CLIMATE PROTECTION FOR FUN & PROFIT

New RMI Study Strikes a Chord in High Places

Read this quote and see if it doesn’t ring a bell:

“If we do it right, protecting the climate will yield not costs, but profits; not burdens, but benefits; not sacrifice, but a higher standard of living. There is a huge body of business evidence now showing that energy savings give better service at lower cost with higher profit. We have to tear down barriers to successful markets and we have to create incentives to enter them.”

President Bill Clinton said that on 22 October, when he announced the position that he’ll take in December negotiations in Kyoto, Japan for a new global climate-change treaty. To anyone familiar with RMI’s work, it should sound very familiar.

Clinton’s speech was a watershed event. For months, the Administration had been bogged down in competing claims and choices about what to do about global warming. Environmentalists were advocating a carbon tax or technical standards and other “command-and-control” strategies. Most economists (including those advising the President) warned that such strategies would be prohibitively expensive and would wreck the economy. The Global Climate Information Project, a coalition led by the coal industry, mounted a $13-million ad campaign pushing a do-nothing agenda.

The climate story told so far was about pain: high prices, lost jobs, weakened competitiveness, discomfort, privation, curtailment. The debate had stalemated over who should bear the costs.

Clinton’s speech turned the climate debate on its head. Strongly echoing a recent RMI paper, the President made an end-run around costs, and focused instead on initiatives that will reduce greenhouse-gas emissions and boost the economy at the same time (he even mentioned compact-fluorescent lamps). Improved energy efficiency is the key to protecting the climate, he said, and removing the market barriers to efficiency will spur innovation, speed the introduction of new technologies, and increase economic competitiveness.

While many criticize Clinton’s proposed emissions targets, this market-based strategy is likely to make the targets all but irrelevant.

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NO REGRETS

Rocky Mountain Institute’s long-standing view is that it doesn’t matter whether
global warming is happening or not,
because the most effective climate-protection
measures are things we should be
doing for economic reasons anyhow.

That “no regrets” position is fully de-veloped in a new RMI study, “Climate:
Making Sense and Making Money,” writ-ten by Amory and Hunter Lovins at the
request of the President’s Council on
Sustainable Development and funded by
the Energy Foundation. Although the
paper wasn’t officially released until mid-
November, early drafts have been widely
circulated among CEOs since August, and
Amory discussed it with top Administra-
tion officials and attended a White House
climate-change conference led by the
President in early October.

Aimed mainly at corporate leaders, the
paper analyzes the market failures that pre-
vent companies and individuals from being
more resource-efficient—and shows how
to turn those failures into profitable busi-
ness opportunities.

Climate change, write the Lovinses, is
not the inevitable price of progress, but
rather “an unnecessary artifact of the
uneconomically wasteful use of resources.” They estimate that simply implement-
ing cost-effective energy-efficiency measures—
that is, measures that pay a better-than-
market rate of return—could eliminate
over half the threat of global climate
change. Another quarter of the problem
can be abated by sustainable farming and
forestry practices that are about as prof-
table as current methods, and the rest will
disappear thanks to already-mandated
replacement of CFCs with new substitutes.

“So,” the Lovinses ask, “if the ‘cost’ of
protecting the climate ranges from strongly
negative to roughly zero or irrelevant, what
are we waiting for?”

WHAT ARE WE WAITING FOR?

One of the mistakes economists and
their models commonly make is to assume
that markets behave perfectly. They don’t.
The fact that Americans haven't yet cap-
tured cost-effective energy-efficiency invest-
ments that could save $300 billion annual-
ly reflects a major market failure, caused by
numerous real-world obstacles to the effi-
cient allocation and use of resources.

The guts of “Climate” is its lengthy
analysis of practical ways to turn those
obstacles into opportunities. For example:

• **Capital misallocation.** Most compa-
nies don’t assess potential energy-saving
improvements the way they do other uses
of the same money. Instead, they require a
simple payback whose median is 1.9 years,
which at a typical tax rate means a 71-per-
cent real after-tax rate of return—around
six times the marginal cost of capital. A
new energy-retrofit “protocol” (see “Capital
Idea” in the summer 1996 newsletter) can
help firms finance many such investments
with other people’s capital.

• **Organizational failures.** RMI staff
once visited a semiconductor plant where a
pipe took an inexplicable jog in mid-air as
if it were going around some invisible
obstacle. It turns out the piping design had
been copied from another plant that did
have a structural pillar in that location—
“infectious reptititis” that perpetuates the
inefficient status quo. Yet simple incentives
can turn employees into efficiency bounty-
hunters, resulting in huge benefits to the
employer (see “$100,000 Bills on the Shop
Floor” in the fall/winter 1995 newsletter).

• **Regulatory failures.** All but a handful
of states and nations reward regulated utili-
ties for selling more energy and penalize
them for cutting your bill, so shareholders
and customers have opposite goals—with
predictable results. Simple accounting
innovations in a few states decouple utili-
ties’ profits from their sales volumes, and
let utilities keep as extra profit part of
whichever they save off their customers’
bills. The nation’s largest investor-owned
utility, PG&e, thus added over $40 mil-
liion of riskless return to its 1992 bottom
line while saving customers nine times that
much. Proper restructuring can do the
same.

• **Informational failures.** Do you know
where to get everything you would need to
optimize your own energy use, how to
shop for it, and how to get it properly
installed? If not, you’ve just observed a
market barrier: if you didn’t know some-
ting is possible, you can’t choose to do it.
Federal labeling and efficiency standards
have taken a bite out of these failures, but
far more opportunities languish ungrasped.

