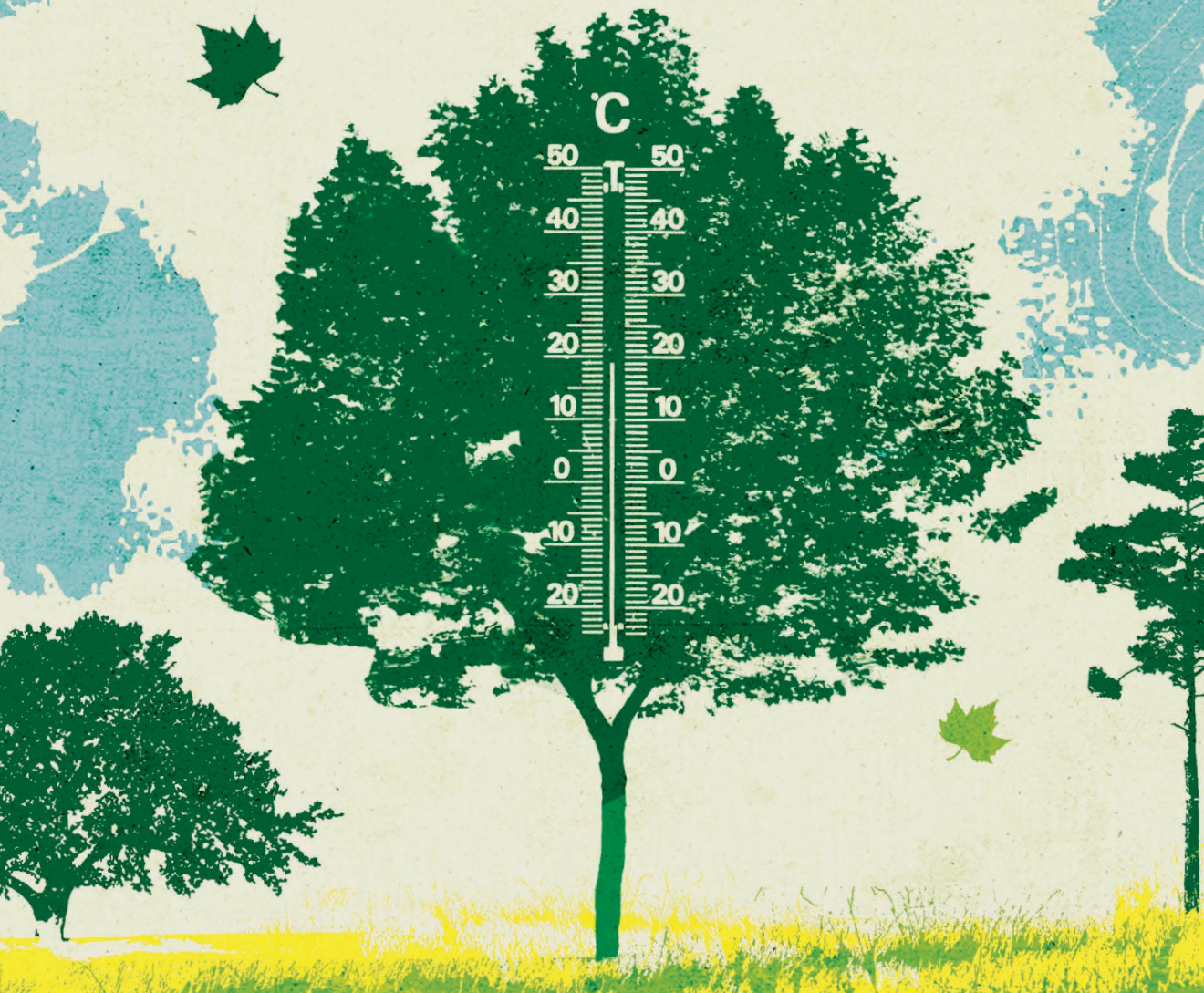
US ENERGY POLICY in an INTERDEPENDENT WORLD

With climate change looming large, our diminished reliance on foreign oil does not mean we are free from concern about energy security.

Phil Sharp



On January 20, 2016, Secretary of Energy Ernest Moniz awarded RFF President Phil Sharp the 2015 James R. Schlesinger Medal for Energy Security. In Secretary Moniz's introductory remarks detailing Sharp's more than 40-year record of commitment and contributions to vital energy security policies—including his 20 years as a US congressman from Indiana—he concluded that Sharp "provided much of the foundation of our continuing efforts in energy and energy security policies."

