

THE RIPON SOCIETY'S NATIONAL ISSUES POLICY CONFERENCE: PUBLIC POLICIES FOR DEBATE 2005



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## The Ripon Society's National Issues Policy Conference: Public Policies for Debate 2005



Immigration • Energy • Trade • New Technology

IN CONGRESS, JULY 4, 1776.  
A DECLARATION  
BY THE REPRESENTATIVES OF THE  
UNITED STATES OF AMERICA,  
IN GENERAL CONGRESS ASSEMBLED.

WHEN in the Course of human Events, it becomes necessary for one People to dissolve the Political Bands which have connected them with another, and to assume among the Powers of the Earth, the separate and equal Station to which the Laws of Nature and of Nature's God entitle them, a decent Respect to the Opinions of Mankind requires that the Reasons which impel them to the Separation, should be published to the world, and that they should appear in the most plain and intelligible Manner.

We hold these Truths to be self-evident, that all Men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the Pursuit of Happiness. That to secure these Rights, Governments are instituted among Men, deriving their just Powers from the Consent of the Governed, that whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its Foundation on such Principles, and organizing its Powers in such Manner, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient Causes; and accordingly we have suffered the longest Sufferance, than to alter them, and to secure new Forms of Government.

The  
**Ripon**  
Society



*About The Ripon Society:*

The Ripon Society, founded in 1962, is a nonprofit think tank, research, and grassroots outreach organization. Taking its name from the Republican Party's birthplace in Ripon, Wisconsin, The Ripon Society is dedicated to the Republican Party's founding principles and commitment to liberty. While times change, The Ripon Society believes that certain values are permanent. To this end, The Ripon Society promotes a common sense agenda that is committed to limited government, a vibrant free market economy, strong families, civil rights, and a foreign policy guided by America's national interests. Through its nationally recognized magazine, *The Ripon Forum*, State Policy Outreach events, policy breakfast, lunch, and dinner series, Listening Tours and public policy papers, The Ripon Society advances debate and dialogue within the Republican Party.

Signed in Order and in Behalf of the Congress,

JOHN HANCOCK, PRESIDENT.

ATTEST  
CHARLES THOMSON, SECRETARY



# The Ripon Society's National Issues Policy Conference: Public Policies for Debate 2005

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On the cover:  
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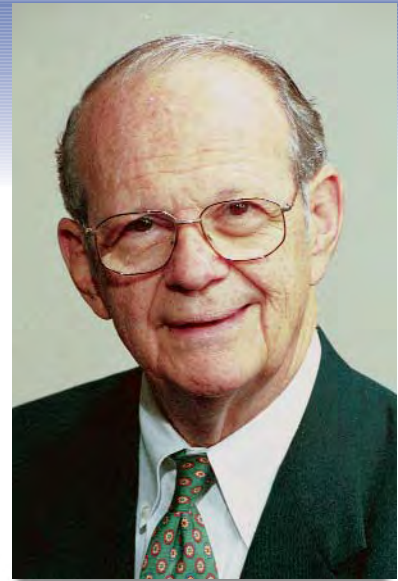
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# *The Honorable Bill Frenzel*

Dear Members and Friends:

On behalf of The Ripon Society, it is a great honor to welcome you to our first National Issues Policy Conference.

In an effort to enhance its historical role as a forum for debate and creativity in the search for practical public policy solutions, the Society last year began an aggressive expansion of its policy programs. This expansion includes the addition of an annual policy conference for the entire Ripon Society Membership early in the year, as well as the National Issues Policy Conference, exclusively for the Millennium and Chairman's clubs taking place in the fall.



Our National Issues Policy Conference, with its 18 policy papers, will examine current issues of prime importance. We are excited to present for debate emerging issues in Immigration, Energy, Trade, and Technology. As always, The Ripon Society prides itself on seeking consensus through thoughtful debate. The GOP should be the party of the "Big Tent," which is open to diverse points of view.

The Ripon Society will continue to bring important contemporary issues forward, leading and focusing the debate. A critical part of our mission is to ensure that new creative ideas are included in our debates. We hope to encourage discussion based on our commitment to limited government, free market institutions, individual liberties, and a strong national defense.

The policy papers demonstrate the depth and diversity of our conference focus, and reflect the focus of the Republican Party itself. Perhaps, more tellingly, they are testimony to the energy, imagination, and dedication of our membership and to their contributions to our policy debate.

On behalf of The Ripon Society, thank you for your continued support. We hope your participation in the National Issues Policy Conference is both stimulating and rewarding.

Best regards,

A handwritten signature in black ink that reads "Bill Frenzel". The signature is written in a cursive, slightly slanted style.

Bill Frenzel  
President Emeritus

# Immigration

Photo by Sandy Huffaker/Gaety Images



# Six Principles of Comprehensive Immigration Reform

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U.S. Senator John Cornyn

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It is no longer a question of whether we will reform our immigration laws, but rather when and how. There has been a 30 percent increase in illegal immigration since 2000, and there are an estimated 10 to 12 million undocumented workers currently in the United States. A recent report by the Pew Hispanic Center reveals that illegal immigration exceeds legal immigration. Most alarmingly, information suggests terrorists and other criminals are aware of the holes in our system and may look to exploit these weaknesses. Below I outline principles of comprehensive immigration reform that are based on the rule of law, fair treatment of all immigrants, and the need for both enforcement and improved avenues for legal immigration.

## Principle #1: Regain Control of the Borders

The truth is that we have not devoted the funds, resources, or manpower to enforce our immigration laws or protect our borders. Regaining control over the immigration system starts by controlling the border. We must authorize additional Customs and



U.S. Senator John Cornyn

Courtesy of Sen. Cornyn's office

Border Protection officers and additional funds for cameras, sensors, and unmanned aerial vehicles. We must also find ways to streamline the removal of aliens apprehended along the border. Reducing the number of days that each alien is detained prior to removal will maximize use of our limited resources: detention beds, facilities, and detention officers.

## Principle #2: Remove Criminal Aliens Already in the U.S.

We must also strengthen interior enforcement and ensure that criminal aliens are identified and deported. Right now, there are close to 500,000 absconders – aliens who were ordered deported and never left the U.S. – and tens of thousands of them are criminal aliens. We must not only increase the number of agents, but we must authorize the detention beds, trial attorneys, judges and facilities that make the removal process function. One approach is to expand a program that identifies criminal aliens while they are still serving time in state and local jails. Another way

to make better use of our resources is to allow for state and local police - voluntarily - to assist federal officials with enforcement of immigration laws.

### **Principle #3: Eliminate the Magnet of Illegal Employment**

For decades, experts from both political parties have concluded that the single most effective way to reduce illegal immigration is to remove the magnet of illegal employment. Despite years of consensus, current employment verification laws are unworkable and unenforceable. An employer must review some combination of 27 different documents to determine whether a new worker is legal. Document fraud and identity theft have contributed to the problem, making it easier for unscrupulous employers to look the other way and hire unauthorized workers.

While it may be counterintuitive to some, the answer is to make it easier, not tougher, on employers: a simple electronic verification system would provide immediate confirmation of whether a worker is legal. If a merchant can swipe a card to determine whether a credit card number is valid, certainly the federal government can develop a system that allows employers to verify whether a new hire is authorized to work.

### **Principle #4: Support and Improve Legal Immigration**

Immigration reform must further the goals of America and serve the needs of our economy. The vast majority of undocumented workers come to the U.S. to fill jobs that U.S. workers are unavailable to fill, and we must provide secure, workable avenues to enter the country. We must welcome legal immigrants, and shut the door on those who seek to do us harm or violate our laws.

It is time for a new temporary visa category that allows foreign workers to enter the country for a short period of time and then requires the worker to return home. It should create financial incentives for circular migration, including a temporary worker investment fund that vests only when the worker returns to his or her home country. Most importantly, it must be workable: current visa categories are burdened with onerous government regulations and requirements and do not reflect the realities of the workplace and the modern economy.

### **Principle #5: Transitioning Undocumented Workers into a Legal Status**

While the vast majority of undocumented workers come to the U.S. solely to provide for their families, they should not be

rewarded with a different, easier path to a green card and citizenship. Doing so is a disservice to legal immigrants who follow the law and will only lead to illegal immigration in years to come.

Under current law, however, illegal aliens who leave the country are ineligible to reenter for up to 10 years. A fair and reasonable solution is to lift those legal bars to reentry and then grant non-criminal, undocumented workers a period of time – up to five years – in which to depart and return in legal status. During that five-year period, they should be able to work and travel, so there would be no disruption to businesses or families. When they depart, they should be immediately eligible to return on a temporary worker visa (including the new visa category we must create) or, if eligible, on a green card. A recent Pew Hispanic Survey study showed that approximately 80 percent of undocumented workers would sign up for the program – not surprising when you consider that undocumented workers around the country go to work every day without the protection of U.S. laws, fearful that they could be deported at any time.

### **Principle #6: Addressing the Costs of Illegal Immigration**

For far too long, the costs of illegal immigration have fallen on our state and local law enforcement agencies. Meanwhile, hospitals face immense financial burdens because of un-reimbursed care. Immigration reform must not only reimburse state and local agencies for the costs they incur, but it must find ways to eliminate those burdens in the first place. One way to address the health care costs would be to require all temporary workers to have a minimum level of health insurance coverage, which could be provided by the countries that send workers or by employers who choose to provide such coverage.

### **Conclusion**

Immigration reform ultimately must be about improving legal immigration, not about creating a new process that only benefits illegal aliens. If all immigrants must abide by the rule of law and are treated equally, then we can reach a consensus on ways to improve the legal process so that it meets the needs of society, the economy, and our national security. 🇺🇸

— U.S. Sen. John Cornyn, R-Texas, is Chairman of the Senate Judiciary Committee's Immigration, Border Security and Citizenship subcommittee. Earlier this year, he introduced the Comprehensive Enforcement and Immigration Reform Act of 2005, a bill that will restore integrity to the immigration system.

# It's Time to Secure America

U.S. Representative Jim Kolbe

**A**s a young child growing up on a cattle ranch in southeastern Arizona, illegal immigration was a fact of life, but a minor irritant. But it was a simpler time.

In that era the border population was sparse, and entering the United States entailed nothing more than crawling through a three-strand barbed wire fence, not unlike the fence we used to separate our cattle pastures. Occasional illegal immigrants would wander through the ranch, be given a meal and water to drink and sent on their way. The Border Patrol was usually called, but the number of agents covering a 100 mile stretch of border could be counted on the fingers of two hands, so they rarely showed up in a timely fashion.

But times have changed. Today, Mexican border cities are teeming with populations that seek the higher wages of maquiladora plants and the dream of getting to the United States. Thousands of Border Patrol agents swarm along the U.S. side of the border, aided by electronic sensors, vehicle barriers, night vision goggles, helicopters and fixed wing aircraft and even unmanned aerial vehicles (UAVs). On the other side, smugglers possess equally sophisticated



U.S. Representative Jim Kolbe

Courtesy of Rep. Kolbe's office

equipment, communicating with scouts using cell phones and two-way radios, watching the movements of the Border Patrol with their own night vision devices, and are padded with rolls of one hundred dollar bills. The going rate for being smuggled into the United States ranges from \$2,500 to as much as \$5,000, and the “contract” promises at least three tries at crossing.

Illegal immigration has become a growth industry on both sides of the border. Simply stated, our current system of border enforcement is out of step with reality. It allows law-breakers to flourish and profit from their criminal activities. We must replace our broken immigration system with a new system – one that strengthens our economy, punishes lawbreakers, and saves lives.

The legislation I have introduced with Representatives Jeff Flake (R-AZ) and Luis Gutierrez (D-IL) is based on one simple premise: Our entire immigration system is broken and requires a thorough overhaul. Band-aids and partial solutions won't work any longer.