• **Risks to manufacturers and distribu-
tors.** Faced with the risks of developing
and stocking new efficient products, com-
panies often opt to play it safe instead.
Governments and large institutional cus-
tomers can reduce these risks with contests,
“golden carrots,” and other procurement
policies that actually get the chicken to lay
the egg.

• **Perverse incentives.** Standard contracts
penalize good architects and engineers:
those who work harder to eliminate costly
equipment earn lower fees, or at best get
the same fees for more work. Such back-
wards incentives have led the United States
to misallocate about $1 trillion to air-condi-
tioning equipment (and utility systems to
power them) that wouldn’t have been bought if the same buildings had been optimally designed. Innovative design contracts and leases can realign these incentives (see “Designing Incentives” in the summer 1996 newsletter).

MORAL OF STORY

RMI’s climate study and Bill Clinton’s October speech both take an upbeat view of the prospects for reducing greenhouse-gas emissions.

America has done it before. Between 1979 and 1986, the nation’s economy grew 19 percent while total energy use shrank 6 percent. It’s true that Americans were motivated at that time by high and rising energy prices—but it doesn’t necessarily follow that, as economists often argue, it will take equally high energy prices to repeat that success.

Consider the case of Seattle, which has the cheapest electricity of any major U.S. city. During 1990–96, residents saved electric loads nearly 12 times as fast as those in Chicago, even though Seattle electricity prices are about half of Chicago’s. Why? Because their utility, Seattle City Lights, showed them how.

Moral of story: making an informed, effective, and efficient market in energy-saving devices and practices can fully substitute for a bare price signal, and indeed can influence energy-saving choices even more than can price alone. That is, people can save energy faster if they have extensive ability to respond to a weak price signal than if they have little ability to respond to a strong one.

Climate need not be a divisive issue. It can unite us around markets, profits, enterprise, and opportunity. As Bill Clinton put it, “climate change can bring us together around what America does best—we innovate, we compete, we find solutions to problems, and we do it in a way that promotes entrepreneurship and strengthens the American economy.”

We couldn’t have said it better ourselves. “Climate: Making Sense and Making Money” (E97-13) is available from RMI for $8.00 plus shipping & handling (for charges, see page 10). It can also be downloaded from our website (www.rmi.org).

BANKING ON KYOTO

By L. Hunter Lovins, Executive Director

Sometimes, watching a TV show, I’ll get so exasperated with the characters that I want to yell, “Yo! Can’t you see he doesn’t love you?” or, “Your father is dying, go to the hospital already!”

That’s what it was like during the maneuverings for December’s big climate-change conference in Kyoto. I wished I could boink those folks’ collective nogginstogether and tell them to quit obsessing about the costs of preventing global warming. Since fuel costs less to save than to buy, they ought to be figuring out how to split up the profits! And why waste time debating the science of climate change? It’s irrelevant, from an economic standpoint (which is all the politicians are really concerned about), because it’s cheaper to protect the climate than not to.

Fortunately, Amory’s calmer head prevailed, and our latest study, “Climate: Making Sense and Making Money” (see cover story), is phrased more diplomatically. It also appears to have had a more helpful effect on the climate debate than my yelling at the TV.

The paper is only one of several things we’ve been doing this summer and fall to reframe the climate debate, pre- and post-Kyoto. The Energy Foundation has kindly funded us to run with our ideas wherever they lead us: briefing senior Administration officials and industry captains, writing op-eds, informing journalists. We’ve also teamed up with public-education efforts to publicize positive solutions to climate change. And of course many other groups have been doing great work showing how to reduce greenhouse-gas emissions cost-effectively through efficiency and renewables.

Ironically, much of this work is a response to a $13-million industry campaign to sow doubt and fear about the costs of climate protection. I say “ironically” because, while the less sensible elements of industry spend millions saying it can’t be done, we’re trying to show how doing it can save industry billions.

Fear of change is human and understandable, but it’s not good corporate strategy. Change is inevitable—and I’m not talking about climate. A few shrewd companies, such as British Petroleum and GM, are quietly backing away from business-as-usual, and instead are exploring how they can profit by selling less polluting products and services. When they succeed, their competitors will have no choice but to follow.

And they will succeed. I see reasons for optimism everywhere. Did you know that the United States “produces” as much energy each year through increased efficiency as it does from oil? Or that wind power is now the fastest-growing energy source in the world? And just look at the efficiency improvements in cars and fuel cells announced in the past year or so.

If these things are already happening in our decidedly imperfect market, imagine what’s possible if we correct the market failures that prevent us from fully profiting from resource efficiency. The result can only be a stronger, more competitive economy and more wealth to go around. If the threat of global warming lights a fire under us to do that, so much the better, but it’s something we should be doing anyway.

Bill Clinton’s pragmatic approach to meeting the climate targets to be set in Kyoto makes sense. It’s a policy that almost everyone can rally behind—which means it has a decent chance of actually working. America is already displacing leaded gas, CFCs, and sulfur at unexpectedly low costs. Carbon is next—and it will be even more profitable.
Let’s face it, real-estate developers aren’t known for sticking their necks out for the environment. Many would like to—after all, they work with the land—but like most businesspeople, they’ve been conditioned to believe that they’ve got to choose between saving the planet and making money. Going “green,” they fear, would delay project schedules and raise costs. And nobody wants to be a guinea pig.

In reality, many green projects have already been built or are under way. And guess what? Done right, they perform extremely well financially and are eagerly received in the marketplace.

That’s the message of *Green Development: Integrating Ecology and Real Estate*, the long-awaited book from RMI’s Green Development Services, and a companion CD-ROM, *Green Developments*. The book has just been released, and the CD is due out in December.

