \$600 million under management. The team focused on non-MFI, business related investments as the core vehicle for a new fund.



Nike

Muslim Women's Sports Market Analysis (2006)

As a leading equipment and apparel maker, Nike (www.nike.com) aspires to bring inspiration and innovation to every athlete in the world.

Project: The SGE Immersion team focused on assessing needs and market for sports apparel for Muslim women. The team helped define various and key markets for Muslim women worldwide (including the US, European and Gulf region), provided a point of view on key segments, profiled consumer segments, defined product interests and consumer behavior for various segments, and estimated market size and growth potential.



New York City Transit Authority

Solar Energy Business Plan and Opportunity Assessment (2009)

The New York City Transit (NYCT) (www.mta.info) is the largest agency in New York's MTA regional transportation network, which also includes Staten Island Railway (part of NYC Transit's Department of Subways), Long Island Rail Road, Long Island Bus, Metro-North Railroad, Bridges and Tunnels, and Capital Construction. NYCT operates 24-hour-a-day bus and subway service throughout the five boroughs of New York City. It boasts the largest subway car fleet in the world, and operates more buses than any other public agency in North America. All NYC Transit subway cars and buses are air-conditioned and either new, remanufactured, or overhauled. Ridership on NYC Transit is approximately seven million daily – and more than 2 billion passengers are served annually. NYC Transit employs nearly 47,000 people in more than 20 major departments and divisions.

Project: NYCT's Capital Program Management's Innovation and Technology Group was initiating an innovative effort to create enhanced entrepreneurial activities within NYCT. The SGE Immersion team worked with NYC Transit to assess how an Entrepreneurial Business Development Cell (EBDC) could maximize value added to the NYCT organization from investments in solar energy.



Ocean Spray

Sustainability Strategy Assessment (2010)

Ocean Spray (www.oceanspray.com) is a 75 year old North American agricultural cooperative comprised of about 600 cranberry growers and 50 Florida grapefruit growers. Cranberries are only one of three fruits native to North America. High in vitamin C and antioxidants, the cranberry has a long history of health benefits. Since 1981, the company has been the leading producer of canned and bottled juice drinks in North America. The company employs more than 2,000 worldwide, and 2008 sales for Ocean Spray were \$1.9 billion. Based in Lakeville-Middleboro, MA, Ocean Spray also operates fruit receiving stations, processing and bottling plants throughout the United States and Canada.

Project: Ocean Spray wanted to identify strategic business opportunities that could exist for the company as it related to environmental sustainability. The SGE Immersion provided recommendations for sustainability-related business opportunities that would help drive profit growth for the company.

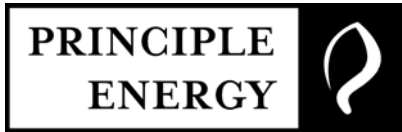


Plebys International LLC

Plebys II Fund (2007)

Plebys (www.plebys.com) is a venture development and management company that builds sustainable, technology-based enterprises that address the critical needs of underserved markets globally. Plebys seeks leadership in the creation of state-of-the art solutions and business models that provide opportunities to shrink the gap in global access to critical-need products. The company is dedicated to the creation and management of enterprises that develop affordable products that reach beyond affluent markets and conventional corporate marketing and distribution efforts.

Project: The SGE Immersion team analyzed the opportunity for the company to raise a new investment fund (Plebys II) that would invest in technology-based ventures targeting base of the pyramid markets. The team analyzed technologies expected to address significant problems in the target markets related to health (potable water, waste water and sanitation, medical grade water, agricultural water and micronutrients) and energy (micro utility power). Additionally, students developed a process for screening potential investments.



Principle Energy

Economic Impact Analysis in Mozambique (2008)

Principle Energy (www.prinenergy.com) is a joint initiative between Principle Capital and Masazane Capital. The company seeks to establish a renewable fuels platform that supports sustainable energy security and rural development in Southern Africa through the production and distribution of “green” energy from sugar cane. Through greenfield initiatives, partnerships with existing players, and the acquisition and repurposing of sugar mills, Principle Energy is focusing their efforts on investments in South Africa (Eastern Cape- Pondoland & KZN), Mozambique, and other Southern African countries.