Our bill, dubbed the Secure America Act, embraces this comprehensive approach in three areas, like a three-legged stool. The first leg is improving border security. We have already increased the

number of Border Patrol agents and given them more tools to help them do their jobs. We even have the military providing support along the border. But we need to do more. We need even more Border Patrol agents on the border, and we must increase the use of technology like UAVs, fixed wing aircraft, helicopters, sensors, lighting, and watch towers.

However, strengthening enforcement on the border is not enough. The past decade has taught us a hard lesson. Just ten years ago, there was only a tenth of the number of Border Patrol agents as there are in the Tucson Sector today. We have quintupled the Border Patrol's budget, rethought their tactics, and overhauled the arsenal of high-tech equipment at their disposal.

Has it made a difference? Yes. It has made it much more difficult to cross the border, and thus made it more costly – measured by both human suffering and money. But it has not stopped the flow of people coming into the United States. Illegal immigration has remained at roughly the same levels, or higher in some areas like Arizona.

Thus, the second leg of the stool is employer enforcement – creating a fool proof, easy to use system of documentation verification that workers and business alike can actually use. Then we must enforce the law with businesses that don't comply by hiring or abusing illegal workers; and we must deport foreign workers who do not come into the country legally.

To make this work, we must establish a system of counterfeit resistant documents so employer and employee can know they establish a valid right to employment. The current system is so prone to fraud that a business owner can't be expected to know if a document is counterfeit, and even if they do, the Department of Labor usually can't prove it.

The Secure America Act calls for the creation of the Employment Verification System. This electronic program will utilize the tamper-resistant, biometric, machine-readable identity documents, which will be verified when a temporary worker begins and finishes a job, making it easier for employers to know who is authorized to work in the U.S. Noncompliance should not be an issue with such a system.

The third and final leg of the stool is the most controversial, but is absolutely essential to success. It involves the creation of a sensible, temporary worker program. The Secure America Act creates two visa categories – one for foreign workers wishing to come to the U.S., and one for those who are already here illegally. The first visa – for those living outside the U.S. – allows businesses to hire someone

from places like Mexico or Honduras when no one in the U.S. is willing or available to fill the job. To obtain this visa, the foreign worker must pay a \$500 processing fee and pass security background checks and medical tests. The worker will then receive a visa valid for three years that may be used for any work in the United States.

The Secure America Act also creates a visa which the current illegal population can obtain to give them temporary legal status within the U.S. But because they broke the law in coming to the United States initially, they must first pay a \$1,000 fine and a fee to obtain the visa. The worker would be required to hold the temporary work visa for at least six years before they could pay another \$1,000 fine to be allowed to self-petition for permanent residence. Otherwise, they must return to their home country.

Establishing a legal channel for workers to enter the US allows the Border Patrol to focus on the 1% of people crossing who might be drug smugglers, human traffickers, or terrorists. The other 99% of the people crossing today come in for purely economic reasons. Finding the 1% that are criminals in a sea of people coming in for work is like making the Border Patrol look for a grain of sand on the beach.

The guest worker provision in our bill modernizes the law and will improve our ability to catch the real lawbreakers.

Enforcement, coupled with increased technology and a common sense guest worker program will bring results. This comprehensive approach is the key to success. One thing is certain: if we try to build the stool with only one leg – or even two legs – it will fall over, just as the immigration “stool” known as Simpson-Mazzoli fell over after its passage in 1986.

Over the past few years, border security and immigration reform has been a responsibility of all members of Congress, but a priority for only a few. The tide is changing. Border security is a top priority for all Americans now. We cannot wait any longer – the time to act is now.

I look to the day when everyone that lives along the border will enjoy security in their homes and peaceful interaction with their neighbors. Then, we will look back on the last few years and wonder why we didn't solve this problem sooner. ☺

— Representative Jim Kolbe is serving his eleventh term in the United States House of Representatives, representing the people of Arizona's Eighth Congressional District, which includes most of Tucson, eastern Pima County, all of Cochise County and parts of Pinal and Santa Cruz Counties. He serves on the House Subcommittee on Homeland Security, and is co-author of the 2005 Secure America Act.

# Squeezing the Immigration Balloon

U.S. Representative Kay Granger

**W**e have recently experienced one of the worst natural disasters in U. S. history – Hurricane Katrina and its aftermath. I serve on the Select Bipartisan Committee to Investigate the Preparation and Response to Hurricane Katrina. Our mission is to separate fact from fiction, exaggeration and distortion. We will call witnesses who helped determine the course of the storm and those who lived through that delayed and torturous evacuation. From what we have seen and heard so far, there were heroic deeds and miserable missteps. There will be much finger pointing and blaming; but, hopefully, we will come out with an accurate account and a blueprint for future responses.

There is one heavy question that never leaves the minds of those of us asking the questions. It is the question that came to the minds of most people as mistakes were made, time was lost and property destroyed. That question is —how far have we come in our response to disaster from September 11, 2001, to Katrina?

Post 9/11, Congress and the Bush Administration embarked on the largest restructuring of the federal government since the New Deal. I sat on the House Appropriations Subcommittee that oversaw



U.S. Representative Kay Granger

Courtesy of Rep. Granger's office

all funding levels for the newly created Department of Homeland Security, and also served on the Select Committee on Homeland Security.

Those committees immediately began to do just what we are doing after Katrina, examining what we could do differently, what needed “fixing.” And I believe we made some significant improvements. Since 9/11, Congress has increased overall funding for homeland security by more than 50 percent. The most significant improvements were addressed at our airports and on our planes – reinforced cockpit doors,

metal detectors, and increased air marshals, to name a few.

We have beefed up our intelligence network worldwide and torn down barriers in communication and law enforcement. We have given new (and controversial) tools for detection and surveillance. Where we have fallen down on the job is the issue of immigration.

When addressing the disaster of Katrina, we will look hard at the response. We can look at strengthening the protection for areas sensitive to weather, levees and such. But we cannot do much to keep a hurricane from happening. Mother Nature does what Mother Nature does.

But on September 11, 2001, 10 of the 19 terrorists were in the United States outside of legal status – either overstaying their authorized period of time or entering this country illegally with the intent to do us harm. They succeeded because we were not enforcing our immigration laws and taking our laws seriously.

This, unfortunately, is still the issue. Our citizens are very aware that people are still entering our country illegally, staying here long after their visas have expired, and costing us billions because of the services we extend to them.

Immigration is a complex issue that has often been compared to squeezing a balloon — squeeze one area, and another area expands. With current figures showing over 11 million illegal workers in the United States, America can no longer afford to ignore this emerging crisis.

Not only is the issue multi-layered and difficult to solve, but there is also great disagreement about the best way to address the problem. The fundamental immigration issues are: border security, temporary and/or long term guest worker programs, interior enforcement and healthcare costs.

## **Border Security**

Reigning in the flood of illegal immigrants crossing our borders every year, especially in lieu of the 9-11 terrorist attacks, is a tough job and is also one the government has taken steps to improve.

After the September 11, 2001 terrorist attacks, Congress acted immediately by adding 1,000 more border patrol agents. Last year, Congress provided funding for 1,500 more border control agents. This year, we allotted \$180 million for hiring an additional 1,000 border patrol agents. These additional border patrol agents should be used to reinforce areas of need. The task before the border patrol is immense, so we must use these resources in the most efficient manner.

The mayor of Eagle Pass, Texas, laments that 200 Other Than Mexicans (OTMs) invade his city each day. The Department of Homeland Security's policy of processing OTMs and releasing them with orders to appear in court at a later date has made a mockery of our border security. While many are crossing the border to work and return regularly to see their families, others are bringing in illegal drugs at a disturbing rate; the gangs and drug cartels on the border have resulted in alarmingly rising crime activities. Nuevo Laredo's violence caused over 100 murders this year.

Along with more agents, technology must be employed to secure our borders. This year, the Department succeeded in complet-

ing installation of ALL border patrol stations with fingerprint systems. All apprehensions are now checked through both of these databases resulting in significantly more criminal hits and potential to detain terrorist suspects with latent prints.

Another important initiative is the US-VISIT program, an automated entry and exit data system that would track the arrival and departure of every alien. This system is now operating at 115 airports and the 50 largest land border crossings. There are 30 million people enrolled in US-VISIT, and over 700 individuals have been prevented from entering the United States due to hits in the system.

While we've made progress, much more needs to be done. Twenty-two Members of the Texas delegation, myself included, recently sent a bipartisan letter to President Bush to outline our concerns about the state of emergency with Texas's immigration system. The Department of Homeland Security sent border patrol officers from the Texas border to the Tucson sector in Arizona. We demanded these 165 agents return to Texas to ensure our border is not further crippled.

Currently, two pieces of legislation being proposed that address the border security problems are the Cornyn-Kyl and the Kennedy-McCain-Flake-Gutierrez-Kolbe bills. The Cornyn-Kyl bill would expand border patrol capabilities to add 10,000 new border patrol agents and 1,250 new customs and border protection officers. State and local authorities would be authorized to enforce federal immigration law under this proposal. The Kennedy-McCain-Flake-Gutierrez-Kolbe bill would require the Department of Homeland Security to develop a national strategy to increase aerial and ground surveillance.

## **Temporary and Long Term Guest Worker Plans**

One idea proposed by President Bush in his 2004 State of the Union address was a guest worker program. A guest worker program would offer temporary worker status to undocumented men and women now employed in the United States and to those in foreign countries who have been offered employment here.

The two aforementioned immigration bills include guest worker programs. The Kennedy-McCain-Flake-Gutierrez-Kolbe bill would require undocumented workers already in the U.S. to register to work, pay a \$1,000 fine for not registering prior and apply for legal permanent residency. Guest workers would be covered by employment laws. The Cornyn-Kyl bill would create a two-year guest worker visa called a "W" visa, which is renewable up to two times if the

# Immigration

worker returns for one year in between renewals. The bill provides no pathway to legal residency, but it does allow immigrants who already live in the U.S. to return to their countries of origin and register for temporary worker status in the United States. The Cornyn-Kyl bill is generally seen as the toughest on illegal immigration.

Some of the questions surrounding the guest worker program are: who would be eligible for the program; whether the program would provide any process to obtain legal permanent residency; how family members of eligible individuals would be treated; how the rules and requirements would be enforced; and what security-related measures would be enforced.

There is also the issue of amnesty. Amnesty is typically defined as allowing illegal immigrants to permanently stay in the United States. Some feel that allowing illegal immigrants to sign up for a guest worker program, thereby allowing them to remain and work in the U.S. legally, is granting them amnesty.

While the proposal of a guest worker plan should be considered, main concerns for my state and country are those of security and enforcement. Texas lawmakers have been keen to address these aspects. Senator Hutchison wants to expand current law enforcement programs so that officers, with proper training, can volunteer to patrol the border and arrest illegal immigrants. I support a bill introduced by Congressman John Culberson that would create a border protection corps of able-bodied, eligible citizens for states when its governors need more personnel than local, state or federal resources can provide.

Most surveys show that people are not ready to support a guest worker program of any type until we have credibility regarding protecting our borders and enforcing our immigration laws.

The stronger law enforcement we have at our borders, the better we will be able to lower the number of immigrants entering into the U.S. illegally.

## Interior Enforcement

In addition to securing the border at ports of entry, comprehensive immigration reform must include interior enforcement. It must also increase capacity at detention centers and increase security in targeted regions of the country that employ immigrant workers. Border Patrol agents released more than 34,000 illegal aliens into society during 2003 within hours of catching them because detention centers lacked enough bed space. This clearly poses a serious national security risk.

Many also have entered this country legally on tourist or other

visas. Their visas have expired, but they are still working illegally in the United States.

Many people are ready to close our borders completely until we can address the issue of illegals who are in our country today. With no capacity at our detention centers, we are finding illegal immigrants here but simply telling them to show up for court at a future date for processing. That “future date” seldom comes.

