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## **3M Window Films: One small conservation step; one huge environmental benefit**

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"Earthrise" taken from the moon by astronaut William Anders during the Apollo 8 mission is considered to be one of the most influential environmental photographs ever taken. Aptly titled, it has nurtured a paradigm shift by changing the way we perceive our planet and consequently helping to give rise to the environmental movement.

Building owners and managers are now realizing that businesses benefit financially by improving the management of energy resources. Quality window films offer energy conservation benefits that are often overlooked. Advances in window films to reduce heat gain through windows in warmer months and heat loss in winter months have been significant.

American Window Film, Inc., an Energy Star partner, carries 3M Co. window film products that have met Energy Star and LEED comprehensive and stringent energy efficiency guidelines. 3M Co. recently received the "2008 Energy Star Partner of the Year Award for Sustained Excellence." Presented by the US Environmental Protection Agency and the US Department of Energy, the award is given to organizations for their outstanding accomplishments in reducing greenhouse gas emissions through energy efficiency.

3M Co. produced a series of window films designed to conserve energy. Low-E (emissivity) window films are inexpensive compared to window replacement. Some feature unique Wavelength-Selective metals which block more of the solar spectrum than conventional metals enabling better performance and light transmission. In cooler climates, 3M Window Films work to save energy by reflecting indoor heat back into the room. This can reduce heat loss by up to 23% to 30% and can reduce air conditioning costs by blocking 55% to 73% of the sun's heat. 3M Window Films are also protected with an effective abrasion resistant coating for long-term durability and maintained appearance. Applied to the inside of windows, a quick, clean installation of window film creates little disruption to the flow of business.

Commercial customers easily justify their investment in 3M Window Film by the utilities cost savings they provide. Through the use of monitoring equipment and 3M's sophisticated energy analysis software, we can provide a comprehensive energy analysis that includes Return-On-Investment projections for large commercial customers. Many installations pay for themselves within three years conservatively. As energy prices rise, payback will come even sooner.

3M Co. is the only window film manufacturer that produces their own raw materials such as polyesters, metals, scratch-resistant coatings and adhesives. Window film is only as good as its adhesive. A bad adhesive will produce bubbling and blistering -- distortions created by thermal cycling that can result in seal failure. Unlike others, 3M's ultraviolet inhibitors are included directly in their adhesive. This ensures lifelong clarity and reduces UV degradation, thus providing long-lasting

protection from fading of fabrics and furnishings.

3M Company began the history of window film with their patent application for a metalized solar control window film in 1961. Responding to demand, 3M introduced ultraviolet light control films, low reflectivity, high optical clarity and shatter-resistant films over ensuing decades. Their current product line not only saves energy expense, they also reduce fading of fabrics and furnishings, increase occupant comfort, reduce glare, and improve a building's safety and security as well as its overall aesthetics. Applied to various types of glass, they produce customized glazing systems capable of increasing or decreasing solar gains according to climate, aesthetics, security enhancements, and U.V. protection desired.

An ISO9002 certified facility, 3M continues to place emphasis on research and development. With their Prestige Series window films, 3M responds to demand for a high clarity, low reflectivity, non-metallic window film. These films reject up to 97% of Infrared without using metals -- a critical advantage over 3M Company's window film competitors. Metals can corrode over time in moist conditions and can interfere with cell phone signals and Wi/Fi transmissions. 3M Prestige Window Films unconditionally guaranty against corrosion. They reflect and absorb 99.9% of the UV light that fades fine furnishings, and they do this by aligning more than 200 layers of polymers in a total thickness that is less than 1/2 the thickness of one 3M Post-It®, Note.

All the energy conservation initiatives you take to reduce your carbon footprint will fall short if you don't address your windows...the greatest source of energy loss in any building. So consider this "one small step for man..." (as Neil Armstrong famously suggested) and set a priority to insulate your building's windows. You'll conserve energy and improve your bottom line in the process.

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