Phase I - Photovoltaics

• The solar power project is Phase I in the long term energy efficiency plan for the Recreation Center. Scheduled completion date is September 2007.

• An average Santa Barbara house will use about 10,000 kwh of electricity in a year.

• Rec Cen II uses approximately 45,000 kwh of electricity per month. The 133 kw PV system chosen will generate 25-30,000 kwh per month and would immediately supply about 60% of the electricity needed for Rec Cen II.

• An additional 25-30% of generating capacity (selling back to the grid at peak generation times, 11:00 AM through 5:00 PM), and combined with electrical usage reductions and light bulb replacement, Rec Cen II could soon be totally self sustaining for electricity.
Phase I - Photovoltaics

- Installing a 133kw PV solar panel system for Rec Cen II will have about a 10-12 year pay-back time frame considering today’s electrical rates; tomorrow’s, and the system construction cost of about $1,500,000.

- Taking advantage of the available SC Edison solar rebates mandate the quick completion time frame. The total rebate amount available for this 133 kw system is $2,500/kw, or $332,500.
Phase I - Photovoltaics

- Each 2 X 4 photovoltaic panel weighs 40 pounds and produces 165-175 watts. A 133kw system would include 940 PV panels with each panel retailing for about $1,200.

- Optional battery back-up systems linked to the PV array could guarantee continual electrical power in the event of a campus emergency situation.
Phase II
LEED-EB

- Phase II is the LEED-EB plan to reduce the energy consumption of the entire Recreation Center for electricity, natural gas and water; plus drastically increase the recyclables. Energy efficient re-lamping has already begun, with major reductions in gym lighting consumption (with increased illumination) to take place over the next 12 months.

- Our initial target is to reach Silver Certification, and then use Phases I & III enhancements to be recertified within 24 months with the goal of reaching the LEED-EB Gold or even the highest possible level, Platinum. Measurement period will be this April/May/June, with certification awarded September 2007.

- No other University Recreation Center in the U.S. has ever attempted to attain a LEED-EB certification. UCSB will be the first!
Phase III
Pool Water Pre-Heating

Phase III, now just underway, will be the water pre-heating project for the pool complex. Scheduled completion is late 2008.

Potential energy efficient technologies (solar, geothermal) and optimum economic benefits to reduce our carbon footprint and utility costs are being researched.
Phase III

Pool Water Pre-Heating

• The pool’s natural gas fired boilers consume about 13,714 therms/month.

• Current assumptions are conservative in estimating that using solar pre-heating, or some other leading edge energy efficient technology, for the pool (kept heated year round at 81 degrees) would reduce therm usage by at least 50% and save at least $80,000 per year, based on current NG rates.

• Pool cost per therm in summer months is about .82 cents/therm, compared to winter rates of about $1.06/therm.

• An average Santa Barbara house will use 30 therms/month.
Navajo Proverb

We did not inherit the earth from our forefathers; we are borrowing it from our children…