Since 1991, the GDS team has been showing developers and designers how to plan resource-efficient projects that work with the environment and support the community. From that wide experience and from dozens of other case studies, the book and CD-ROM distill proven procedures, potential pitfalls, and practical lessons for every stage of the development process.

Written primarily for real-estate professionals, the book describes an exciting new field where environmental considerations are viewed as opportunities to create fundamentally better buildings and communities—more efficient, more comfortable, more appealing, and ultimately more profitable. Increased profits can in turn be used as a financial engine for habitat restoration, reduce environmental impacts. The savings came from making the streets narrower, minimizing impervious concrete sidewalks, and using natural alternatives to conventional storm sewer systems. (Some of the savings were spent on enhancing open space and other amenities, further increasing value.)

Green developments also typically cost less to operate, which for the developer can mean higher building values or rents, or faster lease-ups. By incorporating energy-efficient measures, the Denver Dry Goods building is saving at least $75,000 a year in operating expenses, increasing the building’s value by $750,000 when capitalized. In Vancouver, British Columbia, the developer of a 55,000-square-foot mixed-use development is saving his tenants $57,000 a year on energy, enabling him to increase rents over the long term while decreasing tenants’ operating costs.

The same Vancouver developer also saved $850,000 in leasing and sales fees, thanks in part to the media exposure the project got for its environmentally sensitive features.

Taking a responsible attitude toward the environment and occupants reduces the risk of future litigation over “sick building syndrome” and other complaints. Some insurors even credit the reduced risks that some green features bring—for example, a building with high-thermal-mass walls may qualify for lower insurance premiums because the walls reduce the risk of fire.

Gaining early respect and support from a community can also greatly speed up project approvals and cut financing costs. The developers of Central Market, a grocery store in Poulsbo, Washington, say that the decision to enhance an on-site wetland and offer it to the city as a park not only reduced maintenance costs, but also avoided delays by generating strong community support.

*A WORLD OF WOUNDS*

If green developments are so profitable and so marketable, why aren’t all developments green?

There are many reasons, but the biggest is lack of awareness of the opportunities.
Most developers simply don’t yet understand what green real-estate development is, how big the market for it is, why it’s beneficial, how to do it, and why it makes so much sense financially. Hence the Green Development book and CD-ROM.

Other factors also slow green development’s entry into the marketplace. It’s a discipline that involves a significant learning curve and more than the usual amount of initial planning. Financial institutions may balk at the risk of what they consider untried techniques. Sometimes it’s hard to find willing partners.

Learning from the experiences of others is one of the best ways to overcome these barriers. By seeing and hearing how successful green projects were envisioned, financed, built, and marketed, developers can gain confidence that this approach is possible. That, too, is the purpose of Green Development.

Developers don’t have to choose between saving the planet and making money. Green Development offers them a way they can do both, and challenges them to do so. What it would be like, the book asks, if developments produced more energy than they consume? What if they increased habitat and biodiversity, produced food and clean water? What if they were woven deeply into the social and economic fabric of a community?

Aldo Leopold once said that to be an ecologist is to live in a “world of wounds,” conscious of the environmental damage around us. The task of real-estate development in the twenty-first century will be to heal those wounds. And that process of healing may also restore a measure of respect and societal value to the profession of real-estate development.

“Green Development” (D97-11) is 525 pages, hardback, with 150 photos and an extensive appendix of resources. It’s available from RMI for $54.95 plus shipping & handling (see page 10 for charges). The companion CD (D97-12), featuring more than 400 images and 30 minutes of audio and video clips (including voiceover by Robert Redford), is free to purchasers of the book, or can be bought separately for $7.00 plus shipping & handling.

I understand that corporations are powerful agents of change, but what, exactly, can they do to become more sustainable?

—Douglas Vilnius, Salt Lake City, Utah

Corporate sustainability is a huge field—it would take a book just to define the term adequately, let alone discuss all its nuances. In this column, we’ll look at a few things businesses can do to become more sustainable, and why it’s in their interest to do so.

For the sake of discussion, imagine a widget manufacturer that uses an expensive and toxic solvent to wash machinery. Not only does the solvent cost a lot, but the company has to pay to dispose of it. Occasional spills cost millions of dollars in fines and environmental remediation. What can the company do? Enter the concept of industrial ecology.

This relatively new discipline models industrial processes on ecosystems, which waste nothing and reuse everything. In a nutshell, industrial ecology assumes that waste is simply a resource out of place, and explores how it can serve as “food” for other processes. Using this approach, the hypothetical widget maker might develop a way to reuse the solvent, saving on purchasing and disposal costs—or better yet, redesign the process to eliminate the need for solvent altogether.

At this point you might be thinking, “Well duh, what’s so smart about that?” True, it’s just common sense, yet you’d be surprised how many companies fail to investigate obvious ways to increase efficiency—usually because they’re so fixated on supply-side solutions, assuming that the way to increase profits is to increase throughput.

A great example of industrial ecology in action comes from Kalundborg, Denmark, where several industries are opportunistically and profitably linked. A power plant supplies gypsum for a plasterboard operation, fly ash for a cement factory, and waste heat for fish farms. The power plant uses surplus gas and waste and cooling water from a nearby oil refinery, which in turn supplies sulfur for an acid plant. Meanwhile, waste steam from the power plant supplies the refinery and a nearby pharmaceuticals maker. The sludge from the pharmaceuticals maker goes back to a greenhouse heated—surprise!—by waste heat from the power plant.

Products also eventually become waste, so efficient manufacturers design for disassembly or reuse. The water pump on an old car is a good example: the price of a new pump (which is often remanufactured) credits back a deposit on the old one. This “lifecycle stewardship” helps change a linear, unsustainable process into a non-polluting, closed-loop one. Next: Swedish automakers have just been required to take back the whole car.