Project: The SGE Immersion team conducted an analysis of the sustainable development impact of future company operations on the local community of Dombe, Mozambique. Principle Energy was launching an ethanol project in Mozambique where they anticipated creating 2,500 direct jobs and a cash flow of \$3 million per year into a community where there were currently no jobs and the total economic activity in the region was estimated to be about \$100,000 annually. Principle Energy anticipated creating numerous small business ventures that would range from laundries to brickmaking; shops to fresh produce. By helping to understand how to better organize and quantify the effects on the community, both the company and the Mozambique government sought a more strategic approach to risk management and development in the country.



SC Johnson

A FAMILY COMPANY

Strategic Base of the Pyramid Business Impact Assessment (2009)

Beginning in 1886 as a parquet flooring company, SC Johnson (www.scjohnson.com) has developed a reputation for consumer-driven innovation. The company produces a host of well known consumer brands, including Shout, Windex, Ziploc, Glade, Vanish, Raid, OFF!, and Pledge which are sold in more than 70 countries. SC Johnson is one of the largest privately held companies in the world, earning more than \$9 billion in sales annually.

Project: Since 2005, SC Johnson had been on the cutting edge of developing base of the pyramid businesses with local communities in Africa. As these businesses evolved, there was an increasing need to get a wide variety of stakeholders to coalesce around what “success” actually meant for the businesses. Using SC Johnson’s CCS business partnership in Kenya as a focal point, the SGE Immersion team worked to evaluate existing tools and frameworks meant to assess BoP business success. The team made recommendations to the company regarding an appropriate BoP assessment framework for SC Johnson. The team created a strategic impact assessment portfolio that was responsive to the different needs of different audiences, including community entrepreneurs, P&L folks within SCJ, and external sustainability audiences.



SC Johnson

A FAMILY COMPANY

Recycled Content Packaging Solution Analysis for Low Income Markets (2008)

Project: SC Johnson was involved in numerous ventures around the world focused on engaging poor communities as business partners. In the company’s insect coil business, the organization wanted to engage the poor in the collection and manufacturing of coil packaging. The SGE Immersion team worked to investigate how the company could involve poor communities in a recycled content packaging solution for those markets. The team looked at other potential materials, their availability, the market opportunity, business model, and potential partnerships which would present viable options for the company to pursue.



SC Johnson

A FAMILY COMPANY *Base of the Pyramid Business Plan (2006)*

Project: The SGE Immersion team developed a business growth plan for the company's venture in Kibera, Nairobi – the largest slum in East Africa. The team built on efforts initiated in the summer of 2005 by a pilot team which had led to the establishment of a business partnership between SC Johnson's Kenya subsidiary and Kiberan youth groups to pilot test a new business model for delivering insect control, cleaning, and air care services to Kibera's residents.



SNV – Netherlands Development Organisation

Inclusive Business Opportunity Analysis (2009)

SNV (www.snvworld.org) is a Dutch social enterprise committed to eliminating poverty and inequality in emerging markets with local operations in more than 100 offices in 32 countries in Africa, Asia, the Balkans, and Latin America. It is an operating foundation, a management consultancy, a think tank and a social investment fund. With a team of approximately 200 advisers, SNV Latin America is building its practice around the principle of economic inclusion, working to integrate the majorities into economic as well as social and public systems as an integrated solution to poverty and inequality. The organization has been developing the concept of inclusive business in alliance with the World Business Council for Sustainable Development (WBCSD) and this alliance is currently developing 70 inclusive business initiatives in Latin America. Inclusive business was defined as a private sector initiative that generates profits while contributing to poverty reduction by including low-income majorities in firms' value chains. Inclusive business engages majority populations through employment and development of suppliers and service providers, as well as inclusion of this population as final consumers by developing high-quality, affordable goods and services.

Project: The SGE Immersion team worked with SNV LA to determine the potential of inclusive business initiatives focused on the low-income majority as final consumers in Bolivia. The team provided SNV Bolivia with an analysis of the potential costs and impacts of an inclusive business model focused on expansion of local pharmacy services provided by a local Bolivian business partner.



SNV – Netherlands Development Organisation

Inclusive Business Model Analysis (2008)

Project: SNV Ecuador had conducted extensive research in order to identify which production chains involved the greatest number of small rural producers, corresponded to the poorest areas in the country, and showed the most significant market growth potential in order to promote incentives to include producers located at the base of the pyramid in various production chains. The SGE Immersion team documented and analyzed one of the inclusive businesses developing within Ecuador. The analysis provided SNV with information on how to improve and scale its inclusive business model within Ecuador and beyond.

