FEDERATION OF AMERICAN SCIENTISTS

T: 202.546.3300 1725 DeSales Street, NW 6th Floor Washington, DC 20036
F: 202.675.1010 www.fas.org fas@fas.org

The **Federation of American Scientists** (FAS) is a nonprofit organization founded in 1945 by members of the Manhattan Project, who were concerned about the implications of the atomic bomb for the future of humankind. Endorsed by 68 Nobel Laureates in chemistry, economics, medicine and physics, FAS addresses a broad spectrum of issues in carrying out its mission to promote humanitarian uses of science and technology.

About the Building Technologies Program

Continuing this mission of promoting positive change through science and technology, FAS's Building Technologies Program works to mitigate climate change and advance social justice and environmental responsibility through the building industry. Buildings are the leading consumer of electricity and energy in our country, and energy production and use are responsible for 85 percent of human greenhouse gasses. With this in mind, the main focus of FAS's work is to improve energy efficiency without sacrificing affordability and life safety. While current research trends are moving towards high-tech solutions, such as solar power and phase changing materials, FAS has chosen to focus on developing static conservation technologies that are highly efficient, yet easily affordable. To guide these efforts, FAS has defined the following areas to direct current and future research:

1. **Policy** – working to create guidelines, evaluation systems, and incentives to improve energy efficiency standards and to reduce the environmental impact of the built environment on a national scale.

2. **New Technologies** – the development of new technologies that improve the energy efficiency and reduce the environmental impact of the built environment, as well as providing for their practical implementation.

3. **Training** – developing training programs to teach building inspectors about energy efficiency standards, energy audits, and advanced building systems. This helps ensure energy incentives can be properly measured and implemented, and advanced building systems can be properly evaluated by code building inspectors.

4. **Affordable Housing** – Applying energy efficient, environmentally responsible technologies to affordable housing projects. This is done through demonstration projects, working with affordable housing groups, and developing appropriate building systems at a price comparable to traditional systems.

5. **Emergency Housing** – providing economically viable, energy efficient, environmentally responsible housing stock for emergency relief in a temporary and intermediate timeframe.

6. **Demonstrations** – Constructing demonstration buildings to show the real-life potential of these technologies and advanced building systems on a local scale. FAS partners with charitable organizations, such as Habitat for Humanity, to build energy efficient, affordable housing, while simultaneously allowing for real-time monitoring of new building systems.

FAS works to create strategically optimized solutions within these categories through academic, professional, and industry partnerships to have a real and positive effect on the global impact of our built environment.

Key Individuals

Henry Kelly, Ph.D., has been the president of the Federation of American Scientists (FAS), since July 2001. Prior to joining the FAS, Dr. Kelly spent more than seven years as Assistant Director for Technology in the Office of Science and Technology in the White House. There he helped negotiate and implement administration research partnerships in energy and the environment, information technology, and learning technology. These partnerships included new automobile and truck technology, housing technology, bioprocessing technology, and information technology.

Before his tenure at the White House, he was a senior associate at the Congressional Office of Technology Assessment; assistant director for the Solar Energy Research Institute; and worked on the staff of the Arms Control and Disarmament Agency. Dr. Kelly is an elected fellow of the American Physical Society, 2002 winner of the APS' Leo Szilard Lectureship Award for "promoting the use of physics for the benefit of society," and was named the biannual "Champion of Energy Efficiency" in 2000 by the American Council for an Energy Efficient Economy. He is the author of numerous books and articles on issues in science and technology policy. Dr. Kelly received a PhD in physics from Harvard University.

Joseph Hagerman is the project manager of the Building Technologies group at the Federation of American Scientists, Washington, DC. As project manager, Hagerman conducts research in new building technologies while demonstrating these technologies in the public sector. Hagerman is a graduate of Mississippi State University with a Bachelor of Architecture in 2001. In 2006, Hagerman completed a Masters of Science degree in Civil Engineering at the Fu Foundation School of Engineering, Columbia University. His academic work focused on engineering mechanics and construction technology. While at Columbia, Hagerman interned with Steven Winter Associates (SWA) in Norwalk, CT specializing in building systems consulting. In 2005, Hagerman won the Metropolis Next Generation Design prize for developing a manufacturing strategy to cost-effectively deliver bioremediating plant material inside open cell interlocking concrete pavers entitled “biopavers.” He was also awarded the 2005 Rafael Viñoly Fellowship giving him the opportunity to conduct architectural based research with Rafael Viñoly Architects (RVA), an internationally renowned design firm.

Brian Doherty is a research assistant on the Building Technologies Project. He joined FAS in June of 2007 after completing his Bachelor’s degree in the Growth and Structure of Cities with a concentration in Architecture at Haverford College in Haverford, Pennsylvania. Prior to joining FAS, Brian held internship positions at multiple architecture firms, including TLB Architecture and the 1998 AIA Architecture Firm of the Year, Centerbrook Architects.