## Health Care Costs

Federal law requires that everyone, regardless of their status in this country, their ability to pay or whether they have insurance, should be able to receive emergency care. Because a disproportionate number of illegal immigrants are uninsured, it places an enormous financial burden on local communities. Studies have shown that in 2000 the cost of uncompensated care for illegals to Southwest border communities was \$189.6 million. Another study estimated that between 1999 and 2001, the Harris County Hospital District in Houston spent \$300 million on health care for unauthorized aliens, only \$105 million of which was reimbursed by the federal government.

## Conclusion

Even though there is disagreement about the best solution for specific immigration problems, all parties agree to a few overarching goals that include the following:

1. Better protection for our borders, making it difficult for terrorists to enter;
2. Closer monitoring of visitors entering legally so we know who they are and how long they will stay;
3. An awareness of the cost in healthcare, education and social services for those allowed to enter legally and the 12 million who are in this country illegally.

America is a nation that values immigration. The talent and energy of people from all parts of the world who have emigrated to the U.S. have made this country what it is today. However, the steady increase of illegal immigrants into the country is overwhelming many communities' and law enforcements' capabilities. Now is the time for Congress and the Administration to address the issue of immigration. 🕊

— U.S. Representative Kay Granger is in her 5th term representing Texas' 12th district. She serves on the House Committee on Appropriations.

# A Texan's Look at the Border

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William McKenzie

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**O**n most days, the bridges leading from Ciudad Juarez into El Paso, or from Nuevo Laredo into Laredo, are lined with people scurrying from one nation to the next to work or shop. They race along like passengers pouring out of a Manhattan subway stop at early morning rush hour. Alongside them, you find cars backed up, radios blaring, windows rolled down and passengers getting weary. Welcome to life along the Texas/Mexico border. That's just part of the reality, by the way. In the dark of night, and at other hours, immigrants wade illegally across the Rio Grande and walk across the Arizona desert. These scenes are what legislators have in mind when they talk about "securing the border," especially in our post 9/11 world. Despite headlines to the contrary, there is little divide within the GOP about making the long stretch from Brownsville to Tijuana more secure. The feud is over how to do that.

In my book, Arizona Republicans John McCain and Jeff Flake have the best solution. They put the emphasis on identifying legal workers instead of placing a ton more federal eyeballs along the border. There's a compelling logic to their approach: We'll never know who's illegal until we know who's legal. The only way to do that is to enlist today's illegal immigrants into a legal work program. And then give them and any other "guest worker" a shot at

becoming citizens. That's the gist of the McCain/Flake bill, which also has the support of conservative Sen. Sam Brownback and liberal Senator Ted Kennedy.

My hunch is that it's attracting a broad range of backers because they too see the logic. The supporters envision the process working this way: The U.S. initially would allow 400,000 foreign workers to apply each year for a three-year visa to fill jobs that require few skills. (The number of yearly applicants could rise, depending upon circumstances.) Applicants must show they have a job waiting them in the U.S., pay a \$500 fine, finance the visa fees and clear a security and medical background check. If they earn a visa, workers could apply later for one more three-year visa. They also could begin the process of applying for citizenship in the U.S.

**"The problem is, we have been adding agents and equipment to the border. And immigrants keep coming."**

## **“No one is realistically talking about enforcing the current law against illegal immigrants. It’s impossible to round up 11 million or so illegal immigrants. And there’s no way the feds are going to police every likely employer.”**

This is where opponents cry “amnesty.” And they cry it loudly. But this is not amnesty. Workers would have to pay a fine, qualify for a visa and go to the back of the line to become a citizen. That’s not amnesty. In talking to the Dallas Morning News editorial board recently, Rep. Flake raised another good point: What’s the alternative? No one is realistically talking about enforcing the current law against illegal immigrants. It’s impossible to round up 11 million or so illegal immigrants. And there’s no way the feds are going to police every likely employer.

We might as well come up with a practical plan, one that authorities can really enforce. A way to do that is to require guest workers to carry an ID card. The McCain/Flake plan proposes such, and it would help. Think of all those folks crossing into El Paso or Laredo each day. Or working in a chicken plant in Arkansas. Or harvesting crops in New York. Authorities could much easier assess their legality if the workers had to carry an ID card. To be sure, my fellow Texan, John Cornyn, includes an ID card in his competing immigration plan. Sen. Cornyn, along with Sen. Jon Kyl of Arizona, have introduced their own bill. The ID card is just one of numerous ideas they have about securing the border. For example, they would: \*Add 10,000 new border patrol agents and 1, 250 customs officers. \*Invest \$5 billion in new cameras, sensor and other technologies to help officers along the border. \*Add 10,000 detention beds so Homeland Security officials wouldn’t have to release illegal immigrants into the country.

\*Authorize 10,000 additional agents to go after employers. \*Make it easier to deport illegal immigrants. In other words, they would spend and do a lot to secure the border in a traditional way. You know, cameras, agents, prison beds and rounding up suspects. The problem is, we have been adding agents and equipment to the border. And immigrants keep coming.

We’ve got to try something different, like a guest worker program. Yes, Senators Cornyn and Kyl have their own ideas for such a program. Unfortunately, their guest worker proposal would require immigrants with visas to return home before applying for citizenship. Think about it: Who’s going to join a guest worker program if they have to go home at the end of their visa, and then apply for citizenship? Chances are, most illegal immigrants will opt for staying here in the shadows. And that gets us nowhere. Business groups worry about this approach too. They fear workers would be coming and going all the time, if they have to go home to file citizenship requests. “It would pull these people out jobs in which they’re needed and disrupt many businesses,” says Randy Johnson of the business-backed Essential Worker Immigration Coalition.

It seems to me the smartest move would be for Congress to blend some of the best Cornyn/Kyl security ideas into the McCain/Flake bill. The fact is, McCain/Flake doesn’t go far enough with the guns-and-agents approach. Their plan says something fuzzy, like we’ll have a border commission comprised of “stakeholders” to come up with the best security ideas. Well, excuse me, but we’re way passed the point of needing another commission. Will this happen this year? Probably not. But it needs to happen before the 2006 congressional elections. The country has real security worries. And they can’t be addressed without taking on immigration. Soon. ☞

— William McKenzie is a Dallas Morning News editorial columnist and a former editor of the Ripon Forum.

**“Despite headlines to the contrary, there is little divide within the GOP about making the long stretch from Brownsville to Tijuana more secure. The feud is over how to do that.”**

# A Moment of Choice: Republicans and Immigration

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Tamar Jacoby

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**O**ne of the longest-running and most intense internecine Republican quarrels seems finally to be coming to a head. The debate over immigration reform is beginning in earnest – and with it, potentially, a bruising battle for the soul of the Grand Old Party.

After nearly two years of silence on immigration, the White House has been holding a series of high-level briefings for members of Congress, maintaining, even in the wake of Katrina, that it wants to move ahead this fall with a guest worker program. Both former Majority Leader Tom DeLay and his replacement, Roy Blunt, have dissented sharply, telling any reporter who asks that they think Congress should start by shoring up the border – deferring a guest worker program, perhaps indefinitely. Speaker Dennis Hastert has so far ducked the conflict, saying only that he wants to move “some type of immigration legislation.” But public pressure is building, and it will only get worse in the months to come. Unlike in the past, when Congress hesitated to touch this third-rail issue, today, many members fear going home to face voters without moving to reassert control of the border and restore the rule of law.

The White House and others who favor a broader reform face an uphill battle, to put it mildly. Just last month, some of the coun-

try’s leading conservative think tanks and grassroots campaigns partnered their efforts to send out a letter asking readers for help in blocking a package of the kind the President is proposing – a guest worker program plus enhanced enforcement plus some answer for the 11 million illegal immigrants already in the country. Add Fox News and the Washington Times, also vehemently opposed, and you have almost the entire conservative establishment. As for Congress, the tiny handful of members who endorse the White House approach is dwarfed by a vocal caucus clamoring for DeLay’s “enforcement first” strategy.

**“ In deciding which way to go on immigration, Republicans will be making a set of far larger choices about what they want to stand for over the long haul.”**

# Immigration

So why are Republican reformers in the White House and elsewhere pressing ahead? What's in it for them, or for the party?

Actually, a great deal. Not only is immigration reform of the kind the President and his allies, particularly in the Senate, are pressing for the only effective way to take control of the border. It's also good politics – and a rare opportunity for the GOP to burnish a broadly appealing legacy.

Of course, reform will help Republicans with two key constituencies – business and Hispanics. (And snicker as opponents do, it's hard to what's so wrong with a political party thinking politically.) But ultimately what's at stake is more than just buying votes in the short term. In deciding which way to go on immigration, Republicans will be making a set of far larger choices about what they want to stand for over the long haul.

Is or isn't the GOP the party of prosperity? Sure, a guest worker program would be a boon for business – but that hardly means bad for American workers. In fact, reform of the kind the President has in mind would strengthen law-abiding employers at the expense of their unscrupulous, exploitative competitors. And at a time when sweeping demographic change is transforming the native-born labor force, a broader package would provide critical oxygen for U.S. economic growth, not just allowing millions of businesses – in agriculture, food processing, hospitality, health care and construction – to gain lawful access to the workers they need to stay afloat, but also sustaining other companies and communities that depend on these employers.

Then there's the matter of security. Republicans who favor an enforcement-first or, more severe still, enforcement-only approach talk a lot about security, as if they were the only people who cared about American lives. But in fact, merely cracking down on the border would not come close to delivering the security we need in an age of international terrorism. It would do nothing to eliminate

the vast underground world currently inhabited by 11 million illegal immigrants – the perfect hiding place for the few foreigners with intent to do us harm. And because it would provide no legal channels for the foreign workers we need to enter the country, it would all but guarantee a continued illegal influx, with all of the risks that come with it. Enforcement alone might feel like control, but until we change the law to make it more realistic and enforceable – until we pass immigration quotas more in line with our

changing labor needs – even the most draconian buildup will only drive the flow further underground, not solving the problem but merely pushing it out of sight.

And that more than anything is what's at issue here. Are Republicans the party of swagger and sound bites – or the party that delivers with solutions?

Are we a party that can adapt to changing circumstances – global labor markets, an aging workforce, an increasingly bifurcated high- and low-wage service economy – or a party that sticks its head in the sand and pretends the twenty-first century isn't here yet? Will the GOP leadership go on denying the country's labor needs – or will it recognize and accommodate them, allowing government to make provision for the consequences, including at local schools and hospitals? Will we as a party pander to prejudice and xenophobia – or will we come up with an answer for the vast majority of Americans who aren't anti-

immigrant, just determined to retake control of the border and restore the rule of law in their communities?

Today as in the past, few issues say as much about who we are as a nation as our approach to immigration. It isn't just about “them” – the foreigners coming to help man our economy – it's about “us”: our values and our identity as Americans. Republicans will face a choice in the months to come, and it will resonate, for better or worse, far into the future. ♡

— Tamar Jacoby is a senior fellow at the Manhattan Institute.

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# Energy

Photo © Najlah Feanny/Corbis



# Creating Economic Opportunities

## Energy bill moves country toward greater independence

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U.S. Representative Joe Barton

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**O**ur nation was founded on the principle that people have the freedom and opportunity to make their own choices. The bill President George W. Bush has just signed into law, the Energy Policy Act of 2005, is based on that principle.

This landmark legislation addresses the production and consumption of energy in both its basic forms—stationary and mobile. For example, the electricity title is one of the strongest in the bill. It protects consumers by explicitly forbidding Enron-type price manipulation and by stiffening the penalties for violating that prohibition. It will also usher our electricity innovations across the board, from generation, to transmission, to consumption.

On the mobile side, this bill will put us on the path of increasing domestic production and lowering our dependence on foreign oil. It will also reduce gasoline prices over the long term.

Here is the fundamental problem Americans face: We con-



U.S. Representative Joe Barton

sume 21 million barrels of oil every day in this country, yet only produce 8 million. And we can't even refine all that oil into gasoline anymore. We've reached a point where not only do we import oil in large quantities, but we're beginning to import gasoline as well.

