

EDITOR-IN-CHIEF

Cynthia F. Mascone
(212) 591-7343
cynfm@aiche.org

**SENIOR
EDITOR**

Joanna Ziemlewski
(212) 591-7206
joanz@aiche.org

**ASSISTANT
EDITORS**

Gordon Ellis
(212) 591-7107
gorde@aiche.org
Matt McKeon-Slattery
(212) 591-7317
mattm@aiche.org

**CONTRIBUTING
EDITORS**

T. Kevin Swift
kevin_swift@
americanchemistry.com
Gerald Parkinson
gparky@cox.net

**PRODUCTION
COORDINATOR**

Karen Simpson
(212) 591-7337
kares@aiche.org

ART & DESIGN

Paula Angarita
(212) 591-7069
paula@aiche.org
Amy Gottlieb
(212) 591-8678
amyg@aiche.org



AICHE

GENERAL INQUIRIES
1-800-AICHEM
(1-800-242-4363)

MEETINGS &
EXPOSITIONS
(212) 591-7324

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(212) 591-7329

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John A. Sofranko
johns@aiche.org

**GROUP
PUBLISHER**

Stephen R. Smith
steps@aiche.org

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Editorial

Energy Baskets

Former vice president Al Gore and Texas oilman T. Boone Pickens have called for immediate and drastic measures to transform America's energy portfolio within the next ten years. They cite national security and economic health as key drivers necessitating radical out-of-the-box thinking and action.

In testimony before the Senate Homeland Security and Government Affairs Committee, Pickens stated: "We are more fragile today, from a national security standpoint, than we have been since World War II. This danger stems directly from our overwhelming dependence on foreign oil [much of which] comes from countries that are not our friends ... We are strangling our economy and putting ourselves and our nation in greater harm's way." He called the situation a recipe for national disaster, and warned that we must "grab this bull by the horns and wrestle it to the ground. And we must do it now."

"Our economy is in terrible shape and getting worse, gasoline prices are increasing dramatically ... jobs are being outsourced ... business leaders are telling us that this is just the beginning unless we find the courage to make some major changes quickly," Gore said. "The survival of the United States of America as we know it is at risk."

The Pickens Plan (www.pickensplan.com) would exploit the great untapped wind-energy resource of the U.S. Midwest, from the Texas panhandle to North Dakota. In fact, Pickens' Mesa Power is building what will be the largest wind farm in the world, with a capacity of 4,000 MW — the equivalent of four large coal-fired power plants — in Pampa, TX. Generating electricity from wind power would then allow natural gas to be redirected for use as a transportation fuel. Pickens argues that this plan can be implemented through private investment, relies 100% on domestic energy resources and existing, proven technologies — and, it will slash oil imports by at least 30% in ten years.

But, as a white paper issued recently by AICHE's Government Relations Committee warns (p. 24), not enough attention is being given to storing the intermittent and highly variable wind and solar energy — which is necessary for its use on a broad scale (*CEP*, Mar. 2008, pp. S23–S32). Indeed, significant advances in massive electricity storage (MES) are needed for Pickens' plan and to meet Gore's challenge of producing 100% of our electricity from renewable energy within a decade (www.wecansolveit.org).

Pickens and Gore both point out (Gore more vociferously than Pickens) that these renewable-energy alternatives are also environmentally friendly, and will do much to mitigate climate change. Unfortunately, though, the emotions stirred up by the mere mention of *climate change* or *global warming* are getting in the way of rational decision-making.

When it comes to formulating a national energy strategy, we should not get bogged down by the debates about the accuracy of the climate models, the relationship between increasing carbon emissions and global warming, or whether we should implement mandatory carbon limits or cap-and-trade schemes. National security and economic stability are reasons enough to increase our use of renewables such as biofuels (pp. S1–S24) and wind, solar, geothermal and hydroelectric power, as well as domestic natural gas and clean coal with carbon capture and sequestration.

Right now, we have too many of our energy eggs in the fossil fuels basket. That has to change — and who better to lead the charge than chemical engineers?

Cynthia Mascone, Editor-in-Chief