

## Client Projects completed by the SMBA students:

### For Profit Clients:

1. **Muni-Fed Energy** ([Clay Sandidge](#)) – The Marine Exchange located in San Pedro serves as the traffic control center for the ships entering the San Pedro Bay Port complex. It is important that this facility have the capability for uninterrupted operation. A student team worked with Muni-Fed Energy to evaluate alternative energy solutions to achieve energy independence for the site. The solution proposed was a combination of solar panels and vertical axis wind turbines.
2. **Blue Gecko Community Garden** (Kathy Irvine) – A student team developed a business plan for a community and educational garden to be implemented in Long Beach. This also included providing the client with a binder of documents and a procedure that she could use to implement her business within the Long Beach business community.
3. **Catalina Sea Ranch** ([Phil Cruver](#)) – Developing a sustainable aquaculture industry in Southern California is becoming more important as the regulation of carbon emissions increases. Transporting seafood long distances currently has a significant carbon footprint. This project evaluated the economic feasibility of developing a mussels ranch in the San Pedro Bay near Santa Catalina Island.
4. **Catalina Sea Ranch** ([Phil Cruver](#)) – This project was phase 2 of the economic feasibility study. The student team developed a financial spreadsheet that could be used to evaluate various scenarios for the proposed business plan and they also included a study of the economic impact on the surrounding communities.
5. **RecyclingPerks.com** ([Amelia Baker](#)) – Recycling Perks is a commercial venture that partners with cities and trash haulers to increase recycling rates within the community. In order to market their services it is important that potential partners understand the benefits of participation. The student team developed a dashboard program that the company can use to demonstrate the benefits for each partner under various assumptions about the relationship. Recycling Perks has used this tool to negotiate with municipalities to expand their business.
6. **RecyclingPerks.com** ([Amelia Baker](#)) - The future of technology infrastructure on the recycling collection vehicles to scan recycling cart RFID tags and feed information to an online portal and to the back end of the Recycling Perks website.
7. **Port of Long Beach** ([Brett Mascaro](#)) – The student team conducted a feasibility study of the use of liquefied natural gas (LNG) as a Fuel For Ocean Going Vessels (OGVs). The POLB wanted to better understand the factors that affect the near and long-term demand for LNB as an alternative fuel source for OGVs. This included a cost/benefit analysis of alternative fuel courses based on availability and feasibility of delivery to

POLB, market demand by OGV owners and operators, and the acceptance by community stakeholders of siting a LNG terminal at the Port.

8. **Maple Village Waldorf School** ([Chip McCarthy](#))

Developed a business plan, which included strategies for the school to become a Green Ribbon School at the national level. The MBA team created a long term business plan and a set of forecasts for growth over the next five years for the school. The objective of the school is to find a permanent location, which will allow for growth in the number of grades and number of students in each grade plus also address the physical needs of the school (e.g. playground, multipurpose rooms). The deliverables included a 5-year business plan with different growth scenarios, three potential property sites for expansion, a communication strategy to advertise to a larger target market of families.

Non-Profit Clients:

1. **Aquarium of the Pacific** (Barbara Long/[Fahria Qader](#),)- A student team developed the ISO 14001 process and documentation to “green” administrative processes for the Aquarium. The initial project involved developing the process and getting buy-in from senior management. They conducted a set of informational meetings with department leaders and senior management to ensure that there was a clear understanding of what is involved in the entire ISO 14001 implementation and certification process.
2. **Aquarium of the Pacific** ([Fahria Qader](#)) – The second phase in this project was the actual implementation of the ISO 14001 process and documentation within the individual departments of the Aquarium. This included developing an audit procedure and a 3-year strategy to receive ISO 14001 certification.
3. **Century Villages at Cabrillo** ([Steve Colman](#)) – Energy efficiency is critical for all businesses and homeowners, however, it is especially critical in a community housing plan that is designed to benefit a less affluent population. This project evaluated the energy use of the housing element of the Villages at Cabrillo and identified a number of energy saving and cost saving opportunities. Some changes that were implemented were changes to LED lighting in public areas and the development of a solar carport that would generate clean energy for the facility.
4. **Century Villages at Cabrillo** ([Steve Colman](#))- Developed a business plan and program for a maintainable community garden with a focus on the resource constraints within the CVC community.
5. **Century Villages at Cabrillo** ([Steve Colman](#)) – Business plan for community grocery store that was implemented and integrated the use of produce grown in the community garden for sale in the convenience store.