America needs to use oil more effectively and this bill shows how. For starters, it will be possible for the first time in 30 years to build a new refinery. The bill also increases domestic oil production on non-park federal lands and gives the Environmental Protection

Agency administrator the ability to temporarily waive fuel requirements in the event of a supply emergency so that sharp dips in supply or spikes in prices can be avoided.

Perhaps the most encouraging part of the bill to reduce our consumption of foreign oil is the opportunity to vigorously pursue the Hydrogen Fuel Initiative. If just 20 percent of cars used fuel-cell technology, we could cut oil imports by 1.5 million bar-

**“Here is the fundamental problem Americans face: We consume 21 million barrels of oil every day in this country, yet only produce 8 million. And we can’t even refine all that oil into gasoline anymore. We’ve reached a point where not only do we import oil in large quantities, but we’re beginning to import gasoline as well.”**

rels per day. We want to give Americans the opportunity to drive safe, affordable, reliable and clean hydrogen cars by the time today’s infants get their driver’s licenses.

In separate legislation this fall, Congress expects to pass a provision that allows us to explore for oil in a small portion of the Alaska National Wildlife Refuge (ANWR), and perhaps produce, as much as 2 million barrels of oil per day.

What this bill does not do is say every American has to drive a vehicle that gets 50 miles to the gallon whether they want to or not. Those vehicles are available right now in the marketplace, and Americans have the right to choose. This bill does not dictate that choice.

**“The bill establishes new energy and efficiency standards for many new commercial and consumer products that use large amounts of energy, providing consumers and businesses significant savings on monthly energy costs.”**

There are also numerous incentives for renewable and clean energy resources and to increase the efficient use of those resources. Together, these provisions will shave between 10 and 40 percent off the anticipated growth of electricity demand in the next 10 years. The bill establishes new energy efficiency standards for many new commercial and consumer products that use large amounts of energy, providing consumers and businesses significant savings on monthly energy costs.

Our goal in writing this legislation was to both reduce demand and save consumers and businesses money spent on energy, so that they could save, invest, spend and grow the economy. The energy bill wasn’t a jobs bill. But in fact, it will create thousands of new American jobs and protect thousands more.

Finally, one of the great things about the bill was how it came to be. There were five conference committee meetings during which 90 amendments were offered by Democrats and Republicans, representatives and senators. Hundreds watched in person, and thousands more saw it on C-SPAN. The process was dramatically more bipartisan, bicameral and public than Washington is used to witnessing, and that plainly contributed to the legislation’s success.

As President Bush has said, we didn’t get into this fix overnight and we won’t climb out of it overnight. But a democratic process has now produced effective policies, and the payoff is that America is moving toward energy independence. 🇺🇸

*— Rep. Joe Barton is a Texas Republican and Chairman of the House Committee on Energy and Commerce. The committee’s Web site is <http://energycommerce.house.gov>.*

# Sound Energy Policy Protects American Quality of Life

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David Brown

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**F**ire. The steam engine. The internal combustion engine. From the earliest days of civilization to the modern achievement of splitting the atom, our ability to harness energy has ushered in successive revolutions in society.

Today, energy – whether it is used for transportation, electricity generation, home heating, manufacturing, or water purification – provides the foundation of our standard of living and quality of life. The nation’s energy policy also has important implications for our national security, our economic competitiveness, and the quality of our environment, and it is critical that policymakers view the decisions that they make in light of the impact they will have in each of these areas.

The recently enacted Energy Policy Act of 2005 (EPAAct) takes important steps to securing our energy future, providing strong incentives for increased energy exploration and production and for increased conservation and energy efficiency. But despite the important gains made through the EPAAct, a number of challenges remain: for the foreseeable future, we remain dependent on oil supplies from politically and economically unstable regions of the world; rapidly expanding economies in China and India will increase demand for limited world resources; and we have not yet achieved the technolog-

ical breakthroughs necessary to meet our future energy needs and meet our goals for protecting the environment.

## **National Security**

In 2003, 56 percent of oil consumed in the United States was imported. In its Annual Energy Outlook for 2005, the Energy Information Administration forecasts that imports will account for 68 percent of U.S. oil consumption in 2025. Needless to say, given the importance of oil to the economy, U.S. foreign policy decisions will continue to be influenced by developments in some of the most politically unstable regions of the world unless we take steps to drastically reduce our dependence on imports.

While the Energy Policy Act does not provide a silver-bullet solution to reduce our dependence on oil, it includes significant proposals to address the issue: in the short-term by spurring production of ethanol and biodiesel fuels; in the mid-term by providing incentives for the development of hybrid vehicles; and in the long-term by accelerating the move towards a hydrogen economy. In addition, the bill seeks to further reduce non-transportation demand through the development and deployment of renewable, clean coal and advanced nuclear technologies.

# “Energy prices impact our quality of life, our domestic economy, and the international competitiveness of many manufacturers.”

At the same time, policymakers have been unable to take more significant steps either to increase production by allowing exploration of the Arctic National Wildlife Refuge (ANWR) and the Outer Continental Shelf (OCS) or to reduce demand by increasing Corporate Average Fuel Economy (CAFÉ) standards.

## **Economic Security**

Energy prices impact our quality of life, our domestic economy, and the international competitiveness of many manufacturers. Last month, the National Association for Business Economics announced that concerns about energy prices have replaced the federal deficit as the major short-term risk to the economy in its survey.

Supply disruptions and price spikes can have a significant effect on our daily lives as Americans are forced to make choices about where to spend their money. These decisions have broader impacts on the economy since money spent on energy is money that cannot be spent elsewhere. In mid-October, the Energy Information Administration predicted that home heating costs this winter will increase by an average of 48 percent for homes heated by natural gas. Heating oil costs are expected to rise 32 percent, with propane costs increasing 30 percent, and electricity costs rising by 5 percent. Increases in some regions will be even higher, leading industry officials and policymakers to scramble to reduce the impact on consumers.

Energy prices also affect the economy more broadly as price increases for basic commodities cascade through the system and boost inflation. For example, recent natural gas price increases led Dupont to increase the prices of some 35,000 consumer products. Some have asked whether the Federal Reserve needs to reexamine

its policy of excluding energy costs from the core inflation index because it appears that recent jumps in energy prices may be longer lasting than has been the case in recent years. Such a change would have significant impacts on monetary policy and on the economy as a whole. In remarks earlier this month to the Fraser Institute Roundtable in Vancouver, British Columbia, Fed Governor Mark Olson noted that “higher prices for energy items, including gasoline, heating oil, and natural gas, will be adding to top-line inflation in the near term. . . . [and] these price increases will put upward pressure on the costs of the producers of other items, thereby posing the risk of some impetus to core inflation.”

Energy prices also play a critical role in determining the competitiveness of American businesses. Chemical companies in general have been severely impacted by increased natural gas prices, with each \$1 dollar increase in the cost of gas increasing industry costs by \$3.7 billion per year. The fertilizer industry in particular has seen a 35 percent drop in domestic production in the last five years, while fertilizer imports are up 50 percent. According to The Fertilizer Institute, jobs are being exported to China, Russia and the Middle East.

## **Environmental Security**

Energy and environmental policy are inextricably linked. The decisions we make about energy resources have major implications for the environment. At the same time, our environmental policy can dictate our energy choices.

The Energy Policy Act seeks to promote the research, development and deployment of advanced technologies that minimize air emissions. As policymakers look at the possibility of reauthorizing the Clean Air Act, it is important to establish a stable and predictable regulatory environment that allows energy companies to make sound investment decisions about new technology.

The energy choices we make today will have far-reaching implications for generations to come, not only in assuring that Americans will continue to enjoy a reliable supply of energy, but also for protecting our national security, our economic security, and our environmental security. ☞

— David C. Brown is Vice President of Federal Affairs for Exelon Corporation. This article reflects Mr. Brown's views and are not necessarily those of Exelon Corporation.

# The Struggle For Energy Independence

U.S. Representative Ralph Hall  
Chairman, Energy and Air Quality Subcommittee  
Committee on Energy and Commerce  
The U.S. House of Representatives

**E**nergy is the lifeblood of our country. The security of our nation and economy largely depend upon it. For years we have recognized relying on other countries for the bulk of our energy needs places America at risk. Various proposals were introduced over several Congresses that would put America on a course for more energy independence. Those efforts paved the way for passage of the Energy Policy Act of 2005, H.R. 6, which was signed into law by the President on August 8.

The Energy Policy Act of 2005 is designed to improve our country's energy outlook in all sectors. Specifically, the bill addresses rising gasoline prices and our dependency on foreign oil. It also boosts production and importation of clean natural gas, improves our nation's electricity transmission capacity and reliability to prevent future blackouts, promotes clean and renewable fuels, requires greater energy conservation, and encourages more nuclear and hydropower production.

I have always strongly felt we need to open more American



Courtesy of Rep. Hall's office

U.S. Representative Ralph Hall

land and water to drilling for oil and natural gas. Enhanced domestic production would increase independence from foreign sources and give our citizens a break from the high prices of gasoline and natural gas. Not only are high prices a direct hit to individuals, but they also affect the ability of businesses to function within a budget that keeps products affordable to all Americans. Too many businesses are moving overseas where the energy costs are lower and they aren't coming back.

We need to begin implementation of the Energy Policy Act as soon as possible. A good place to start is with my Ultra-Deepwater and

Unconventional Onshore Research and Development Program. My purpose for introducing this legislation was to enhance the ability of the Department of Energy (DOE) to conduct well-funded, multi-year, resource-based natural gas and oil R&D activities in order to accelerate the development of new technologies and increase domestic natural gas and oil production in the near and mid-term. This new program is intended to complement the work

**“I have always strongly felt we need to open more American land and water to drilling for oil and natural gas. Enhanced domestic production would increase independence from foreign sources and give our citizens a break from the high prices of gasoline and natural gas. Not only are high prices a direct hit to individuals, but they also affect the ability of businesses to function within a budget that keeps products affordable to all Americans. Too many businesses are moving overseas where the energy costs are lower and they aren’t coming back.”**

of the DOE and allow the current Oil and Natural Gas Program to focus its ongoing efforts on solving the more basic production and environmental issues that hinder our ability to increase production and transition to a hydrogen-based energy system in the longer term. This is a public-private venture. Funds furnished by the Federal government will be replenished through royalties from the program. The program will be awarded by a competitive bid.

The Ultra-Deepwater and Unconventional Onshore Research and Development Program has been designed to foster the development of additional natural gas from the vast resources of technically recoverable natural gas in the United States. The 2003 National Petroleum Council study on natural gas estimated that there are 1,969 trillion cubic feet (Tcf) of technically recoverable natural gas reserves in North America – equivalent to 90 years of gas supply at current rates of consumption. The continental 48 states contain 1,240 Tcf, about 56 years of supply, of which only about 210 Tcf are unavailable to be developed due to moratoria or other restrictions.

Opening a portion of the Alaska National Wildlife Refuge (ANWR) to drilling would also help meet our energy needs. According to the Energy Department, the coastal plain is the “largest unexplored, potentially onshore basin in the United States.” The U.S. Geological Survey estimates there are up to 16 billion barrels of recoverable oil there – enough to offset all Saudi imports for the next 30 years. Moreover, oil could be developed in ANWR as soon as three years from the first lease sale.

Conservation is another important component that would

help drive down costs. The Energy Policy Act is a start in that direction. We need to help empower citizens to become an integral part of the solution by doing all they can to conserve energy at home and in their travel.

The recent hurricanes further exposed our Nation’s energy vulnerabilities. The Energy and Commerce Committee responded to this crisis by passing H.R. 3893, the Gasoline for America’s Security (GAS) Act of 2005, which will be voted on by the full House on October 7. The GAS Act encourages the construction of new refineries to increase supply and address soaring gasoline prices, limits “boutique fuels” that have propped up gasoline prices by artificially limiting supply, promotes new pipelines to get crude oil and refined product to consumers at lower prices, promotes conservation through carpooling, and bans price gouging in gasoline and diesel fuel sales. It is my hope that this bill will be signed into law.