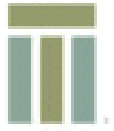


Suncor Energy, Inc.

Natural Capital Valuation (2007)

Suncor (www.suncor.com) Energy Inc. is an integrated energy company strategically focused on developing one of the world's largest petroleum resource basins – Canada's Athabasca oil sands. Suncor began in 1967 by tapping the oil sands to produce the first commercial barrel of synthetic crude oil. Since then, the company has grown to four major businesses with more than 5,000 employees. Located near Fort McMurray, Alberta in Canada, Suncor extracts and upgrades oil sands into high-quality refinery feedstock and diesel fuel. In Western Canada, Suncor explores for, develops and produces natural gas. In Ontario, Suncor refines crude oil and markets a range of petroleum and petrochemical products, primarily under the Sunoco brand. In Colorado, Suncor's downstream assets include a Commerce City-based refinery, crude oil pipeline systems and a network of retail stations branded as Phillips 66. Suncor is also investing in clean, renewable energy sources. Suncor operates an ethanol plant in the Sarnia-Lambton region of Ontario. The St. Clair Ethanol Plant was expected to be the largest ethanol production facility in Canada.

Project: The SGE Immersion team developed an analysis tool to help Suncor better value the use of environmental resources in project planning and capital budgeting decisions. The company had been struggling with how to value such resources in their investment decisions, finding planning difficult. The team's tool allowed the company to more clearly assess the costs and benefits of changes in the operating context as well as the impact of specific investment decisions.



Tandus

Strategic Business & Technology Assessment (2007)

Tandus (www.tandus.com) is the profitability leader in the floorcoverings industry. It is a privately held entity comprised of three branded businesses – Monterey, C&A and Crossley – that design, manufacture and market modular tile, six-foot structured back, and tufted and woven broadloom. The company has been a consistent leader in addressing the social and environmental issues of the floorcoverings industry. Tandus' Infinity Initiative was the industry's first closed-loop recycling program. The company was able to convert old carpet into new carpet instead of simply diverting old carpet into secondary products as competitors did. The company's FLOORE program mines buildings in the industry's first and only carpet buy-back program. In 2004, Tandus introduced ethos™, a non-chlorinated, high-performance backing for commercial carpet that provides all of the durability attributes of PVC. ethos™ is a next-generation floorcovering product made from an abundant waste source - the polyvinyl butyral (PVB) film found in automotive windshields. ethos™ is the first commercial use for PVB which accounts for millions of pounds of landfill waste every year in the US.

Project: The SGE Immersion team evaluated the supply chain for a polymer input of a new technological process that produced a next-generation floorcovering. The product – a post-consumer and post-industrial, closed loop product – was the first of its kind in the industry. The team evaluated potential domestic and international sources of the polymer and the manner in which the new product fit into the company's strategic profile.



ToughStuff

International Franchising Strategic Assessment (2010)

ToughStuff (www.toughstuffonline.org) is a social enterprise that sells very inexpensive solar products designed for low-income people in developing countries. The company pursues ambitious sales targets to ensure profitability, while creating important social, environmental and poverty-reduction benefits. ToughStuff's operations are focused in Southern and Eastern Africa, with sales offices in Madagascar and Kenya. However, products are already in use in 20+ countries across the globe with significant additional demand. Franchising the ToughStuff operational approach, methods, brand, products, and sales & marketing materials could enable business growth through lower capital investment into markets that would not otherwise be viable for ToughStuff as a business. Franchise based business models are already being explored with in-country partners of a large INGO, and interest has been expressed by SMEs to gain a franchise license for specific geographies.

Project: International demand for ToughStuff products greatly exceeded the organization's global presence. The SGE Immersion team investigated and recommended whether international franchising methods to deliver products outside core markets could be an expansion strategy for ToughStuff.



The Water Initiative

Global Market Strategy Development (2008)

THE WATER INITIATIVE

The Water Initiative (TWI, www.thewaterinitiative.com) is a new business venture dedicated to creating affordable, effective local solutions to the world's worsening drinking water crisis. TWI's business model focuses on using a unique "co-creation" process that involves local communities directly in the design of commercially viable water solutions. Unlike most other water ventures that have sought to apply single 'one size fits all' technical solutions, often imposed from the top-down, TWI is developing a portfolio of point-of-use water technologies and business models that can successfully be adapted to fit local conditions and drive TWI commercial success while solving one of the United Nations' millennium goals most pressing crises in the process.

