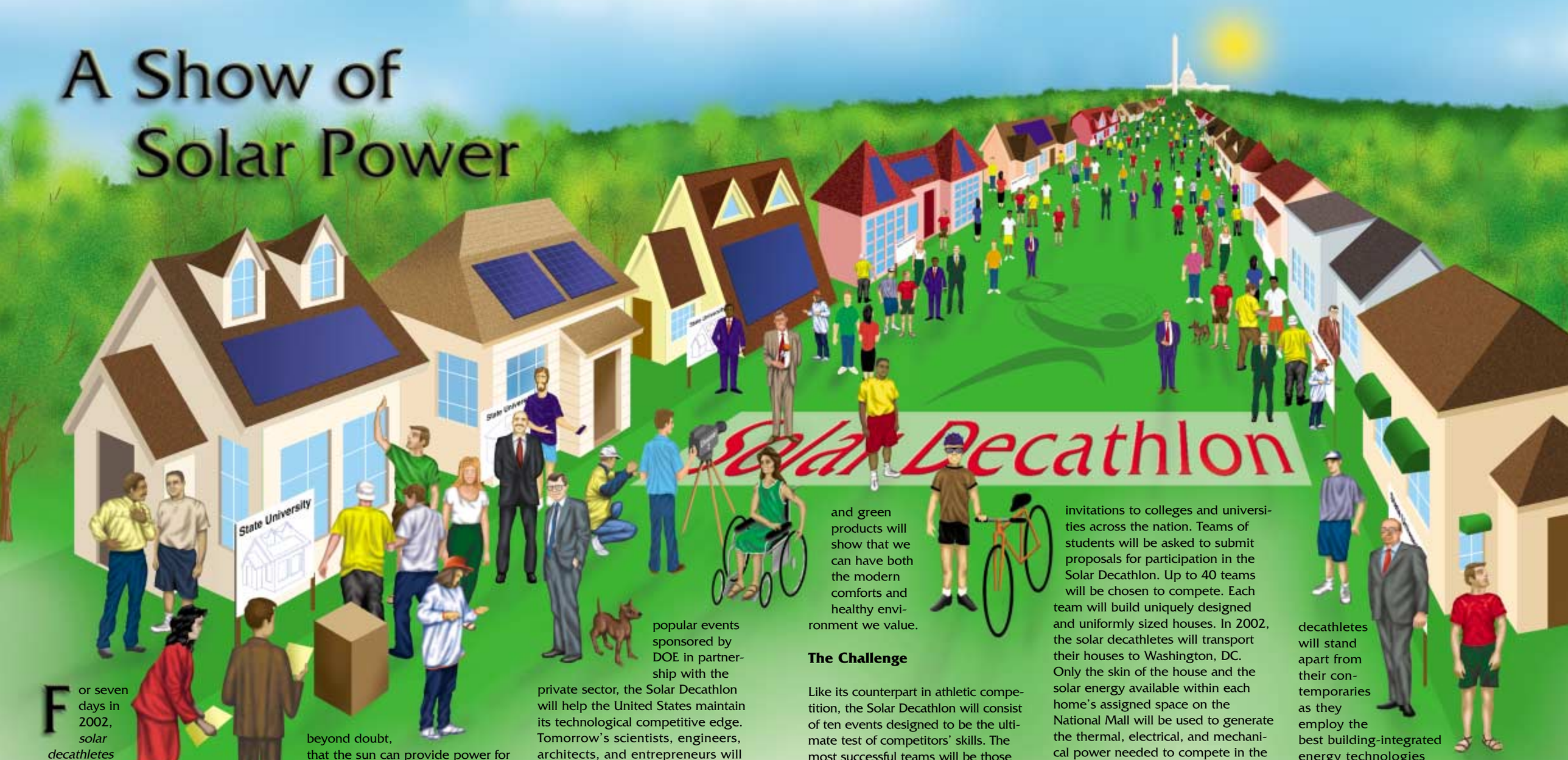
The Solar Decathlon

Challenging
Students
To Build
The Future

A Show of Solar Power



For seven days in 2002, *solar decathletes* will transform the National Mall in Washington, DC, from a pedestrian thoroughfare to a bustling community of energy-efficient, completely solar-powered homes. Strollers, joggers, commuters, and out-of-towners will watch as student teams compete to capture, convert, store, and use the most solar energy—confirming, beyond doubt, that the sun can provide power for our lives in the 21st century.