The world runs on energy. Nations have fought wars over energy. It is imperative that we do all we can to help meet America’s energy needs through the implementation of a comprehensive national energy strategy. We must continue to work with other countries to develop policies that will meet the increasing demand for energy throughout the world. ☞

*— U.S. Representative Ralph Hall is in his 13th term representing the people of Texas’ 4th district. He serves on the House Committees on Science and Energy and Commerce.*

# Oil Dependence: We Do Have a Choice

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Reid Detchon

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**O**nly six years ago, gasoline cost less than \$1 a gallon. In early September of this year, in the devastating wake of Hurricane Katrina, the U.S. average topped \$3 a gallon.

This rapid rise in gasoline prices has refocused the nation's attention on the economic and political dangers of oil—especially, on imported oil from the Middle East. Questions are being asked: What are the real costs of our dependence on oil—not just the economic and political costs, but the military and environmental costs as well? What are the economic implications of a new long-term floor on oil prices—not \$20 a barrel (its inflation-adjusted average since World War II), but \$40 or \$60? And how high might prices go in the face of increasing demand from China and India or instability in the Persian Gulf? Many observers believe a serious disruption would push the price of oil above \$100 a barrel and gasoline above \$4 a gallon.

These questions have prompted policy makers to call once again for “energy independence,” even as they acknowledge that little can be done to bring immediate relief to consumers.

But the situation isn't as bleak as it seems. In fact (and you wouldn't have known it from reading about the energy bill enacted this summer), Congress may have finally done something right about oil.

**“Congress may have finally done something right about oil.”**

## **New Choices for Consumers**

While it is true that the production and consumption of oil comprise vast global enterprises, change is possible, and markets can do wonders with the right signals. The energy bill, as critics appropriately noted, did little to stimulate additional domestic oil production (where the potential is small in any case) or improve fuel economy (where the potential is large, but the politics are tricky). But relatively little attention has been paid to what the energy bill did to advance a third option to reduce U.S. dependence on oil: giving consumers, for the first time, a choice at the pump through the development of alternative fuels, the most promising of which is the oft-maligned ethanol.

Ethanol has been frequently ridiculed as a heavily subsidized, inefficient pork-barrel handout to corn farmers and the largest producer, Archer Daniels Midland. But a closer look at the facts tells a different story:

Ethanol is a high-octane transportation fuel—preferred by Henry Ford at the dawn of the auto industry and again today by Indy car drivers, who will switch to it in 2007. It can be used with very little adaptation by today’s transportation infrastructure (unlike hydrogen, for example).

Also known as grain alcohol, ethanol is a familiar and benign product (except when imbibed to excess) that has been fermented from plants for thousands of years. At current corn prices, it can compete with a wholesale gasoline cost of \$1.35 a gallon—70 cents below the market in mid-August (although that level may prove quite temporary).

Advances in the new field of industrial biotechnology have made it possible to make ethanol not just from the valuable kernel of the corn plant, but from cellulose, the fiber found abundantly in corn and all plants, even in yard clippings and waste paper. Such “cellulosic ethanol,” as it is known, could be produced in very large quantities and would virtually eliminate the global warming impact of fuel use in transportation. (The reason is that plants need carbon dioxide to grow. Thus, the carbon dioxide emitted when ethanol is burned is part of the natural atmospheric cycle and

adds no new greenhouse gases to the air.)

Oilseed plants, such as soy, palm, and rape (canola), can produce substitutes for diesel. Animal wastes can also be transformed to “biodiesel.”

What would we pay for such fuels? About what we are paying today—and some years from now, maybe a good deal less.

These facts give rise to a novel feeling in energy circles: hope. We are not as a nation permanently shackled to oil—a fuel that has allowed us to transport our goods and ourselves efficiently and at low cost, but one that is increasingly derived from unstable, corrupt and hostile regions at inherently volatile prices, and whose use pollutes our air and damages our health and may wreck the climate on which so many lives and livelihoods depend. For the first time, we have a real choice about what fuel to use for transportation—a choice that won’t bankrupt us.

The Energy Policy Act of 2005 set a first-ever minimum level for renewable fuel use nationally, rising to 7.5 billion gallons by 2012. It authorized loan guarantees and capital assistance for the construction of first-of-a-kind commercial biofuels facilities using advanced production technology. And it authorized a dramatic



R. Quinn Sullivan/Getty Images

# Energy

increase in spending on research and development to move the technology faster and farther forward. Altogether, Congress provided the authority to spend half a billion dollars a year on biofuels development (although it remains to be seen how much of that will actually be appropriated).

## Challenges of Our Time

The Energy Future Coalition, a non-partisan public policy initiative, has organized its efforts around three great challenges that arise from the way we produce and use energy:

Our dependence on oil puts our economic and national security at risk.

Our use of fossil fuels threatens the climate and causes significant environmental harm.

One third of the world's people lack the modern energy services they need to participate in the global economy.

The Coalition has placed particular emphasis on the efficient and sustainable use of biomass for energy because it addresses each of those three great challenges.

The close relationship between plants, or biomass, and oil is not as surprising as it first seems. Oil, after all, started out as plants (and dinosaurs and other organic matter) millions of years ago. They are both principally mixtures of hydrogen and carbon atoms—respectively, hydro-carbons and carbo-hydrates. And it is increasingly apparent that biomass can be “cracked” like oil to produce the whole range of petrochemical products that so pervade our lives today.

Biomass is everywhere. Plant matter and other organic material—in the form of agricultural crops, farm and forest wastes, and post-consumer trash—is an enormously underutilized natural resource that is endlessly renewable and, when properly managed, carbon-neutral. Essentially a form of stored solar energy, biomass has the theoretical potential to supply all of the world's transportation needs and more. Indeed, cellulose has been estimated to make up half of all the organic carbon on the planet.

## Ethanol: Fuel of the Future

Starch from corn and other grain crops has been the principal feedstock for ethanol production in the United States and will continue to be for some time. This pathway has been an essential first step toward developing an ethanol infrastructure, and the efficiencies of corn production and ethanol conversion continue to increase. But starch-based ethanol requires substantial fossil fuel



Gas prices nearing the 4 dollar mark are listed at a Mobil service station in Bourne, Massachusetts.

inputs to grow grain and convert it to alcohol and thus has limited benefits in terms of oil displacement and greenhouse gas emissions, and the amount of land suitable for grain production is also finite.

The recent development by biotechnology companies of cheaper, more efficient enzymes has made it practical to break down cellulose into sugars that can be fermented into ethanol. This is opening up a vast new market for agricultural resources now considered wastes (such as wheat straw and corn stover), as well as perennial grasses. The crop most studied for this purpose in the United States is switchgrass, a native perennial prairie grass. The environmental benefits of cellulose conversion are quite dramatic. For example, a conventional engine operating on cellulosic ethanol produces fewer net global warming emissions than a fuel cell that uses hydrogen derived from natural gas.

**“Little attention has been paid to what the energy bill did to reduce U.S. dependence on oil: giving consumers, for the first time, a choice at the pump through the development of alternative fuels, the most promising of which is the oft-maligned ethanol.”**

The conversion of cellulose will increase the amount of ethanol that can be produced from grain and cane because more of the plant will be used. It also makes possible the use of non-food crops for industrial applications. Thermochemical processes have the potential to convert a still wider range of biomass feedstocks, including animal wastes and sewage, to clean renewable fuels—even gasoline.

This is not a scenario that will only take shape a half-century from now. A Canadian company, Iogen Corporation, is already producing ethanol from the cellulose in wheat straw, supported by a \$50 million investment by Shell. A senior Shell official has predicted that “the global market for biofuels such as cellulose ethanol will grow to exceed \$10 billion by 2012.”

To put the current market in context, 3.4 billion gallons of ethanol were produced in the United States in 2004, almost entirely from corn. Studies by Battelle Memorial Institute and Oak Ridge National Laboratory have found that 50 billion gallons of cellulosic ethanol could be produced from available land without a significant disturbance to the agricultural economy. Due to the fact that ethanol has less energy content per gallon than gasoline, this is equivalent to about one quarter of current U.S. gasoline consumption of 140 billion gallons a year.

Ethanol is not only an excellent fuel for today’s automobiles; unlike hydrogen or natural gas, it is largely compatible with the existing transportation infrastructure. Flexible-fuel vehicles—meaning cars capable of running on blends of up to 85 percent ethanol, or E-85—can be manufactured at almost no additional cost. More than 4 million of these cars are already on the road in the United States today. In Brazil, where domestically produced ethanol is 40 percent cheaper than gasoline, their market share now exceeds 50 percent. Combine flexible-fuel technology with a hybrid vehicle like the Toyota Prius, and it will go 250 miles on an

E-85 blend and use just one gallon of gasoline. Add a larger battery and the capacity to recharge it from the grid, and that vehicle will go 500 miles for every gallon of gasoline it consumes.

In terms of tailpipe emissions, low-level ethanol blends have some adverse effects on smog formation and have therefore been of concern to environmental groups and regulators; however, high-level blends like E-85 have substantial air quality and public health benefits compared to gasoline.

Some critics have complained of a supposedly negative ethanol “energy balance.” That is largely a red herring. The corn ethanol process uses both the renewable energy of the sun and non-renewable fossil fuels for cultivation, harvest, and processing of corn into ethanol. Some studies have argued that the amount of non-renewable energy put into making ethanol exceeds the amount of energy obtained from it. However, improvements in cultivation practices, corn yields, and ethanol processing have changed this picture. A recent definitive analysis concludes that the amount of energy in ethanol exceeds the fossil-fuel input by one-third.

Even more important to understand is that all energy conversion processes invariably have a “net energy” loss. Electricity, for example, has a terrible energy balance—it takes three units of coal to make one unit of electricity. But electricity is a much more useful form of energy than coal, so we are happy to make that trade. Ethanol is a way to convert solar energy, coal and natural gas into liquid transportation fuel. Very little petroleum is used in its production. From the point of view of energy security, it’s a winner.

## **Expanding Economic Opportunities**

In the United States, a new domestic fuels industry would be a major economic stimulus to the rural economy, creating many thousands of new jobs, increasing farm income by billions of dollars, and reducing the need for government support. It would also

# Energy

make a dent in our enormous trade deficit, one quarter of which is attributable to petroleum. As a country we import oil and export dollars—more than \$450 million every day, a total of \$166 billion last year. That's more than \$500 a year for every man, woman, and child in America. Our traditional strength—agriculture—could be the answer.

In light of the recent WTO rulings against U.S. cotton subsidies and EU sugar subsidies, and the European Union's offer to abandon agricultural export subsidies, the structure of the agricultural support system as it has existed in the West is poised for change. Farmers in the United States and the EU are understandably concerned that their well-being is threatened. While the development of a new market for agricultural resources—for energy—cannot instantly resolve those fears, it does promise an important new source of income that can ease the inevitable transition that lies ahead. The use of agriculture for energy thus promises to become a major element in future farm bills. Indeed, farm leaders allied with the Energy Future Coalition have embraced an ambitious “25 by '25” vision for the future—that agriculture will provide 25 percent of the total energy consumed in the United States by 2025 while continuing to produce abundant, safe and affordable food and fiber.

Bio-energy also has vast potential for poor countries around the world. New projects are popping up from Poland to the Philippines to Peru. Rural areas in the developing world—especially, but not exclusively, the tropics—could become major energy producers, both for domestic use and for export. With the right technology and basic training, developing countries will be able to grow their own fuels, allowing them to redirect scarce foreign exchange earnings to more productive purposes—including critical social investments in health, education, and welfare.

## **Brazil Blazing the Energy Path**

Brazil has led the way on alternative fuels with the production of ethanol from sugar cane and biodiesel from soybeans and palm. Its ethanol program, launched 30 years ago in response to the 1973 oil embargo, initially suffered from the common defects of state-directed market interventions—inefficient mandates and subsidies, excessive costs and periods of both shortage and excess. However, the program today is unmistakably a success.

