

The ENPRO Project Plan  
Fall 2004

**ENPRO 355: Advanced Technology for Photovoltaic  
Solar Windows**

Instructor: Said Al-Hallaj

## **1) Objectives**

- a) develop a business plan around the IP / Patents related to the HPC (holographic planar collector)
  - i) create a cash flow analysis, with an exit strategy
  - ii) create a break even chart
  - iii) Provide a description of the technology
- b) Meet IPRO objectives
  - i) Submit a midterm report outlining details and responsibilities for the rest of the semester
  - ii) Give presentation on IPRO day that includes a power point lecture, a poster that explains the technology and outlines the business plan, a website including necessary information for potential partners / investors, also include a physical model of the technology
- c) Use interdisciplinary teams to accomplish Technical projects associated with business and technical development

## **2) Project Background**

a) The rising costs of energy and the growing awareness to the free and unlimited power provided by the sun have spurred the solar market over the last decade. Over the course of the industry's growth two very different markets have emerged; one aimed for power and the other as a building integrated system to supplement existing grid power. The problem thus becoming creating a cost effective solar technology that will work within existing infrastructures to provide solar power. To this end Phocus Co. has acquired patents of and relating to the Holosun Technologies. The primary market for the product is currently mid to high rise new construction projects. Initial market research points to a growing need for a building integrated product that can provide significant power for less cost than traditional photovoltaics.

### **3) Methodology**

a) The EnPro team will study the technology pertaining to the product, researching which types of solar cells are most compatible with the technology as well as with other design aspects. The team will also start to prototype and standardize the actual product, creating technical as well as presentation material. In addition a market analysis will be done with probable points of entry into the solar energy sector studied. The existing business plan will be revised to reflect the changes in product development as well as the change in directions for the company.

### **4) Expected Results**

a) The IPRO team will develop a business plan which will be used in seeking potential investors/partners and finally will lead to licensing the solar product utilizing holographic technology. In order to do that we will first research the market to find out if there is a need for such product and what would be the size of potential market. Business model will include product analysis providing data on manufacturing cost, profits for investors and benefits for the potential clients. We will also create web site that would provide information on the product and a brochure that will be used for market survey.

### **5) Budget**

## 6) Schedule

Week 1	
8.31.2004	No meeting
9. 2. 2004	First meeting–introduction and reception at HUB
Week 2	
9.7.2004	Discussion of goals and direction, assigned tasks
9.9.2004	Group meeting
9.10.2004	Project Plan due
Week 3	
9.14.2004	Group meeting
9.16.2004	Group meeting
Week 4	
9.21.2004	Group meeting
9.23.2004	Group meeting
Week 5	
9.28.2004	Group meeting
9.30.2004	Group meeting
Week 6	
10.5.2004	Group meeting
10.7.2004	Group meeting
Week 7	
10.12.2004	Group meeting
10.14.2004	Group meeting
Week 8	
10.19.2004	Group meeting
10.21.2004	Fall break–No class
10.22.2004	Midterm progress report due
Week 9	
10.26.2004	Group meeting
10.28.2004	Group meeting
Week 10	
11.2.2004	Group meeting
11.4.2004	Group meeting

Week 11	
11.9.2004	Group meeting
11.11.2004	Group meeting
Week 12	
11.16.2004	Group meeting
11.18.2004	Group meeting
Week 13	
11.23.2004	Group meeting
11.25.2004	Group meeting
11.29.2004	Professional style exhibit and Project abstract due
Week 14	
11.30.2004	Group meeting
12.2.2004	Group meeting
Week 15	
12.1.2004	Web site and final oral presentation
12.3.2004	I PRO day; final report and team information

## 7) Assigned Responsibilities

### a) EnPRO Advisor:

Said Al-Hallaj

Elena Savona

Justin Turner

### Business Advisor:

Richard Hoolbrook

### Team Captain:

HyungTae Kim

### Design Team:

Matthew Bilderback

Gabriel Carhill

Adam Fiedorczyk

HyungTae Kim

Stephen King

Michael Ng

Soyoung Park

- WebMaster- Gabriel Carhill
- HoloSun solar panel CAD design - Michael Ng & Adam Fiedorczyk
- 3D MAX Rendering - HyungTae Kim
- Energy simulation & software research – Stephen King & Soyoung Park
- Architectural Firms Database – Matthew Bilderback & Adam Fiedorczyk

Business Analysis Team:

Matthew Bilderback

Gabriel Carhill

Adam Fiedorczyk

HyungTae Kim

Stephen King

Michael Ng

Soyoung Park

- Business Plan Development – Business Team
- Patent Research – Soyoung Park & Michael Ng
- Business Model – Business Team
- Prototype development and testing – Business Team
- Product/Service Solutions – Stephen King & Gabriel Carhill
- Marketing – Adam Fiedorczyk & Matthew Bilderback
- Financials/Future Path – Michael Ng

Risks Analysis – HyungTae Kim & Michael Ng