He applauded Sharp's data-driven approach to energy policy. "He was about substance," Moniz said of Sharp's time in Congress. "He was about reaching across the aisle. He was about solving problems. He retired from Congress in 1994, but to the country's benefit, he remained deeply engaged in energy issues."

In his acceptance speech, Sharp touched on various themes surrounding global energy security, punctuated by his signature wit. The following article is based on those themes.

Today we are in the midst of a drive to not just change but transform our energy systems in order to protect us from risks associated with climate change. In the 1970s, when James Schlesinger was a towering figure in energy and security matters, we similarly had a decade-long drive to transform our energy systems to protect us from risks associated with dependence on oil from the Middle East. The dramatic rise in oil prices accompanying the Arab Oil Embargo of 1973 raised economic and security alarms in the United States. President Nixon responded with policy recommendations labeled "Project Independence," and "independence" has been the watchword ever since in American politics.

Throughout the 1970s, Americans—especially in Washington—engaged in furious debates about how to cut oil dependence. In reality, various factions stressed differing goals: national security, economic growth, environmental protection, or consumer price protection. Out of those debates and through hard political bargaining, major energy laws were adopted, some of which are still on the books.

Despite these strong efforts to transform our energy markets, reliance on foreign oil only grew—although slower than would have happened without policy intervention—until the last few years brought breakthroughs in domestic oil and gas production (think fracking), the hiking of automobile fuel economy standards, and the adoption of substitute fuels.

In short, the drive to transform energy markets in the 1970s did not achieve the primary goal of independence, but decades later, America has benefited from the public and private investments that were made in technology, energy efficiency, and alternative fuels. The recent turnaround in the oil import situation is clearly positive for the American economy and for our national security, enhancing our leverage in the global politics of energy. In the last decade we witnessed several rounds of congressional action that helped bring about this change.

But the lessening of our dependence does not mean we are free from concern about the global market for oil that underlies so much of the global economy. A major crisis in the oil market would have clear costs for our economy and possibly for our security. Indeed, we live in an energy interdependent world.

PHIL SHARP is the president of RFF and a former member of the US House of Representatives, where he served 10 terms as a congressman from Indiana.

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Interdependence beyond Oil

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Policies and markets in Germany, Spain, and China, for example, have undoubtedly cut the costs of rooftop solar and contributed—along with state and federal US policies—to its spread in America. Foreign markets and foreign government policies are increasingly likely to play significant roles in the adoption of various technologies, from wind and solar to new designs of nuclear power plants.

The Digital Revolution, which has been transforming our lives and the economy, is significantly changing the ways we produce, deliver, and use energy. Digitalization has brought us incredible benefits as well as new vulnerabilities, especially for our electric sector. Cyber attacks can come from foreign governments, terrorists, or even tech-savvy teenagers who, on a lark, might bring down portions of our smart grid.

A recent post on the *Washington Post's Wonkblog* suggested we may be overly alarmist about cybersecurity, indicating that, to date, cute American squirrels are a greater threat to our electric grid than foreign hackers. Yet I think most professionals in the field would argue that considerable vigilance and investment will be needed to protect against attacks and improve our ability to restore power should there be a hit. And greater coordination with foreign governments must be part of a protective strategy.