Brazil derives 40 percent of its transportation fuel—and a significant amount of its electricity—from sugar cane. Newly introduced flexible-fuel vehicles, which can operate on ethanol or gaso-

line interchangeably, now account for half of all new car sales. The reason is simple: Ethanol costs 40 percent less than gasoline at the pump. Even allowing for the lower energy content of ethanol—a difference that can be mitigated by operating the engine at higher compression ratios to take advantage of ethanol's higher octane—that's a bargain.

Brazil's experience is also instructive in thinking about the meaning of energy security and “energy independence.” Achieving “independence” does not require 100 percent self-sufficiency, but rather a lack of dependence on any one fuel or any one region. Considering this issue more than 90 years ago, a young Winston Churchill told Parliament, “On no one quality, on no one process, on no one country, on no one route and on no one field must we be dependent. Safety and certainty in oil lie in variety, and variety alone.” To that litany today we must add “on no one fuel.”

## **Ending Our Oil Dependence**

In a global economy, dependence on oil is a problem not just for the United States but for every oil-consuming country. Disruptions in the market will affect prices everywhere, whether the oil is pumped in Canada or Kazakhstan. Finding more oil is only a partial and temporary solution; developing sustainable alternatives to oil is a robust and long-lasting answer.

Developing those alternatives, however, may take a long time. Can anything be done in the near term to reduce the price of gasoline? Yes, if the political will is there. Automakers could be encouraged to produce flexible-fuel vehicles as standard equipment. Also, the United States could eliminate trade barriers to ethanol and biodiesel. This would stimulate investment in low-cost production throughout the hemisphere, even if domestic production is protected through incentives and preferences.

The “demand shock” that would follow such steps might well cause oil prices to fall below the point at which biofuels could compete economically. However, at that moment we could as a nation, for once, choose our future—between a domestic industry producing sustainable, carbon-neutral fuels, keeping U.S. dollars and jobs at home, or continued fealty to a small number of despotic and hostile oil-producing states that wish to take our money and do us harm. That choice, surely, we will get right. ☞

*— Reid Detchon is the Executive Director of the Energy Future Coalition in Washington, D.C. He served as Principal Deputy Assistant Secretary for Conservation and Renewable Energy from 1989 to 1993 under President George H.W. Bush.*

# No End In Sight

## U.S. oil dependence will continue

Joe Barnes

The United States is today engaged in one of our periodic bouts of hand-wringing over our dependence on foreign oil. The reason is not hard to find: with petroleum topping sixty dollars a barrel and gasoline prices hovering in the \$2.50-2.75 range, Americans are being reminded yet again that the most powerful country in the world appears impotent in the face of rising energy costs. While the macroeconomic impact of the price increases has been muted to date, particularly in comparison to the oil shocks of the 1970s and 1980s, rising energy costs are clearly exacting a growing toll on the economy.

There are many causes to the most recent run up in petroleum prices. Global demand—especially in China—has proven stronger than many observers anticipated. Years of underinvestment by members of the Organization of Oil Producing Countries (OPEC) have left them without the excess capacity necessary to ramp up production, even if (and it's a big if) they were so inclined. Indeed, OPEC capacity is well below its peak of the late 1970s; for all intents and purposes, excess capacity is zero. In addition, the unsettled security situation in the Persian Gulf—notably the ongoing insurgency in Iraq and the possibility of terrorist strikes against

Saudi Arabian oil facilities—has raised the so-called “risk premium” on petroleum.

### Oil Dependence: Nothing New

These sky-high prices may be relatively recent (and still below the early 1980s in real terms). But our dependence on imported petroleum is hardly new. In fact, it is a long-term historical trend that shows no signs of abating. And it has a very

CHART 1: U.S. Petroleum Balance – Million barrels per day<sup>(1)</sup>

	Products Supplied <sup>(2)</sup>	Domestic Supply <sup>(3)</sup>	Net Imports
1950	6.5	5.9	0.5
1960	9.8	8.1	1.6
1970	14.7	11.7	3.2
1980	17.1	10.8	6.4
1990	17.0	9.7	7.2
2000	19.7	9.0	10.4
2003	20.0	8.9	11.3

<sup>(1)</sup> Totals do not add up because of stock changes and rounding.

<sup>(2)</sup> Products supplied closely approximate consumption.

<sup>(3)</sup> Includes natural gas liquids.

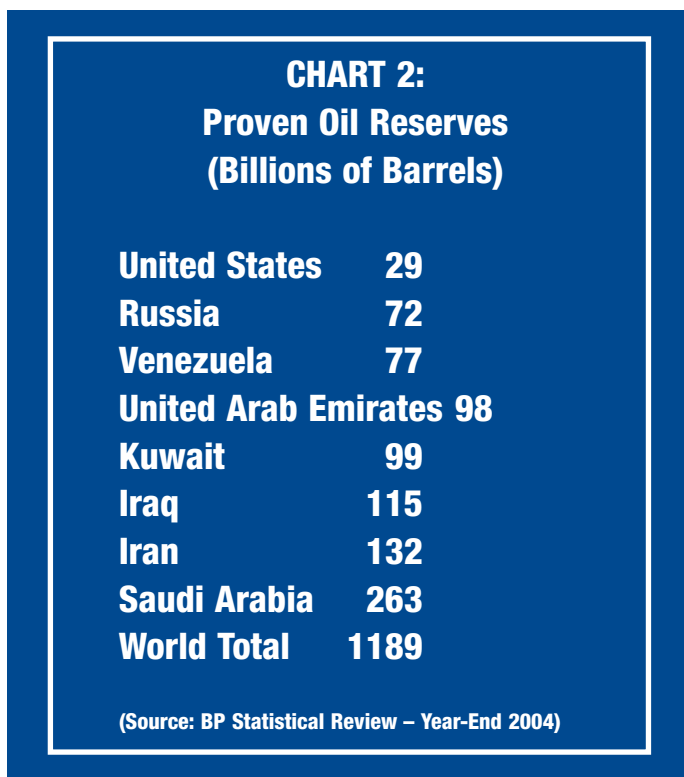
(Source: Energy Information Administration, Department of Energy)

# Energy

simple cause: as a country, we consume more oil than we produce. The numbers tell the story (see chart 1).

There are three elements to our need for imported oil. The first is demand. After staying relatively constant over the course of the 1980s, consumption has been on the rise over the last 15 years. Today, the United States consumes roughly a quarter of world petroleum output. What do we use all this oil for? The answer is simple: transportation, and, more specifically, automobiles. Perhaps two-thirds of our oil consumption goes to the various fuels—gasoline, diesel, jet—that move people and merchandise from one place to another. Over forty percent of our oil consumption—roughly the entire output of Saudi Arabia, the world’s largest exporter of petroleum—represents gasoline alone. The dependence of our transportation sector on petroleum is nearly absolute, with oil supplying the sector with over 95 percent of its fuel.

The second element to our oil dependence is the steady decline in domestic production of petroleum. This peaked about 1970. While environmental concerns have clearly placed constraints on U.S. oil production, opening up new areas to drilling, though helpful, would not reverse this long-term trend. When it comes to petroleum, geology is destiny. There is simply more and relatively cheaper oil to be found elsewhere, notably the Persian Gulf, Venezuela, and the countries of the former Soviet Union. Again, the numbers are telling (see chart 2).



A third—and controversial—element of our oil dependency is the origin of our imported oil. Much is made of our dependence on OPEC and, especially, Saudi Arabia. OPEC countries do indeed represent a major source of U.S. imports (see chart 3).

It is important to stress that the impact of OPEC and Saudi Arabia on oil prices occurs at a global level. This is because oil markets are truly international. Imagine international oil supply as a swimming pool. Add a glass of water at one end and the level rises everywhere; remove a glass from the other end and the level declines everywhere. Even if we did not import an ounce of oil from OPEC, the price we paid for it would still be determined in large part by OPEC production. This does not mean that we should ignore the centrality of a cartel—OPEC—and a highly unstable region—the Persian Gulf—in determining global oil prices. We should, however, cease obsessing on the amount of oil we import as a country from OPEC and Saudi Arabia.

## No Easy Fixes

There are no easy fixes to our dependence on foreign oil. Geology limits our ability to increase production at reasonable prices. Barring a dramatic shift away from the internal combustion engine—a remote possibility at least in the near- to medium-term—we will still need to import significant amounts of foreign oil. And despite the expansion of Russian production in recent years, OPEC and especially Saudi Arabia will continue to play a key role in global oil markets for decades to come. This does not mean, however, that we are impotent when it comes to our oil dependence. There are things we can do to improve our energy security, even if they fall short of full energy independence. They just aren’t easy.

The recent Energy Policy Act of 2005—despite the hoopla surrounding the bill’s signing—won’t help much. The bill may well be, as its supporters describe it, the most significant energy legislation in over a decade. But this is less a comment on the legislation’s merits than on our national disinclination to make tough decisions on energy policy. True, the new bill does contain some useful elements. It will make it easier to site much-needed regasification plants, a critical measure as the United States increases its imports of Liquefied Natural Gas. And it mandates an inventory of the gas and oil reserves in coastal areas currently off-limits to drilling. But the new legislation stops short of actually opening those areas—or even the endlessly debated Arctic National Wildlife Refuge (ANWR)—to oil and gas development.



Photo by Stefan Zaklin/Getty Images

Its support for renewable energy sources such as solar or wind power and the development of tar sands is welcome but modest, falling well short of a crash effort to wean us from imported crude oil.

On the demand side, the Act does next to nothing to improve the fuel efficiency of vehicles, which represent a lion's share of oil consumption. In fact, most of the legislation is given over to a grab bag of subsidies and tax-breaks for industries with powerful lobbies than a coherent energy strategy. The legislation is not a joke. There is, after all, nothing funny in it. But, when it comes to oil, the Act isn't serious, either. This was made utterly clear when a modest provision calling on the President to find

**“Americans are being reminded yet again that the most powerful country in the world appears impotent in the face of rising energy costs.”**

**CHART 3:  
Net Imports of Crude Oil  
May 2005  
(Millions of barrels per day)**

<b>OPEC</b>	<b>4.8</b>
<b>Venezuela</b>	<b>(1.3)</b>
<b>Saudi Arabia</b>	<b>(1.4)</b>
<b>Nigeria</b>	<b>(1.1)</b>
<b>Non-OPEC</b>	<b>5.3</b>
<b>Canada</b>	<b>(1.6)</b>
<b>Mexico</b>	<b>(1.7)</b>
<b>Total</b>	<b>10.1</b>

(Source: Energy Information Administration, Department of Energy)



ways to reduce domestic oil consumption by one million barrels a day by 2015 was cut from the final version, reportedly at the Bush administration's request.

In short, we are far from an energy strategy that seriously tackles either the supply or demand elements of our oil dependence. Such a strategy—a sort of grand compromise—is not hard to envisage in general terms. It would include opening up both ANWR and coastal areas to oil and gas development. It would also phase in more rigorous efficiency standards for vehicles and perhaps mandate fleet shares for hybrid and fuel-cell vehicles. While such a grand compromise would not bring us to full energy self-sufficiency, it would make a serious dent in the growth of our dependence on foreign oil. And it has, of course, zero chance of passage in the current or foreseeable political environment. Environmentalists and politicians from coastal states would fight tooth and nail against opening protected areas to exploration; the automotive industry would pull out all the stops to oppose more rigorous efficiency standards.

All of which raises a final question: are we Americans really *that* worried about energy security? If we put rhetoric aside for a moment and look at the evidence, the answer would appear to be, well, no. As noted, the Congress, after years of endless wrangling, has finally produced legislation that is disappointing at best. The administration has watched oil break the 40, 50 and 60 dollars per barrel price barriers without releasing from the Strategic Petroleum Reserve, raising the legitimate question of what price, if any, it would consider unacceptable. And millions of Americans continue to buy bigger and faster vehicles as though gasoline were still a dollar a gallon. Maybe the day may come when we have no choice but to take radical steps to reduce our dependence on imported oil. But, to judge from highways crowded with shining new SUVs, it hasn't arrived yet. ☞

— Joe Barnes is a research fellow at the Baker Institute for Public Policy at Rice University.