The Solar Decathlon will be a joint project of the U.S. Department of Energy (DOE), private-sector sponsors and supporters, and university and college students from across the nation. DOE has a long history of working with sponsors and students on projects that involve energy efficiency and renewable energy technologies to ensure a brighter, cleaner future. Like Sunrayce™ and other popular events sponsored by DOE in partnership with the private sector, the Solar Decathlon will help the United States maintain its technological competitive edge. Tomorrow's scientists, engineers, architects, and entrepreneurs will gain hands-on experience in research and development of energy-efficient products and solar energy technologies.

Consumers will also benefit from the Solar Decathlon. By watching the competition and touring the contest homes, the public will be able to make informed decisions about energy use and today's energy-saving products. This exciting seven-day demonstration of solar technologies and green products will show that we can have both the modern comforts and healthy environment we value.

The Challenge

Like its counterpart in athletic competition, the Solar Decathlon will consist of ten events designed to be the ultimate test of competitors' skills. The most successful teams will be those that work well together to integrate knowledge from various disciplines. The teams will apply inventive thinking to develop scientific solutions to the challenge of designing and constructing the most effective solar-powered home. The design that blends aesthetics and modern conveniences with maximum energy production and optimal efficiency will be the winner.

In October 2000, during Energy Awareness Month, DOE will extend invitations to colleges and universities across the nation. Teams of students will be asked to submit proposals for participation in the Solar Decathlon. Up to 40 teams will be chosen to compete. Each team will build uniquely designed and uniformly sized houses. In 2002, the solar decathletes will transport their houses to Washington, DC. Only the skin of the house and the solar energy available within each home's assigned space on the National Mall will be used to generate the thermal, electrical, and mechanical power needed to compete in the ten events. The house that can produce the most energy and use that energy the most efficiently will win.

Solar Champions

Investing in our future leaders is essential to America's continued success. DOE and the private-sector sponsors and supporters of the Solar Decathlon will be making a direct investment in the future through this educational competition. The solar decathletes will stand apart from their contemporaries as they employ the best building-integrated energy technologies to become solar champions.

One team will win the Solar Decathlon, but that team will not be the only winner. A major goal of the Solar Decathlon is to help students and consumers learn to make winning decisions about energy. Because when we power our work and play with clean energy, we protect the environment. And when we protect the environment, we are all winners.

The Solar Decathlon Events

The Solar Decathlon winner will score the most points totaled from all ten contests (each worth 100 points). Every team will have a space of identical size for its house. To allow for freedom of design while maintaining fairness and economic viability, the houses will be restricted by number of rooms, size of solar collectors, and total cost. Houses will be assembled over several days before the contest begins. Preliminary regulations will be available in October 2000 and final regulations in January 2001. Regulations will be based on the following contests, which are subject to change.

Design: A jury of architects will judge design, innovation, and aesthetics.

Space Heating: Teams must keep their homes at a constant 72° F, and a contest will test maximum heating ability.

Space Cooling: In addition to maintaining a constant 72° F, this contest will test the maximum cooling ability of the home.

Lighting: This contest will demonstrate ways to produce the most light while using the least amount of electricity.

Communication: This contest will reward the greatest ability to communicate using computers and telecommunications equipment.

Hot Water: This timed contest will determine which team can heat the most water and keep it hot the longest.

Refrigeration: In addition to powering a refrigerator all day and night, a timed contest, such as making the most ice, will test the ability to refrigerate.

Appliances: Measured in kilowatt hours, this contest will award the greatest use of state-of-the-art, efficient appliances for the longest period of time.

Transportation: Each team will be required to log miles in a vehicle that uses excess power generated by the house.

Presentation: Through print and digital media, as well as live tours, each team will be required to explain the construction, operation, and performance of its solar house.

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