

BusinessWeek

BUILDING A GREEN AMERICA

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BusinessWeek
8/1/08

Forget the common icons of global warming. Fuming tailpipes and industrial smokestacks, it turns out, are less culpable for climate change than a set of offenders hidden in plain sight: buildings. According to the U.S. Energy Information Administration, buildings are responsible for almost half of all annual greenhouse gas emissions in the U.S., consuming more than three-quarters of all the electricity produced by American power plants.

New Mexico architect Edward Mazria has been publicizing this fact and preaching the gospel of good green buildings for more than a decade. At the helm of nonpartisan, nonprofit Architecture 2030, Mazria—part eco-evangelist, part architectural tactician—is a public advocate, speaking broadly about climate change, and a design strategist, developing intricately detailed plans for builders and architects.

Mazria's organization takes its name from a challenge it issued two years ago, calling on the building industry to reach carbon neutrality by the year 2030. The plan calls for an immediate 50% reduction in fossil fuel energy used in new construction and major renovations, coupled with further 10% reductions every five years beginning in 2010. By 2030, all the energy used in new and renovated buildings would come from renewable energy sources such as wind or solar, according to the organization's green-tinged blueprint.

Crisis Spurs Innovation

What in 2006 seemed bold, today seems prescient. A survey published by McGraw-Hill Construction Research & Analytics with the U.S. Green Building Council in July stated that green building is expected to represent 6% of American residential construction this year, up from 2% in 2005. Given the battered state of U.S. housing, that kind of growth is promising. "Green homes are shining through as the bright spot in an otherwise gloomy housing market," says Michelle Moore, senior vice-president of the U.S. Green Building Council, the body that administers the LEED (Leadership in Energy & Environmental Design) green building rating system.

Earlier this summer, oil magnate turned activist T. Boone Pickens and former Democratic Vice-President Al Gore both made headlines with ambitious national goals. (The Pickens and Gore plans, however, place the emphasis on energy production rather than building efficiency.) The chorus of serious ideas encourages Mazria. "This twin crisis of peak oil and climate change is spurring innovation, experimentation, and excitement," he says of the broad range of proposals. "These big challenges are what the U.S. is best at, frankly."

Although the challenges may be daunting, Mazria argues that large gains can be made through smart thinking and small changes in building design. For example, new buildings can take advantage of so-called passive heating and cooling simply by orienting main living areas to the south in order to make use of heat from the sun. In colder climates, this kind of orientation can provide 20% to 40% of winter heating, says Mazria. More efficient appliances, furnaces, and lighting, as well as installing more costly solar panels, are also a part of Mazria's prescriptions.

Possibilities vs. Progress

To date, hundreds of architectural, engineering, and construction firms, along with professional organizations such as the American Institute of Architects and the U.S. Green Building Council,

as well as the U.S. Conference of Mayors, prompted by mayors Richard Daley of Chicago and Manny Diaz of Miami, have adopted or endorsed Mazria's plan. Such nonbinding endorsements often pave the way for binding legislation. A handful of state legislatures, including the largest state, California, are working to put Architecture 2030's guidelines into law. And the U.S. Congress adopted a portion of the plan, calling for a 55% reduction in energy use for all new building construction in its December 2007 energy bill.

The key, says Mazria, who is still a practicing architect, is to be less polemical than practical. "Architects come at this from a different perspective," he says, noting that the energy crisis of the 1970s catalyzed his interest in green building. "By providing guidelines and strategies, in essence, our job is to keep saying 'yes, it's possible: here's how.'"

But it remains to be seen how much progress can be made in the next two years—when the first major phase of Architecture 2030's plans kick in. Further turmoil in the economy could jeopardize the gains made by the green housing movement. And competing high-profile plans—not to mention next year's change of Presidential administration—may yet muddy the waters for some builders, architects, and politicians.

Mazria's plan? To continue focusing on providing tools for designers and builders. In June the group released a series of guidelines to help align complex and varied sets of building regulations and Architecture 2030's own goals. Resolutely practical, the document is a Rosetta stone that will help designers mesh complex, existing construction rules with ambitious green plans. "There are a zillion different codes and standards out there," says Mazria. "We want to make it much easier for people to adopt our goals."

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