6. **Century Villages at Cabrillo** ([Steve Colman](#)) – The student team was charged with developing a business plan to redesign the US Vets Dining Hall into a restaurant that would help unemployed U.S. vets to transition into civilian life. The business plan included developing a menu, physical environment, and educational material on healthy eating into the daily lives of the vets.
7. **American Gold Star Manor** ([Terry Geiling](#)) –The Manor proposed a joint study that was conducted with the SMBA program to identify and evaluate the best possible uses of the two vacant 5 acre land parcels. “Best uses” was defined as those providing the most long term economic, social and environmental benefits to the AGSM, the Manor, the local community and the City of Long Beach. These uses must be consistent with the mission statement of the Manor.
8. **American Indian Changing Spirits** ([Steve Colman](#)) – In collaboration with Century Villages at Cabrillo (CVC) and the American Indian Changing Spirits (AICS) organization, the SMBA student team developed the blueprint for a Social Enterprise venture that provides AICS clients with employment skills that help them transition into the work force, while engaging in the recovery treatment needed to overcome their addiction, in the serenity of their native culture and spirituality. The client project included developing a line of products that were in consistent with the Native American culture while also providing an opportunity for the AICS clients to learn a skill that is the foundation for their social enterprise. The goal of this social business plan is to become self-sustaining in the long run
9. **Aquarium of the Pacific** ([Jerry Schubel](#)) - In conjunction with the AoP, the SMBA team identified what aspects of climate change pose the greatest threats to Long Beach, and what areas of the city and which segments of the population are most vulnerable to these threats. In addition, they worked with experts to identify and evaluate alternatives to reduce these vulnerabilities. This project focused on adaptation to climate change, not mitigation. Once the affected sectors were identified by linking the identified threats posed by various scenarios from climate change models (i.e. NOAA Resilience ToolKit and AoP GIS mapping) to population location, business sector locations, and infrastructure investments, adaptation strategies were identified at the implementation level versus a more general set of options that may or may not be relevant for the immediate problem.
10. **Building Healthy Communities** ([Rene Castro](#)) - The goal of this project was to provide a detailed financial analysis and revenue model for the following two scenarios: the ECR option with existing subsidies (Investment Tax Credit but without Phase IV enhancements), ECR with Phase IV policies, and the ECR with low cost capital (university) projects. The SMBA team conducted an analyses to inform policy advocacy for additional support. The SB535 provisions of California’s Cap-and-Trade program directs funds to be located in and/or benefit Disadvantaged Communities (under the same specification as applied to SB43). The program allocates substantial funding to renewable energy, but not, at present, to shared solar/renewable projects serving low-income renters.

Until now, there was no mechanism by which to do so, but it can now be done with the advent of SB43, under which funding can be directed to developers serving low income household customers and/or low incomes households participating in SB43 programs. The ECR analyses in (1), (2) & (3) helped clarify what the policy specifics should be.