Industrial ecology is just one aspect of corporate sustainability. Whole schools of thought have been created around another key component: management. The crux of the argument is that barriers to sustainability are more institutional than technical—the technology needed to achieve sustainability already exists. In Lean and Clean Management, former RMI research scholar Joe Romm outlines what all lean companies have in common: they ask their customers what they want, encourage internal criticism, and use integrated teams and a systems approach to improve constantly. One example is Toyota, which used worker-suggestion programs to help dominate the industry.

In 1982, the company solicited close to 2 million suggestions (32 per worker) and

(continued on page 11)
REQUIRED READING

RMI Books Go to the Head of the Class

Two Rocky Mountain Institute books have found unexpected niches—as college textbooks.

At the University of Oregon, Professor David Povey is using RMI’s Economic Renewal Guide in a graduate-level planning course and preparing to test it in another. Although written with community activists in mind, the guide also works well as a manual for student planners, Povey says. Published last year, The Economic Renewal Guide sets out a public process that’s designed to help communities develop sustainably, fight less, and have more fun. It’s a process that also lends itself to 10-week semesters, offering students a crash course in community-development issues.

Students enrolled in Povey’s “Planning Practice” graduate course take Economic Renewal out of the classroom and into real communities throughout the Oregon coast. They’re each required to conduct research, take photographs, and interview residents in a particular community. Their on-site work enables them to prepare a community profile and preliminary action plan, then join with other nearby communities in developing a regional sustainable-development strategy. Class lectures come from the guide and from case studies of Economic Renewal efforts being conducted by 30 grad students throughout Oregon. “The Economic Renewal Guide” is a good textbook for our students to help improve the planning and problem-solving capacity of the rural communities and watershed that we serve,” Povey says. He also plans to use the guide in a graduate regional-planning course to supplement a statewide study on rural community goals and challenges.

Meanwhile, students at Allegheny College in Meadville, Pennsylvania are practicing Economic Renewal methods with The Community Energy Workbook, which outlines a process for strengthening local economies through improved energy efficiency. Professor Michael Maniates developed it around an ongoing junior seminar in environmental studies, in which students focus on projects to develop new business ideas and generate more local dollars.

“It seemed tailor-made for the junior seminar,” Maniates says. Last spring’s class collected information about Meadville’s energy expenditures, use, and demographics. Students found that Meadville residents spend almost 20 percent of their total personal income on energy. Case studies of successful community energy-saving programs, a survey of local citizens, and a public presentation helped raise community support and input.

“Students came back very impressed with how well they were received,” says Maniates. Having started the semester doubting their ability to make a difference, they were inspired to find that their concerns were taken seriously by city officials.

“Meadville,” Maniates explains, “is the home of the zipper. The zipper factory moved south 10 to 15 years ago. Things have gotten sufficiently bad that folks are open to new ideas.” The Community Energy Workbook worked in a place where many didn’t believe it could, he adds. “It’s not like trying to pitch sustainability in Boulder or Berkeley. Our success shows the power of the workbook.”

Of the 14 students who enrolled in Maniates’ seminar last semester, six have asked to continue the project as an independent study. This fall, a new group of students is using the workbook to help build a community coalition to improve tenant-landlord relations.

Although neither The Economic Renewal Guide nor The Community Energy Workbook was originally conceived as a textbook, their popularity with faculty is heartening. If you’re an educator interested in using Rocky Mountain Institute publications in your classes, RMI staff can assist you in locating other faculty who are already doing so.

Check out page 98 of the October Yahoo! Internet Life. Guest website reviewers Ben and Jerry gave our site four cones—their highest rating.
ME FIRST
Toyota's Bold Move

One of the most interesting guests at December's Kyoto climate-change conference will be the new Toyota Prius sedan.

Shown to the press in October, the Prius is the closest thing yet to RMI’s hypercar concept: the world’s first mass-produced hybrid-electric passenger car doubles the efficiency and halves the emissions of a comparable conventional car, despite being 330 pounds heavier. If a “tank conversion” like the Prius tests at 66 miles per gallon, imagine what an ultralight, ultraslippery hybrid can do!

Indeed, more exciting models may be waiting in the wings. Honda has announced a hybrid-electric vehicle that’s lighter, simpler to produce, and even more fuel-efficient than the Prius (70 miles per gallon, reportedly). Honda hasn’t said when it will begin selling the car, but it might take a year or more. Nissan and Audi also plan to bring out hybrids in 1998.

Yet the Prius is potentially more interesting, on account of Toyota’s audacious marketing strategy. The automaker plans to price the Prius at the equivalent of $17,700—more than $25,000 below its rumored break-even point at initial volumes. Analysts say that’s an indication of just how badly Toyota wants to be the first to bring out a hybrid, and how much it expects that leadership to boost its image.

That’s good news for hypercars. For several years, RMI has been arguing that the first company to bring a true hypercar to market will enjoy substantial competitive advantages. Toyota’s bold move suggests that at least one carmaker has gotten the message. And all it takes is one.

The Toyota Prius is initially being sold only in Japan, but the company says it will consider introducing it in the United States within six months.

JOHN DENVER, 1943–1997

John Denver’s death in October deeply saddened all of us at RMI. He was a good friend, a neighbor, and, in recent years, a member of RMI’s Board and a partner in our successful effort to protect a fragile mountain valley.

John’s driving passions were the environment and human rights. He wasn’t afraid to take stands before they became politically popular. His leadership and vision will be missed.

