ticipants discussed new developments in solar power and its ecological advantages. Richard J. Schwartz, head of the School of Electrical Engineering at Purdue University and general chairman of the conference, said solar power is already the most economical way of providing electricity for certain applications, especially in remote areas. For example, it is cheaper for a farmer to use solar power to pump water for his cattle than to run electricity from a source 1000 feet away, Schwartz said.

Solar-generated electricity currently costs about 10 times more than electricity generated by coal. However, the recently developed lighter, thinner, more efficient solar panels are much less expensive than the older, bulkier cells, primarily because it takes less material to manufacture them. If an environmental tax, such as the proposed carbon tax, were implemented, solar energy would be even more competitive because there is no cleanup cost.

Morton Prince, a senior scientist with the Department of Energy's photovoltaic energy division, said that the combined output of all solar cells by the year 2000 is projected to equal the daily power needed by a city of 1 million people. Nearly transparent solar panels may one day be used on the facades of buildings, turning them into giant solar generators, Catalano said. Billboards and roadside telephones are already using solar panels to generate their own electricity. With the increasing environmental costs of fossil fuels and rapid technological advances in photovoltaics, the future of solar power looks bright.

Drinking Raises Breast Cancer Risk

Drinking two alcoholic beverages a day raises the estrogen levels in women, leading to greater risk of breast cancer, according to a recent study by researchers at the National Cancer Institute.

"This is the first study to suggest that the mechanism by which alcohol affects breast cancer risk may be the increase in hormones caused by alcohol," said Marsha E. Reichman, one of the researchers who conducted the study.

During the last 10 years, diet and disease research has shown that women who drink moderately have a breast cancer risk 40 to 100% higher than women who do not drink. Other studies have shown an association between breast cancer and estrogen. The NCI study is the first to provide a link between these findings.

In the study, 34 women were tested for the effects of alcohol through six menstrual cycles. For half of the study, one group of women drank 30 grams of pure grain alcohol mixed with orange juice each night. The other group drank only orange juice. During the second half of the study, the groups reversed their alcohol intake. Tests showed that estrogen increased up to 31.9% during the middle and final phases of the menstrual cycle in women who drank alcohol.

(The grain alcohol used in the study was pure [200 proof]. Thirty grams of grain alcohol is approximately equal to the amount of alcohol in two strong martinis.)

Results of the study came just days after Boston researchers reported that three drinks a day may reduce the risk of heart attack by as much as 50%. In the face of such conflicting information, experts say that each woman should consider her lifestyle and individual risk factors such as heredity in deciding whether to modify alcohol intake.

Howard Suzuki

Breakthrough. Scientists are applying biotechnology information to save endangered species.

Biotech for Wildlife

The University of Florida has implemented a program called Biotechnologies for the Ecological, Evolutionary and Conservation Sciences (BEECS) to apply the latest techniques in biotechnology to environmental and wildlife preservation.

"Most biotechnologies—everything from DNA synthesis to protein sequencing—being used today are benefiting agriculture and medicine," said Louis Guilette, Jr., professor of zoology and director of BEECS's reproductive analysis laboratory. "Unfortunately, these methods have not generally been available in ecology, or in conservation biology. The BEECS program is able to bridge that gap."

Endangered and threatened species such as the Florida manatee, panther, and alligator may benefit from the program. Twenty zoos and several environmental organizations are already using BEECS' consulting services to obtain information on topics such as assessing and controlling diseases. Five core BEECS laboratories provide expertise in molecular genetics, reproductive and immunological analysis, molecular biomarkers, and education. The primary purpose of the program is to foster exchange of research findings on endangered wildlife and plants and the diseases and factors that threaten their survival, but researchers have hopes that BEECS will have even wider implications.

"BEECS scientists also hope their studies will shed light on the biologcial effects of global climate change, habitat loss, and other complex issues involving sustainable ecosystems," said Paul Klein, director of the program's immunological analysis laboratory.

Contracts to provide consultative and fee-based services to EPA and National Marine Fisheries have been signed, and proposals are pending with other key organizations.

Big Green Business

Though environmental challenges abound, the atmosphere in corporate America is growing greener. The EPA now uses a business-friendly approach, and environmental responsibility may become a common corporate value.

Such was the consensus at a June 30 conference on Business and the Environ-