# Trade

Illustration by John M. Boone



# The Great Peacemaker

## The role of international trade in promoting security

— U.S. Senator Chuck Grassley —

**T**he idea that international trade serves to promote peace is not new. The 4th-century scholar Libanius observed how effective trade is in promoting social cohesion and stability among different peoples. More recently, the 19th-century economist Frederic Bastiat is credited with observing that “when goods cannot cross borders, armies will.” In the 20th century, former Secretary of State Cordell Hull, who was appointed by President Franklin D. Roosevelt, similarly warned of the dangers that lurk in the absence of trade. In fact, Hull once characterized international commerce as “the greatest civilizer and peacemaker in the experience of the human race.”

Looking ahead to the challenges of the 21st century, these important insights should not be forgotten. Instead, we should emphasize the role of international trade in advancing our nation’s security interests with increased global prosperity and economic interdependence within the community of nations.



U.S. Senator Chuck Grassley

Courtesy of Sen. Grassley's office

The case for trade is straightforward. International trade is based foremost upon communication across borders. The countless commercial interactions that occur each day are the most effective means of increasing familiarity, understanding, tolerance and respect among different peoples. The economic interdependence that ensues raises the cost of war to a prohibitive level. The prosperity that results is shared among all, creating the opportunity for a better life for future generations and enfranchising those who might otherwise seek to destabilize soci-

eties through violence and terror.

International trade is also based upon principles of transparency and respect for the rule of law. By promoting these principles among a wider audience, international trade further enhances the prospects for peace among different peoples.

The Bush administration has demonstrated a clear appreciation for the role of international trade in promoting peace. The

administration's aggressive free trade agenda is helping to foster both economic and political stability around the world.

For example, President George W. Bush has called for the development of a Middle East Free Trade Area (MEFTA), to include the United States and the nations of the Middle East and the Maghreb, by the year 2013. Already the United States has negotiated comprehensive free trade agreements with Israel, Jordan, Morocco and Bahrain, and I expect that these will be joined by agreements with Oman and the United Arab Emirates in the near future. This array of comprehensive trade agreements will serve as the bedrock upon which a MEFTA can be built. Once achieved, the MEFTA will help bring stability, prosperity, hope and opportunity to a part of the world that has known little of such things for far too long.

The Bush administration is also reaching out to South America in negotiating an Andean Free Trade Agreement with Colombia, Ecuador and Peru. A comprehensive free trade agreement with these countries will expand economic opportunities in the region. These expanded opportunities will not only lead to increased prosperity for the Andean peoples, but will also serve to complement regional drug eradication efforts by offering viable alternatives to illicit drug production. This in turn will help undermine and disrupt the violent groups that fund themselves with proceeds from trade in illicit drugs. In this way, international trade has an important role to play in promoting regional peace and stability and advancing the security interests of the United States.

Another example of this is the recently passed Central America Free Trade Agreement (CAFTA). The CAFTA will help ensure that nations in Central America do not witness a return of the internal strife that marked the region during the 1980s.

In addition, the Bush administration is negotiating terms for Russia's accession into the World Trade Organization (WTO). This negotiation presents a number of opportunities to improve transparency and respect for the rule of law as Russia transitions to a market-based economy. The negotiation over China's recent accession into the WTO presented similar opportunities, and while trade tensions continue to flare on occasion, we now have the benefit of the WTO forum in which to mediate our disputes with China. Once Russia's trade commitments are formalized through accession to the WTO, we will have access to the same benefit. China and Russia are each important players in the global economy. Their commitment to a common rule of law for international trade will do much to promote both economic and political stability around the world.

Congress too has demonstrated an appreciation for how increasing international trade promotes peace. In 2004, Congress passed an important extension of the Africa Growth and Opportunity Act (AGOA). First passed in 2000, AGOA is credited with creating over 190,000 jobs and over \$340 million in investments in sub-Saharan Africa. That is a significant contribution to increased peace and stability on the continent. Last year Congress also passed legislation to allow duty-free treatment for imported hand-woven carpets. This duty-free treatment will primarily help the citizens of Afghanistan and Pakistan, two important allies in the global war on terror.

I look forward to continue working with my colleagues and the administration to promote peace by expanding international trade. 🕊

— Sen. Chuck Grassley is an Iowa Republican and chairman of the Senate Finance Committee

**“The Bush administration has demonstrated a clear appreciation for the role of international trade in promoting peace. The administration’s aggressive free trade agenda is helping to foster both economic and political stability around the world.”**

# Decision to ratify CAFTA

U.S. Representative Joe Schwarz

Since my swearing-in as a member of Congress, one of the most difficult choices I have made was to vote to ratify the Dominican Republic-Central America Free Trade Agreement. To say that my fellow legislators, not to mention constituents back home, were sharply divided, would be an understatement. I heard from many constituents who believe that DR-CAFTA will be the death-knell for the Michigan economy. That is positively not the case.

The debate over DR-CAFTA, or CAFTA for short, degenerated from what should have been an honest discussion over U.S. trade policy into a purely partisan battle. I lament that this has transpired, as it benefits no one.

Opponents of CAFTA argue that it will leave U.S. markets wide open to competition from poorer nations with weaker labor standards and environmental protections. The truth is that our markets are already wide open to this competition, and have been for quite some time, while the CAFTA countries imposed significant tariffs on U.S.-made goods. This is the definition of a one-



U.S. Representative Joe Schwarz

Courtesy of Rep. Schwarz's office

way street. CAFTA corrects this unfair trading scheme by reducing the Central American tariffs and thus opening the Central American market to U.S. goods, and by mandating that the Central American countries adhere to labor and environmental standards. This is a change for the better.

When deciding how I should vote, I approached the issue from two angles: national security and economics. As a member of the House Armed Services Committee, a retired Navy officer, and an ex-CIA operative, I understand the value of a strong national-security policy. Ratifying CAFTA was in the long-term interests

of our national security.

After years of civil war, Central America is just beginning to experience considerable economic growth and to enjoy the liberty that democratic nations share. As the moderate-to-liberal Washington Post editorialized in its July 26 edition:

[A]n attempt has been made to revive the political challenge once represented by Mr. [Fidel] Castro. It centers on Venezuela's Hugo Chavez,

who combines Castroite rhetoric with the financial clout of Venezuelan oil. Mr. Chavez has spread his money around the region, sponsoring anti-American and anti-democratic movements and promoting alternatives to U.S. initiatives. To counter the U.S. trade agenda, for example, he has put forward a “Bolivarian Alternative.” This has given critics of the United States something to advocate. El Nuevo Diario, a Nicaraguan newspaper that is critical of CAFTA, praised the Bolivarian Alternative recently, asserting that “America is for the Americans, not for the North Americans.” In Costa Rica, critics of CAFTA who draw inspiration from Mr. Chavez have made no secret of the fact that they oppose the deal because they oppose the United States. ...

[T]he defeat of CAFTA would help not anti-poverty movements but anti-American demagogues, starting with Mr. Chavez. For them, the retreat of the United States from partnership with Central America would be a major victory.

It is my firm belief that fledgling democracies, wherever they exist, need and deserve the support of the oldest democracy in the world. The best way we can support them is by injecting into their economies the stability that derives from a comprehensive trade agreement with the United States. To weaken our bonds with these countries is to hamper our efforts to fight the war on terror.

After lengthy discussions and weighing the positives and negatives, I decided that ratification was in the best interest of the Michigan economy. While I agree that the administration could have secured more protections for both the labor force in Michigan and in the CAFTA countries, I believe that the agreement is still an improvement over the pre-existing arrangement for U.S. and Central American workers. Our pre-existing trade policies with the CAFTA countries were encouraging outsourcing to those countries; however, ratification of the agreement will reduce the potential for outsourcing of jobs.

As an example, U.S. exports of motor vehicles and auto parts face an aggregate tariff of 11.1 percent in the CAFTA countries, while the United States has zero tariffs on the same products

**After years of civil war, Central America is just beginning to experience considerable economic growth and to enjoy the liberty that democratic nations share.**

imported from Central America and the Dominican Republic. U.S. exports of dairy products face an aggregate tariff of 19.5 percent in the CAFTA countries, while U.S. tariffs on Central American dairy products are less than half that amount. The ratification of CAFTA will reduce these tariffs, stimulating sectors of the American economy. For example, The Kellogg Co., headquartered in my hometown of Battle Creek, Michigan, sees Central America as a great potential market for its U.S.-made products, which will be made more affordable once the trade barriers are reduced.

National security posture is tied to economic and trade policy. China poses both an economic and military threat to the United States, perhaps not today or tomorrow, but in the future. The pre-existing tariffs currently in place (those that would be repealed by CAFTA) artificially raised the costs of U.S.-made goods in the CAFTA countries. This policy encourages Central Americans to purchase more low-cost goods from China, where labor standards and environmental protection are abysmal. Injection of revenue into the Chinese economy, I fear, will fund the expansion of China’s military, and will hamper our efforts to build a more peaceful and prosperous world. Voting for CAFTA was a small, but significant step to prevent this from happening.

Given the present political climate, my vote was not easy. The CAFTA debate was inundated with half-truths and over-the-top rhetoric. Organizations succeeded in conveying their opinions to their members, thus raising the intensity of the issue. What they failed to do, on both sides, was to frame the debate in non-partisan, balanced and factual terms.

While I am cognizant of the concerns, I had to cast my vote based on the merits of the arguments, not the rhetoric. In this case, that required an affirmative vote for CAFTA. ☞

*— U.S. Representative Joe Schwarz is a first-term Congressman from Michigan’s 7th district. He serves on the House Committees on Agriculture, Armed Services, and Science.*

# Challenges and Opportunities for International Trade

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Len Condon

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**T**he processed foods industry has a long history of looking abroad for new markets and new customers. For example, the Coca-Cola Company launched their first overseas operations in 1906 and Kraft Foods followed just shortly after that in 1924 in Europe. At that time, food companies had to locate facilities abroad to reach these markets, since both transportation costs and tariffs were prohibitively high and access to raw materials was limited. Today we live in a very different world, with access to first class global distribution and abundant raw materials. Food companies, however, are still limited in their ability to access new markets by old world trade barriers that hinder our export opportunities and fragment global markets.

Although the multilateral trading system has been in existence for over fifty years, food and agricultural products have only been subject to international rules and disciplines for the last ten years. As a result, the barriers to trade in food and agricultural products remain staggeringly high when compared to those of their industrial counterparts. While tariffs on agricultural products are high in general — 62 percent, compared with a global average of 4 percent for industrial products — tariffs on processed products tend to be even higher than their bulk ingredients. These high tariffs are largely a result of “tariff escalation,” as countries try to protect local

industries by increasing tariffs with the level of processing. For example, while most countries have no tariff on raw cocoa beans, finished chocolate confectionary products face tariffs ranging between 15 and 57 percent.

Tariffication in the Uruguay Round also created a tariff-rate quota (TRQ) system for many sensitive products (for example, sugar and dairy products) that are important ingredients in many processed food products. These TRQs restrict access to these key commodities, raising raw material costs to many manufacturers. This impedes our ability to be globally competitive in products that are high in sugar or dairy content. Furthermore, processed foods often face complex tariff structures abroad when countries not only assess a duty on the product itself but on its ingredients by weight and composition, making it almost impossible to pre-determine the tariff on particular products.

Fortunately, we have several opportunities to lower these trade barriers in the near future through a combination of multilateral and bilateral trade negotiations. The World Trade Organization (WTO) Doha Round negotiations are perhaps the most significant opportunity for global trade liberalization in a decade. As President Bush recently noted in a speech before the UN, a successful Doha Round could lift hundreds of millions of poor people out

**“...the devil is in the details and negotiators are now locked in a struggle to determine the exact formula for tariff cuts...”**

of poverty by substantially liberalizing trade in agriculture, services and industrial goods. For the food industry, the successful conclusion of the WTO round could offer access to previously untapped new markets globally.