As anyone familiar with his music knows, John had a special love for the Colorado mountains, so it’s not surprising that our strongest connection with him was through the land. In 1979, he bought and donated a 957-acre ranch in Snowmass, Colorado to the Windstar Foundation, an environmental organization he’d co-founded three years earlier with aikido master Tom Crum. It is a special piece of land—a rare undeveloped remnant of bottomland and hillsides, rich in scrub oak and elk sedge and mountain mahogany, and providing critical winter range and a migration corridor for hundreds of deer and elk. By 1982, when RMI began building its headquarters about a mile down the road, the Windstar land had become a hub and a demonstration site for a bustling international organization.

On one level, the founders of RMI and Windstar couldn’t have been more different—Hunter and Amory Lovins were more left-brained, John Denver more right—and this was reflected in the personalities and constituencies of our respective organizations. Yet we shared the goal of a sustainable future, a faith in human ingenuity and common sense, and a global perspective. Our styles and strengths were complementary. Indeed, many of RMI’s staff got their start with Windstar.

The relationship got closer in 1992, when RMI, needing office space for its growing research division, rented part of the Windstar ranch house. The arrangement worked out so well that in 1995, when the Windstar land came under threat, the two organizations joined forces to save it.

The story of saving the Windstar land has been told in previous newsletters. As president of the Windstar Foundation, John played a key role in forging the partnership that placed the land under perpetual protection and transferred its title to a new independent entity, the Windstar Land Conservancy. John joined RMI’s Board, and he, Amory, and Hunter filled three of the five seats on the Windstar Land Conservancy’s Board.

At the time of his death, John was happier than he’d been for years. One thing that was no longer worrying him was the fate of the Windstar land.

“John loved this land,” recalls Hunter Lovins. “It was a continual source of joy to him to know that the Windstar valley was finally protected. It’ll be our memorial to him to be sure that it is.”

John’s family has named the Windstar Land Conservancy as one of the organizations to which gifts in his memory may be made. Such gifts will help complete one item of unfinished business in John’s dream for the Windstar land: the creation of a $1-million endowment for its permanent stewardship. As of late October, about $200,000 had been raised toward this final goal of RMI’s $3-million Securing the Future campaign.
A GROUND-BREAKING OPPORTUNITY
South Africa's Rebuilding Offers a “Teachable Moment”

Five years after the end of apartheid, South Africa hovers between wild optimism and violent pessimism. Having vanquished oppression, everything else looks pretty easy by comparison, yet funds are limited and material progress has been slow.

South Africa is unique: a high-tech industrial society where most people live in developing-world conditions. Millions still inhabit spartan shacks with no running water, sanitation, electricity, or heat. To improve conditions, President Nelson Mandela’s government has launched an effort through the Reconstruction and Development Program to build, renovate, or electrify up to 2 million homes in the next few years. Big job, big potential benefits. But can the government afford to do it right?

Can it afford not to?

During a September visit to South Africa, RMI research director Amory Lovins and researcher Chris Lotspeich met with senior officials and found them very receptive to integrated, highly efficient design concepts for—or to displace—infrastructure. Despite huge challenges, the massive building program offers a tremendous opportunity to meet the needs of the poor majority at least cost instead of repeating wasteful past mistakes.

A keynote speech at the National Water Conservation Campaign’s conference paid the airfare and opened doors to a week’s worth of other meetings. The most exciting were with the Minister of Water Affairs and Forestry, senior officials from the Department of Housing and Department of Minerals and Energy, and the chair and senior staff of South Africa’s giant electricity-generating monopoly, ESKOM.

Each of these partners in the Reconstruction and Development Program has incentives to shift costs to the others. The housing department could save money by building less efficient houses, forcing the utilities to supply more electricity and water. The utilities could invest in inefficient, centralized supplies and stick ratepayers with the bill. In South Africa, as in the rest of the world, there are no prizes for spending more money from your own budget to help cut society’s total costs.

Fortunately, the officials Lovins met with were already aware of these dangers, and looking for reasons to work together. It was, as they say, a “teachable moment.” Concrete suggestions emerged for reducing the societal cost (and improving the environmental performance) of the rebuilding program—creating jobs and boosting the economy at the same time.

For example, South Africa has been slow to implement widespread energy-efficiency programs, in part because electricity is priced very cheaply. Yet even where electricity is cheap, people save it when they’re shown how (page 3). One of several RMI recommendations: South Africa should create resource-efficient demonstration projects, from passive-solar single-family homes with solar water heating and high-performance fixtures to a full-scale retrofit of the pumps, compressors, motors, and lights in a financially marginal goldmine.

Another idea is to help launch South African manufacturing of efficient devices, such as high-performance showerheads and windows. These are keys to making newly built homes more efficient, and thus cheaper and more comfortable to live in. And manufacturing them would create needed jobs in a country with a 40-percent unemployment rate.

No formal actions have yet resulted from the meetings, but RMI will continue to support South Africa’s resource-efficiency efforts from afar, and a revisit is likely.

From left: South African Water Minister Kader Asmal, Water Conservation Director Guy Preston, U.S. Deputy Secretary of the Interior John Garamendi, and RMI’s Amory Lovins.

Small is Profitable is Late

A number of readers have been inquiring about Small Is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size, originally scheduled for summer.

Um…would you believe February 1998?

Meanwhile, the 300-plus-page tome has mutated into what we call a “proprietary strategic report,” which means it’s intended for a specialized corporate and institutional readership, and is priced accordingly: $995 postpaid ($900 for orders placed by 31 December). Discounts are available for multiple copies and for certain nonprofit purchasers. For details, please call our Publications Department.

Apologies for the delay, but we think it’ll be worth it.
UP SUGAR CREEK

The Army Corps of Engineers Gets a Paddling in Illinois

Failing to consider all reasonable alternatives and you’re likely to be sent back to the drawing board, as water officials in Marion, Illinois are finding.