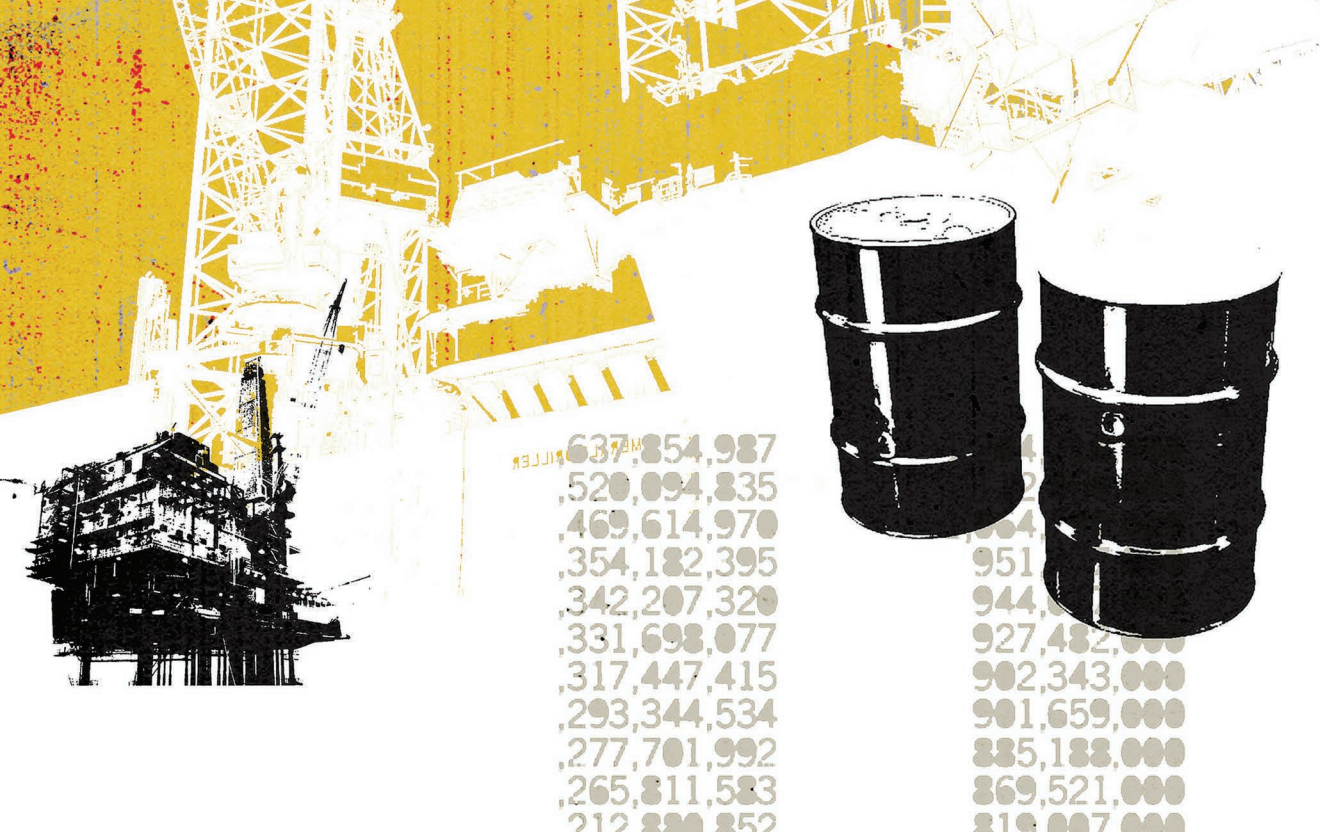
With respect to nuclear power, we have a critical common interest with other nations to keep the worldwide collection of nuclear plants operating safely and to keep nuclear materials secure from would-be weapons makers.

Secretary of Energy Moniz, supported by considerable talent in the department's national laboratories, deserves our gratitude for his work, along with the president and secretary of state, in completing the agreement with Iran, which will require continuing vigilance to prevent that nation from developing a bomb.

The safety of workers and people living near nuclear plants must always be the highest priority for governments and plant operators. There is also a mutually shared safety interest, since a serious accident anywhere is likely to have reverberations everywhere—as was the case following the horrific events at Fukushima.

New plants are being built around the world—many in the emerging economies where there has been little, if any, industry or regulatory experience with nuclear energy. Fortunately, our industry, our government, and our safety regulators have actively engaged with other nations to provide technology and experience.

It should also be recognized that most of the comprehensive studies on how to transform global energy systems to dramatically cut future greenhouse gas emissions include a nuclear component. They tend to recommend expansion of nuclear capacity or, at least, the continued operation of



current plants until we are certain that other pathways, such as efficiency and renewables, can have the impact necessary to achieve internationally agreed upon goals.

The Power of Price

Over the last 40 years, a plethora of government policies at the federal and state levels have unquestionably had an impact on our energy markets, for better or worse. Too often in the public debate there is little appreciation for the significant role played by price swings in reshaping markets.

Significant price swings change the behavior of investors, business managers, consumers, and innovators. Major price increases stimulate greater end-use efficiency and greater investment in new technologies and substitute fuels. They have also triggered the adoption of policies—state and federal—pushing for innovation, gains in efficiency, and alternative fuels. In short, major price increases supercharge our markets and our politics. They are a blowtorch on the rear end of Congress. Indeed, nearly all major energy bills followed on the heels of major price rises.

Likewise, when prices fall—as has happened recently with oil—consumers, investors, innovators, and political leaders tend to lose interest in such market changes.