Project: The SGE Immersion team worked with senior management to scope TWI's overall global market entry strategy for businesses that created economic value for TWI and its local partners while simultaneously providing reliable, pure, potable water at an affordable cost. TWI sought to establish deep and trusted relationships in local communities to co-develop successful local water solutions and sustainable business models which could be economically scaled for regional, national and/or global markets.



WaterHealth International, Inc.

New Business Model Development (2007)

WaterHealth International (www.waterhealth.com) is a venture-backed, for-profit corporation which addresses the most basic needs of low income clients – the provision of safe, clean supply of water. Based on patented technology from Lawrence Berkeley National Laboratory, WHI has developed a turn-key solution for rural, urban and peri-urban populations. The current focus of the company is the delivery of community water systems (CWS) into rural India (the company has units installed throughout Asia, Central and South America and Africa). WHI has reduced the price of safe, clean water by two orders of magnitude in rural India – delivering 12 liters of treated water for Rs 1, and approximately 20 liters for Rs 1.5. The company has experienced high adoption rates (up to 80% of families using the CWS within a month of installation) but the delivery method still means that families are purchasing daily 12 or 20 liter containers which will only satisfy part of the daily demand for potable water in the typical rural household. The WHO estimates an average water consumption of 40 liters/day per person is desirable.

Project: The SGE Immersion team investigated the feasibility of moving from the company's current business model to a new business model in India. The team evaluated the company's current business model, customer behaviors and usage modes to develop recommendations for the company's leadership.



World Bank

Social Inclusion for Waste Pickers (2010)

Established in 1944, the World Bank (www.worldbank.org) is made up of two development institutions owned by 186 member countries: the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA). Each institution plays a different but collaborative role in advancing the World Bank's vision of inclusive and sustainable globalization. The IBRD aims to reduce poverty in middle-income and creditworthy poorer countries, while IDA focuses on the world's poorest countries. The Bank's work is complemented by that of the International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA) and the International Centre for the Settlement of Investment Disputes (ICSID). Together, these institutions provide low-interest loans, interest-free credits and grants to developing countries for a wide array of purposes that include investments in education, health, public administration, infrastructure, financial and private sector development, agriculture, and environmental and natural resource management.

Project: The SGE Immersion team reviewed approaches for engagement of the waste recycling industry and the poor worldwide and in the Philippines. The Bank was engaged in preparing a proposal for Japan Social Development Fund (JSDF) Financed Social Inclusion for Waste Pickers Seed Grant for the Philippines. The purpose of this grant was to work closely with the waste picking communities to (a) identify their challenges and needs as informal waste reclaimers in obtaining safe, secure and lucrative livelihood, whether it continues within the waste recycling arena or moves into a cleaner, safer and more securely lucrative arena; (b) identify specific gender and unique challenges and needs; (c) develop bottom up locally appropriate actions that would lead to improvements in their lives and livelihoods and enable their optimal economic, safe and secure social inclusion in integrated waste management; (d) conduct this work in communication with the other JSDF activities on this issue in other countries to opportunities to learn from each other and provide mutual knowledge/experience sharing that might enhance local solutions development.



Yingli Solar

Competitive Assessment (2010)

Yingli (www.yinglisolar.com) is one of the leading vertically integrated photovoltaic (PV) product manufacturers in China. The company designs, manufactures and sells PV modules and designs, assembles, sells and installs PV systems that are connected to electricity transmission grids or those that operate on a stand-alone basis. As of September 2009, Yingli had an annual production capacity of 600 MW of polysilicon ingots and wafers, 600 MW of PV cells and 600 MW of PV modules. Since the company began commercial production in 2002, it has produced a total of 1 GW of PV modules. The company's products and services substantially cover the entire PV industry value chain from the manufacture of multicrystalline polysilicon ingots and wafers, PV cells, PV modules and PV systems to PV system installation. Its end-products include PV modules and PV systems in different sizes and power outputs. Yingli sells PV modules under its own brand name, Yingli Solar, to PV system integrators and distributors located in various markets around the world, including Germany, Spain, Italy, South Korea, Belgium, France, China and the United States.

Project: The SGE Immersion team conducted a high level market overview and benchmarked competitive key PV players to understand market perception/ branding message, target segments/ channel strategy, pricing, product type, warranty, and other differentiators. Yingli was interested in having a more informed understanding of its competitive landscape so that it might better identify market gaps/opportunities to improve positioning.