The town has been trying since 1989 to get permission to dam nearby Sugar Creek to create a 1,200-acre reservoir. This past July—eight years, two lawsuits, and $2 million later—Marion’s long-awaited Army Corps of Engineers permit was yanked by a federal appeals court, which found that the Corps’ environmental impact statement (EIS) had failed to adequately consider all the alternatives.

In official comments to the Corps’ 1995 draft EIS, RMI water researcher Scott Chaplin highlighted potential least-cost alternatives to the dam, documenting how a similar community was able to avoid building a reservoir by implementing a comprehensive conservation program. Since the program “created” the same amount of water at a much lower cost, both the environment and water users were winners.

In ruling against the Army Corps, the appellate court didn’t specifically mention efficiency as an alternative that should have been considered. But, says Tom Bik of the local Sierra Club chapter, the testimony of RMI and other groups was essential for establishing that there were alternatives worth considering.

It’s still not over—these things are never over. Marion’s water officials have now hired a new water consultant and vowed to submit the proposal once again to the Army Corps.

But there are a couple of lessons in this. First, the Army Corps is in need of reform. The file on the Sugar Creek Reservoir probably would have been closed long ago were it not for the agency’s schizophrenia about water conservation. While some of its regional divisions recommend state-of-the-art water conservation, others completely ignore it (for example, the division that serves Marion requires no conservation, while neighboring Rock Island does). RMI believes the time is ripe for the Army Corps to develop a consistent, conservation-oriented policy, as the Bureau of Reclamation has already done.

Second, groups fighting dams and other projects would do well to learn how to research least-cost alternatives. Arguments based on protecting endangered species and dwindling wetlands, while they may be morally and legally strong, often fail because they put the focus on the costs of protection. When the environment is pitted against the economy, guess which one is going to lose? In contrast, showing how a community can satisfy its water needs more cheaply through efficiency is usually more effective because it offers a way for both sides to get what they want.

Marion, Illinois is one of several communities where RMI has been helping groups trying to protect threatened rivers and wetlands. Work in British Columbia seems to have concluded peacefully (see the spring 1997 newsletter), while cases in Virginia and Connecticut are still pending.

To help other communities work constructively with utilities, RMI has recently teamed up with the nonprofit River Network in the hopes of developing training materials for do-it-yourself analysis of utility proposals. This effort is as yet unfunded, however.

Chaplin hopes to create a manual describing the “detective work” necessary to assess the assumptions built into utility proposals. Typically, he says, utilities assume unrealistically high demand for water and very little potential for efficiency, and it often takes a lot of digging to determine whether those assumptions are valid.

WINDSTAR TREK

The Next Regeneration

Swinging steel blades and pitchforks, RMItes spent hours “thumping” thistles in August and September, signaling the Institute’s shift from acquisition to maintenance of the Windstar land.

The thistle war is one of many new projects on the 957-acre property that RMI helped place under permanent protection at the end of 1996. Others include the completion of a land-use plan and an archeological survey, the appointment of a new staff member, and the discovery of some ancient trees.

Thistles are a major local problem. Non-native species displace native ones, take over agricultural land, and hog water. Cattle will normally keep the plants in check, but the Windstar land hasn’t been grazed in the past 20 years. A small herd, partly owned by the Windstar Land Conservancy, grazed sections of the property this summer, and will be moved to other sections as fencing is improved. (Existing barbed wire fence is a relic of early homesteaders, and now mostly serves to snare deer and elk. Removing it is an ongoing process.)

The weed-eradication program was (continued on next page)
motivated in part by a bounty: the county launched a thistle-cutting competition, offering more than $1,000 to the organization thumping the most thistle. RMI took first place by delivering a whopping 4,307 pounds.

In a less violent August project, four people joined hands around a juniper tree. They weren’t having a seance—the group was making a preliminary measurement of what seems certain to be the biggest Rocky Mountain juniper in Colorado. They estimate the circumference at 15 feet 1 inch; official confirmation is awaited. (The Colorado record is 9 feet 10 inches; the world record, held by a Utah tree, is 20 feet.)

Ensuring that such treasures are protected and understood is up to newly appointed Windstar Land Conservancy program coordinator A.J. Thompson. She is organizing educational information, signs and trail construction, and has started a lecture series featuring RMI staff and visiting scholars. Eventually, A.J. hopes the Conservancy can host classes for children and offer guided tours in all seasons.

One of A.J.’s tools is a land-management plan drafted this summer by county wildlife biologist Mike Villa and RMI intern Julia Kertz. In addition to making recommendations about biological monitoring, staffing, and public access, the plan outlines how to restore Windstar to ecological stability. The valley bottom was once wetland: restoring it will provide more forage for a 600-strong elk herd, improve water quality, reduce pond siltation, and increase fish and migratory bird habitat. The plan proposes introducing native grasses to help stabilize the soil, filling ditches to route the stream to its natural course, and perhaps reintroducing beaver—the “furry engineers” designed for this role.

Habitat restoration will support an already vibrant wildlife population. Visiting scholar J. Baldwin can attest to the health of the existing community. Early one morning he saw an unusually large yellow cat with a long tail skulking around a garbage can. It proved to be a mountain lion. Another night, hearing a thunderous crash, he saw our local black bear, Bob (Big Ole Bear), who had jumped from a fence into a dumpster.

The Windstar valley was originally known as Bohan Gulch after John Bohan, who homesteaded the area in 1895 to raise livestock and hay for the booming local mining towns. John Jurick built a cabin on the land in 1906, the remnants of which may be eligible for listing in the National Register of Historic Places.

