

APR07-2006-000017

Abstract for an Invited Paper  
for the APR07 Meeting of  
the American Physical Society

**Energy efficient Buildings, A Neglected Solution to the Energy Crisis**

LEON GLICKSMAN, MIT

Many institutions, such as policymakers in Washington, have concentrated on the energy problem from the supply side. It makes more sense to have a balanced approach that also emphasizes means to limit consumption by improving the efficiency of energy use. Residential and commercial buildings constitute the largest energy consumption sector of the U.S. Buildings use almost 40 percent of our total energy, and are larger than the transportation sector by far. Buildings also consume two-thirds of our total electricity. The issue of efficient buildings is particularly acute in the developing world where there is a massive construction effort underway. Proper actions in the urban and regional environment here and abroad can yield substantial immediate as well as long term results. Major advances in energy efficiency in the built environment require a broad approach to building research and development. No one “silver bullet” will make a major impact by itself. Rather, substantial improvements in energy efficiency require the development of advanced technologies and an integrated approach to planning, design, optimization, and operation.