In addressing greenhouse gas emissions, it is important to recognize the critical role of government policies to compensate for the current reduction in the market price stimulus. Moreover, as we look to the decades ahead, it is likewise important to look to carbon pricing policies to achieve major emissions reductions. In 2009, as we know, the House of Representatives adopted an admittedly complex pricing regime for carbon dioxide in preference to regulation under the Clean Air Act, although the Senate was unable to reach agreement on the issue. As a consequence of *Massachusetts v. EPA*, the failure of Congress to legislate, and the proactive leadership of President Obama, we have embarked on a near-term drive to regulate power plant emissions.

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Interdependence and Climate Change

Our interdependence with other nations is nowhere more pronounced than in dealing with climate change. Greenhouse gases are emitted everywhere and the consequences of climate change are likely to be felt everywhere. Moreover, we are dealing with the two greatest "commons" problems: oceans and atmosphere. While the United States historically may have been the biggest emitter, we have now been surpassed by China in terms of annual emissions, and many other nations are significant emitters. Action by all such emitters is critical for success, and most nations are unlikely to take strong action unless others are doing likewise.

In part, the importance of the Paris agreement was to eliminate the excuse for inaction out of fear of inaction by others. That agreement has now established a framework for action by nearly all countries. To make it truly effective, strong leadership from major nations will be required—the kind of leadership shown by President Obama and President Xi in their bilateral agreement that clearly advanced the making of the Paris agreement, demonstrating that no major nation would have to go it alone.

The American Climate Debate

At the moment, the American public debate is highly contentious, and the US Congress suffers from climate constipation. A few members of Congress are still looking to the Book of Genesis for scientific authority, but most members acknowledge the modern scientific consensus, and many have been working to get policy action.

Unlike most Americans today, I have high regard for many in Congress who work under very challenging circumstances. But let's face it: Capitol Hill is not Garrison Keillor's Lake Wobegon, where all the children are above average.

It is time to get past the denier debate and focus on cost-effective options for cutting emissions. I have every confidence we will see a change in Congress.

Despite the contentious debate, federal and state policies are still in place that redirect our energy future and, coupled with the recent substitution of gas for coal in the electricity sector, are making real progress in cutting emissions.

In the decades ahead, we face major intellectual and political work to deal with the many ramifications of climate change, especially if one assumes (as I do) that, worldwide, people want economic progress as well as environmental protection.

The Intellectual Challenge

Given the current presidential campaign, let me reaffirm what should be obvious. A main pillar of America's greatness is its intellectual infrastructure—by which I mean our universities; the analytical shops in government, industry, and environmental NGOs; and think tanks such as RFF. We must capitalize on these resources to meet the climate challenge.

However smart we try to be, our ability to foretell the future is limited. Indeed, many experts in government, industry, and academia have been wrong about oil and gas prices, technology developments, and the policies partisans in Congress would support.

While decades of scientific investment have given us incredible knowledge about climate issues and major analysis has been done on the policy front, uncertainties will remain for policymakers to confront—especially given the expectation that we will be dealing with these issues for decades. *America's Climate Choices*, a study sponsored by the National Academy of Sciences, recommends an approach to taking action in the face of uncertainty: "iterative risk analysis." Briefly stated, we do our best to assess the risks as we now understand them; we take action to mitigate those risks; and periodically (say, every 5 years) we reassess the risks based on what we have learned from the developing science and an evaluation of the effectiveness of related policies. Then we redirect policies in accord with our new understandings. While it is important to try to project ahead 30 to 50 years, it is highly unlikely that we can do so with a high degree of certainty. In some sense, this approach is part of the Paris agreement, which envisions regular updates in national commitments.

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The Political Challenge

The path ahead in climate policymaking will undoubtedly see contentious debate and hard political bargaining. Such debate and such bargaining are offensive to many Americans, whether they work in America's intellectual infrastructure or in the farm fields of Indiana. But this process is the only hope for achieving sustainable policy.

Wisely, the founding fathers did not put the governing power in the hands of philosopher kings or a Soviet-style politburo. During the summer of 1787—a long, hot summer—they engaged in contentious debate, they engaged in hard bargaining, and they crafted our great Constitution. ●

The author wishes to express his gratitude to the many people who have been critical in his professional career: colleagues at RFF; former congressional staff and longtime friends Mike Kraft, Jack Riggs, and Shelley Fidler; energy policy mentors Charles Curtis and Robert Nordhaus; and former chairman of the Energy and Commerce Committee, John Dingell, an extraordinary legislator.