To identify and preserve such cultural resources, the Windstar Land Conservancy commissioned an archeological survey of the land. For the survey, archeologist Teri Paul interviewed John Jurick’s grandson Bernie, who was born on the land in 1931. His family grew oats and potatoes; the latter was a cash crop in good years.

Relatively high along the road to the wildlife pond is a stone retaining wall. It marks the cabin where Bernie was born, now surrounded by a grove of cottonwoods. Pointing to one of the larger trees, Bernie said: “My grandfather planted that.… He was, I guess, proud to be in America—he was from Yugoslavia. So he wanted his house up here, so he could see what was his.” From the Jurick homestead and other vantages on the land, we hope visitors to Windstar feel similar pride.

To support education and restoration activities on the land, the Windstar Land Conservancy is forming a “Friends of the Windstar Land” membership group. People can join and receive the RMI newsletter for a minimum contribution of $25 for individuals and $35 for families. For more information, please contact RMI.
CHEAPER, SIMPLER, SCARIER

In September RMI closed on a $599,000 building that will provide housing within walking distance of the Institute for up to eight staff. Several RMITes have already moved in and begun brainstorming ideas for fixing up what has come to be known as the “Cliff Dwelling” (after its vague resemblance to an Anasazi ruin). Such as:

• How about including it in the RMI tour as a passive-solar replica of Mesa Verde, complete with live demonstrations of corn grinding given by residents dressed in period costume?
• Or should RMI show Disney how it’s done by creating the world’s first photo-voltaic-powered Haunted House that uses 90 percent less electricity, 50 percent fewer cobwebs, and 10-fold fewer ghosts, yet is cheaper, simpler, scarier, and easier to haunt? (Remember, a 1-percent gain in productivity alone pays for the combined cost of tombstones, crypts, and fog machine.)

DURABLE ENTERPRISE

(continued from page 5)

implemented 95 percent of them. A perk: valuing workers for their ideas fosters company pride and loyalty.

Energy efficiency is another tool for sustainable business. During difficult economic times in the early ’80s, Southwire Corporation cut its energy use per pound of product by half. The savings accounted for almost all of the company’s profits for six years, and probably saved 4,000 jobs. This is what Paul Hawken means by “firing unproductive kilowatts, ” not workers.

Energy savings apply to facilities as well as to industrial processes. Typically, “green” building design not only saves money but also improves worker productivity. This is a crucial point, since energy savings alone are not always enough to motivate CEOs. As a 1994 RMI study documented (see “Greening the Bottom Line,” fall/winter 1994 newsletter), efficient design can increase postal workers’ piecework rate and accuracy, improve the quality of engineers’ drawings, and reduce absenteeism among bank employees—all adding measurably to profits and customer satisfaction.

Benefits cascade and interrelate: sustainable practices mean good public relations, and good PR adds to business longevity. A 1996 survey by Roper Starch International showed that 76 percent of Americans would rather buy from retailers affiliated with good causes. Half of Americans, the study reports, think more highly of companies that back green causes. As an executive of Amsterdam’s NMB Bank, one of the company’s profiled in the 1994 RMI study, notes: “The building has done wonders for NMB’s image…. NMB is now seen as a progressive, creative bank, and the bank’s business has grown dramatically.”

Any way you look at it, sustainable practices pay off. As Yvon Chouinard, founder of Patagonia and no sustainability slouch, once said: “Every time we’ve done the right thing, it’s ended up making us more money.”

Call to register your vote today!

But seriously, RMI is still seeking low-interest loans to restructure its debt on the Cliff Dwelling. We need to replace a $400,000 three-year bank bridge loan with long-term notes (preferably 10–20 years) at mutually attractive interest rates.

If you would like to make a loan of $10,000 or more, please call comptroller Christy Otis or treasurer Amory Lovins at 970-927-3851. Our 40-plus private note-holders enjoy a perfect repayment record, and this new financing will bring RMI’s debt service for all internal purposes up to only about 6 percent of total income.

RMI CATALOG

The 1998 RMI Catalog is now available. Call, fax, or email us for a free copy. You can also order publications from our secure website (www.rmi.org).

The Newsletter

The Rocky Mountain Institute Newsletter is published three times a year and distributed to more than 22,000 readers in the U.S. and throughout the world.

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LETTERS TO THE EDITOR

We want to hear your comments, criticism, or praise relating to any article printed in the Newsletter.

Please address all correspondence to:

Newsletter Editor
Rocky Mountain Institute
1739 Snowmass Creek Road
Snowmass, CO 81654-9199
(970) 927-3851 / fax (970) 927-3420
Email: dreed@rmi.org
Web: http://www.rmi.org

EDITOR...............................Dave Reed
WRITERS...................Dave Reed, Auden Schendler
LAYOUT.............................Ema Tibbetts

About the Institute

Rocky Mountain Institute is an independent, nonpartisan, nonprofit research and educational foundation with a vision across boundaries.

Seeking ideas that transcend ideology, and harnessing the problem-solving power of free-market economics, our goal is to foster the efficient and sustainable use of resources as a path to global security.

Rocky Mountain Institute believes that people can solve complex problems through collective action and their own common sense, and that understanding interconnections between resource issues can often solve many problems at once.