11. **City of Long Beach Office of Sustainability** ([Larry Rich](#)). The MBA student team was asked to scope out what types of projects the Office could undertake through a strategy of leveraging existing programs and resources with a focus on urban sustainability. They created a set of programs that could be scaled up in the next year, in the next 2-3 years, and in the next 5-10 years. The students also came up with a set of community partners that can help fund through in-kind resources and/or micro-grants. Integrated into the planning process was a business plan to create a revenue base for urban greening solutions.
12. **U.S. Veterans Organization** ([Brenda Threatt](#)) The MBA team was tasked with developing a strategic plan to help the US Vets create a process to access sources of food, especially healthy foods, and provide free sources of food for veterans and their families. These families live in a food desert and are on a limited income. This creates lots of issues over adequate quantities of food as well as the quality and healthiness of the food sources. The students implemented a plan which include access to food banks and restaurants/stores that have programs that provide leftover food to organizations. The final part of the project was to also integrate into the program a set of nutrition lessons that can be used to help the veterans learn how to cook and eat healthier meals.
13. **Aquarium of the Pacific – Seafood for the Future** ([Kim Thompson](#)). The MBA team did a survey of both seafood restaurants and seafood stores/providers to develop needed validation programs to ensure that both the seafood industry and seafood restaurants use sustainable seafood strategies. The results of the surveys found that both the industry and the restaurants are willing to create a validation and labeling program. The issue that the research uncovered was that many consumers don't have accurate or any information on sustainable seafood. This means that consumers are not willing to pay more for the product. The students put together an education strategy for the seafood and restaurant industries as well as an education plan for consumers that can be integrated into the Aquarium's website and other programs.
14. **Aquarium of the Pacific – Creating Climate Resilient neighborhoods in Long Beach** ([Jerry Schubel](#)). In conjunction with the AoP, the SMBA team identified what aspects of climate change pose the greatest threats to Long Beach, and what areas of the city and which segments of the population are most vulnerable to these threats. In addition, they worked with experts to identify and evaluate alternatives to reduce these vulnerabilities. This project focused on adaptation to climate change, not mitigation. Once the affected sectors were identified by linking the identified threats posed by various scenarios from climate change models (i.e. NOAA Resilience ToolKit and AoP

GIS mapping) to population location, business sector locations, and infrastructure investments, adaptation strategies were identified at the implementation level versus a more general set of options that may or may not be relevant for the immediate problem. This strategy was developed for the one of the poorest zip codes of Long Beach.

#### CSULB Projects:

1. Sustainable Transportation Project - Bouton Creek Bike Path ([Paul Wingco](#)) – The design and planning of a bike path along the north side of Bouton Creek (Bellflower Blvd to the campus) and then continuing from the north side of Bouton Creek and the Foundation Building to Los Alamitos Channel and the San Gabriel River. The result of this project produced the detailed architectural plans for the bike and foot path linking the university to the city of Long Beach. These plans are currently being implemented by the university facilities department.
2. Sustainable Energy Project – Tri-Gen plant feasibility study (Paul Wingco, [paul.wingco@csulb.edu](mailto:paul.wingco@csulb.edu)) – This project goal was to provide the research needed to help facilities identify the greenhouse gas emissions cost impact of operating a tri-generation system. The team provided a set of options based on a cost-benefit analysis integrating some innovations that were in the pipeline.
3. CSULB Convenience Store ([Don Penrod](#)) – A student team developed the business plan and re-design of the USU convenience store to create a more sustainable model for the store. The team worked with the design students from the Graphic Design department to combine the physical re-design of the store with a re-design of the product lines within the store.
4. RealFood Challenge ([Don Penrod](#)) – A student team developed the initial framework and training to implement the Real Food Challenge in the university dining halls. The focus of this project was to do the initial audit of all food vendors and set up the system based on the guidelines of the Real Food Challenge as well as the constraints of the university food services.
5. Solar Carports ([David Salazar](#)) – CSULB has developed a Climate Action Plan to make the university carbon neutral by 2030. An important aspect of that plan is to develop alternative energy to replace energy from fossil fuels that comes from the grid. This project evaluated the business case from a sustainability perspective for a solar carport that would cover the largest parking lot on campus. The university is now in the process of implementing the project in Lot 14.
6. Sustainable transportation ([Ellie Christov](#)) – The student team was charged with conducting a financial analysis based on the Climate Action Plan for the university's transportation fleet. The goal was to develop financially sound steps to reduce carbon emissions from the California State University Long Beach's vehicle fleet and meet the

goal of the Climate Action Plan. Developed a comprehensive list of CSULB fleet vehicles and the uses of those vehicles. Then, prepared an electronic tool for evaluating future vehicle replacements based on both costs and environmental impacts. Provided a variety of other recommendations on procurement policies, replacement battery policies, and use of cargo carts to further the goal of CO<sub>2</sub>e reduction.