Founded in 1982, Rocky Mountain Institute is a §501(c)(3)/509(a)(1) public charity (tax-exempt #74-2244146). It has a staff of approximately 45 full-time, 48 total. The Institute focuses its work in several main areas—corporate practices, community economic development, energy, real-estate development, security, transportation, and water—and carries on international outreach and technical-exchange programs. Its E SOURCE subsidiary (1033 Walnut, Boulder, CO 80302-5114, 1-800-E SOURCE, esource@source.com, www.esource.com) is the leading source of information on advanced techniques for electric efficiency.
Here are the highlights of RMI’s year so far:

Energy
- Influenced the climate-change debate with “Climate: Making Sense and Making Money” (see cover story).
- Advised South African ministers and addressed audiences in nine other countries on energy efficiency.
- Analyzed and proposed more efficient alternatives to three separate proposed power plants in Hawaii.

Green Development
- Published Green Development: Integrating Ecology and Real Estate, a book for developers and other real-estate professionals, and a companion CD-ROM (see page 4).
- Secured the final two (of five) projects—a high school and a federal courthouse—for a multi-year experiment to test contractual incentives for designing more efficient buildings.
- Continued to participate in the winning bid to create an energy-efficient solar athletes’ village for the Sydney 2000 Olympics.
- Consulted on dozens of green projects, including the renovation of a Monsanto corporate campus, the Smithsonian National Museum of the American Indian, and an environmental education center at Oberlin College.

Transportation
- Held dozens of high-level meetings with American, European, and Asian carmakers to promote the hypercar concept and to create a consortium of manufacturers to build a prototype hypercar.
- Addressed the National Hydrogen Association, National Academy of Sciences, and many other influential audiences, and hosted a three-day workshop for the Partnership for a New Generation of Vehicles.
- Published papers on hypercar recycling, lifecycle, and control issues, and fuel-cell hypercars.
- Began creating web-based and print publicity materials designed to introduce the hypercar concept to a mass audience.

Economic Renewal
- Wrote a booklet highlighting case studies of sustainable-development initiatives in forest-dependent communities, and prepared to launch field tests.
- Developed a tool to help community leaders make important decisions more sustainably.
- With the Florida House Foundation, helped pioneer a new approach to land-use planning.
- Conducted the Economic Renewal process in nine communities in six states, and made introductory presentations in 19 other communities.

Water
- Launched the Soft Water Path program, a multi-year effort to promote significant reductions in human water use.
- Provided assistance in British Columbia, Connecticut, and Virginia in support of alternatives to dams and other supply expansions.
- Made numerous presentations on water efficiency, including a conference keynote in South Africa.
- Helped incorporate a section on water efficiency into the international “protocol” for measuring and financing efficiency.
- Led a scenario-building workshop on future management of wastewater plant biosolids.

Corporate Sustainability
- Helped guide an annual sales conference for Interface that encouraged participants to make resource-efficiency improvements at a Hawaiian resort hotel, and used that experience as a metaphor for the company’s own move toward sustain-

Windstar Land Conservancy
- Raised $200,000 toward endowing the perpetual stewardship of the Windstar land, bringing the total raised to over $2.2 million for its acquisition and protection.
- Sponsored workshops, lectures, and kids’ activities on the Windstar land, and hosted a June benefit for the Windstar Land Conservancy.
- Drafted a land-management plan and archaeological and biological surveys.
- Eradicated thistles and began limited cattle grazing as first steps to restoring the land.
- Repaired the Walker Wonder ditch and the main building’s roof and septic system, and converted a garden shed to an environmental-education classroom.

Facilities & Operations
- Purchased a building within walking distance of the Institute to provide housing for up to eight staff.
- Continued to upgrade photovoltaic systems and windows in RMI’s headquarters building.

Communications & Outreach
- Redesigned and greatly expanded the RMI website.
- Created a broadcast-quality video reel of RMI for publicity purposes.
- Fielded nearly 2,000 queries on topics related to RMI’s work.
- Obtained coverage of RMI’s work in hundreds of media.
- Hosted over 1,000 visitors.
BEGS, ASKITS, AND AN INSTITUTE COMING OF AGE

Dear Friends,

We used to call RMI’s annual donor appeal “Putting All Our Begs in One Askit.” We can’t call it that anymore, since we’re now in the middle of a year-round capital campaign to create an endowment for the stewardship of the Windstar land, which RMI helped purchase and place under perpetual protection late last year.

Nevertheless, we remain committed to our low-key approach to fundraising, and to our policy of not selling, renting, or lending our mailing list. And although we no longer can put all our begs in just one askit, we do still manage to avoid the pitfalls experienced by many organizations: RMI is still focused on what it gives rather than on what it can get.

As we move through RMI’s 16th year, it is interesting to look at the Institute’s development in “people” terms. Traditionally, 16 is an age at which young Americans begin to reach maturity and become aware of themselves as independent entities. So, too, RMI is increasingly being sought for advice by corporations and governments, and is bringing to market the products of its research. The Institute is not only growing but maturing: becoming more insightful, more effective, perhaps even more wise. As it does, your gifts of support go further; in 1997 we expect to earn more than one-third of our total revenue.

Our end-of-the-year request for general operating support will be sent out separately. As corporate doors open wider, our long-term goal of financial self-sufficiency is looking more realistic; but for now, we still need and ask for your donations. As the Institute matures further, we shall continue to need your partnership in developing and distributing our work, but trust that we will gradually become able to ask more for your sense than for your dollars.

Everyone at the Institute joins us in thanking you for your support and in sending best wishes for the season to you and yours. May peace be with you and with the world.

Sincerely,

L. Hunter Lovins
President & Executive Director

Amory B. Lovins
Vice President & Treasurer

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Our sincere appreciation is offered to these friends who have contributed to RMI.
Please let us know if your name has been omitted or misspelled so it can be corrected in the next issue.

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Figure 1: The map of the future campus of the Rocky Mountain Institute.
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FALL/WINTER 1997 ROCKY MOUNTAIN INSTITUTE NEWSLETTER

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