It is important to realize that increased processed food exports will clearly benefit the larger agricultural community, since they are essentially an export gateway for many bulk commodities. Last year, for example, one processed food manufacturer, Kraft Foods, purchased \$3.6 billion worth of farm commodities for use in its U.S. manufacturing facilities. This included \$1.3 billion worth of dairy products, nearly half a billion dollars worth of pork, and almost one quarter of a billion dollars worth of sugar. On a global basis, Kraft buys \$7 billion worth of agricultural commodities annually. As such, the more we can increase U.S. processed foods exports, the greater the gains for the whole agricultural community.

Food manufacturers are particularly interested in securing access to developing country markets such as India, where a growing middle class and rising incomes signal tremendous opportunities for additional sales. For example, annual growth rates for processed food sales in developing countries are as high as 28% annually as opposed to just 2 to 3% in developed countries. Unfortunately, tariffs in India are some of the highest in the world. For example, the allowed tariff on pasta in India is 150%, which effectively shuts out exports to the market. These tariff peaks appear even more unjustified, when you consider that the average US tariff on agricultural products is 12%.

In the WTO, negotiators have pledged, in principle, to find a formula for cutting tariffs in a manner that will cut high tariffs faster than low ones. Such a formula will assist food manufacturers by addressing tariff escalation and, ideally, harmonizing tariffs to the already low US rate. With any negotiation, however, the devil is in the details and negotiators are now locked in a struggle to determine the exact formula for tariff cuts that will provide maximum access abroad while at the same time protecting sectors in which they are sensitive.

The level of success in lowering tariffs in the WTO is directly

related to the United States' willingness to accept reductions and new disciplines on our trade distorting farm supports and the European Union's (EU) ability to open up their market to new imports. The Doha Round has been billed as a "development round," and as such, many developing countries are looking to the U.S. and EU to lead on eliminating distortions to trade. These countries argue that they simply can not compete with Western subsidies and will not lower their tariffs until there are meaningful limitations on the use of domestic support. We sincerely hope this stalemate will be broken in time to achieve a deal on tariff formulas and domestic support reductions by the next WTO ministerial meeting in Hong Kong this December. Failure to reach an interim deal will put the whole WTO negotiations at risk since the talks must conclude before the expiration of our Trade Promotion Authority in 2007.

In parallel to this multilateral trade liberalization, food manufacturers see great promise in our many new bilateral free trade agreements. For example, our exports have more than doubled to Mexico and Canada in the ten years since the North America Free Trade Agreement (NAFTA) went into effect. We estimate that upon full implementation of the recently passed CAFTA agreement, food exports could rise from \$359 million to \$662 million – an 84% increase over current exports to the region. Current negotiations with Panama, the Andean countries and Thailand offer similar rewards, provided they are as comprehensive as the CAFTA agreement. Calls to exclude certain protected commodities from future free trade agreements must not be heeded. Exclusions of products on the US side lead to demands for exclusions from our trading partners, damaging the prospects for our competitive export-oriented sectors.

Even if we are able to secure an ambitious outcome in the WTO and bilateral negotiations, these results will be meaningless unless Congress passes the agreements into law. The recent fight over the CAFTA agreement suggests that we need to rebuild the bipartisan consensus on the benefits of free trade. We are encouraged by the renewed intensity of Congressional consultations by U.S. Trade Representative Portman and Agriculture Secretary Johanns and hope that these consultations will create an enhanced negotiating mandate for USTR and USDA to conclude satisfactory agreements for consumers, business and labor constituents. ☞

— Len Condon is the Director of International Business Relations for Altria Corporate Services, Inc.

# America's Tariff System

## How trade barriers hurt the poor

Edward Gresser

For decades, tariff policy has been a sleepy backwater. The 80-year-old tariff system draws little attention even from tax and trade specialists; no congressional committee has held a hearing on tariff policy since 1974. But the issue is worth a little attention, because even the briefest peek at this sleepy backwater finds it crawling with cottonmouths, fire ants and alligators.

A discussion can begin with a celebrated recent tariff event—the Bush administration's "emergency" steel tariffs of 2002 and 2003. Ranging from eight to thirty percent across millions of tons of steel imports, they caused an international uproar. Dozens of newspapers wrote nasty editorials. Nine foreign governments, from Japan and Europe to Brazil and Taiwan, filed WTO cases. Networks everywhere from *CNN* and *CBS* to *al-Jazeera* and *China Central Television* covered both the decision and the administration's retraction.

But look a bit closer. Despite the uproar, steel tariffs still raised less money than tariffs on shoes or T-shirts. As Table 1 shows, steel barely outpaced brassieres.

Shoes are in some ways even more striking. In 2003 the steel tariffs raised \$224 million on about \$13 billion worth of import-

Table 1	
<b>Total Imports 2003</b>	
Steel	\$12.9 billion
Brassieres	\$1.4 billion
<b>Tariffs Collected 2003</b>	
Steel	\$224 million
Brassieres	\$151 million

ed steel. Also in 2003, Americans imported \$15 billion worth of shoes. But the shoes brought in \$1.6 billion in tariffs, nearly seven times the receipts from steel. Likewise, the Customs Service collected \$20 million on steel from mighty Japan, but fully \$200 million from Cambodia's humble pajamas, underwear and T-shirts. No TV network mentioned shoes or Cambodians. No foreign government protested.

**“A single mother may lose as much as a week's salary each year to the hidden effects of tariffs on clothing and shoe prices.”**

Why the disparities? Since the creation of the modern tariff system under Herbert Hoover, American tariffs have applied to about 11,000 kinds of goods, from horses and statues to semiconductor chips, combs, helicopters, spoons and butter. Hoover's rates were very high, but four big international trade agreements since the 1960s (the "Kennedy Round" in 1969, "Tokyo Round" of 1979, the "Uruguay Round" that created the WTO in 1995, and a WTO agreement on information technologies in 1997) have brought the average tariffs to a very low level. They now average roughly 2.6% and bring in \$20 billion a year.

But the low averages and modest revenues hide an uneven system. Tariffs are gone on about 3,500 products, including computers, airplanes, semiconductors, toys, medical equipment and furniture. Tariffs are minimal on luxury consumer goods and big industrial imports like cars, industrial machinery and oil. But appeals from a few industry lobbies have kept them high on many light industry goods—especially clothes, shoes and some types of food.

The highest single manufacturing tariff is on cheap sneakers: at 48%, they have a tariff rate that has not been touched since the Eisenhower administration. Like other consumer goods tariffs, this fee is paid by at the border, and then passed to consumers in stores, magnified by markups from landed cost and state sales taxes. In effect, each ten-dollar pair of sneakers includes a hidden tax of \$3.30 or so. Tariffs on acrylic sweaters are modestly lower at 32%; cotton T-shirts get 20%; cheap forks, spoons, plates and drinking glasses hover around between 10% and 18%. Bra tariffs, incidentally, are 17%. And the lack of congressional attention means that, unlike other taxes, tariffs rarely change. No cheap sneakers have been made in the United States, for example, since the 1970s—but the tariffs remain in place.

Tariffs, therefore, appear to be the most regressive part of American tax policy. And the effects produced by markups and

**“Tariffs, therefore, appear to be the most regressive part of American tax policy.”**

sales taxes give tariffs larger real-life effects than their modest contribution to American government revenues would imply. Low-income families (especially if they have children) get hit hardest, because they use more of their income to buy clothes, shoes and food; and because the highest tariffs are on the cheapest types of goods.

A single mother may lose as much as a week's salary each year to the hidden effects of tariffs on clothing and shoe prices.

Likewise overseas, wealthy countries that pump oil, print semiconductor chips or make cars rarely encounter significant tariffs. But low-income countries that sew sweaters or cobble shoes, like Cambodia and Pakistan, typically face permanent tariffs about equal to the temporary steel tariffs of 2003. Thus the system becomes far more noticeable for poor countries in Asia and the Muslim world than for the wealthy countries. Table 2 graphically illustrates the result.

What can one conclude? More through inattention and lack of interest than through a plan, tariffs have become a regressive tax. They have become a remarkably discriminatory form of trade policy, targeting small and poor countries rather than the big and rich ones. And the continuing drain of garment jobs is testament to their ineffectiveness as job protectors. Perhaps it is time to put this 80-year-old system to rest. 🕊

— Edward Gresser is director of the Project on Trade and Markets at the Progressive Policy Institute

**“...no congressional committee has held a hearing on tariff policy since 1974.”**

<b>Products</b>	<b>Duty-free</b>	<b>Tariffs 0.1%-4.9%</b>	<b>Tariffs 5%-15%</b>	<b>Tariffs 15% +</b>
Cambodia	5	1	42	52
Pakistan	10	7	66	17
China	56	20	20	4
WORLD	63	24	8	5
EU	65	24	1	0
Japan	57	37	6	0
Saudi Arabia	69	22	9	0

# The Hopeful Future for Free Trade

## Passage of CAFTA clears path for other trade pacts

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the Honorable Bill Archer

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This summer saw the tense passage of the U.S.-Dominican Republic-Central American Free Trade Agreement, known as CAFTA. Its narrow approval by just two votes in the House of Representatives engendered much hand-wringing over the prospects for future trade agreements and for free trade in general. While the proponents of free trade should never let down their guard, many concerns about the free trade agenda are overly pessimistic. The future for free trade remains bright.



The Honorable Bill Archer

Courtesy of Mr. Archer's office

and enforceable rules, have directly contributed to the remarkable growth in global prosperity over the past decade and have served as guiding principles for developing nations.

### Need for TPA

This year too has been a watershed for free trade. In June, the House defeated a measure that would have required the United States to withdraw its membership from the WTO. That vote renewed America's commitment to the WTO by extending for another 5 years U.S. participation

in that organization. Congress also declined to withdraw the President's Trade Promotion Authority (TPA, formerly known as "fast track"), which allowed trade agreements, like CAFTA, to proceed without amendment to the floors of the House and Senate. TPA is a necessary predicate for negotiating trade agreements—after the highly successful North American Free Trade Agreement (NAFTA), the United States languished with just four free trade agreements during the 1990s when the United States lacked "fast track" trade authority, while more than 120 free trade agreements

# “One of the reasons for optimism about the future of free trade is its past record of success.”

proliferated around the world. Since Congress returned TPA to the President in 2001, the United States has successfully concluded trade agreements with Australia, Central America, Chile, Morocco, and Singapore. An agreement with Bahrain is ready for congressional consideration and negotiations with Oman, Panama, Thailand, and the United Arab Emirates continue apace.

The rapidity with which the United States has sought and concluded bilateral trade agreements has built momentum for the larger goal of U.S. trade policy: regional and global trade agreements. Just as the Central American pact and its NAFTA predecessor are stepping stones to securing the Free Trade Area of the Americas, which would incorporate most of the Western Hemisphere into one trading bloc, the agreements with Bahrain, Oman, and the UAE are of a piece with the Middle East Free Trade Area, a goal that President George W. Bush has long described as a primary long-term objective. The United States is also negotiating regional agreements with nations of the Association of South Eastern Asian Nations (ASEAN) and has recently re-started negotiations with the South African Customs Union.

## Importance of Doha Round

All of these agreements build momentum for the on-going Doha Round of WTO talks. Because of the successful year for free trade at home, the United States can again claim the mantle of leadership in the hard work ahead to further expand the reach of the benefits of trade through the WTO. The latest round in general and the upcoming December meeting in particular are critical for the progress of reducing trade barriers, increasing access to goods and services, and raising living standards around the world.

The progress on free trade agreements at all levels is possible because of this administration's commitment to and selection of high-quality individuals of remarkable leadership and vision. Former U.S. Trade Representative (USTR), Ambassador Robert

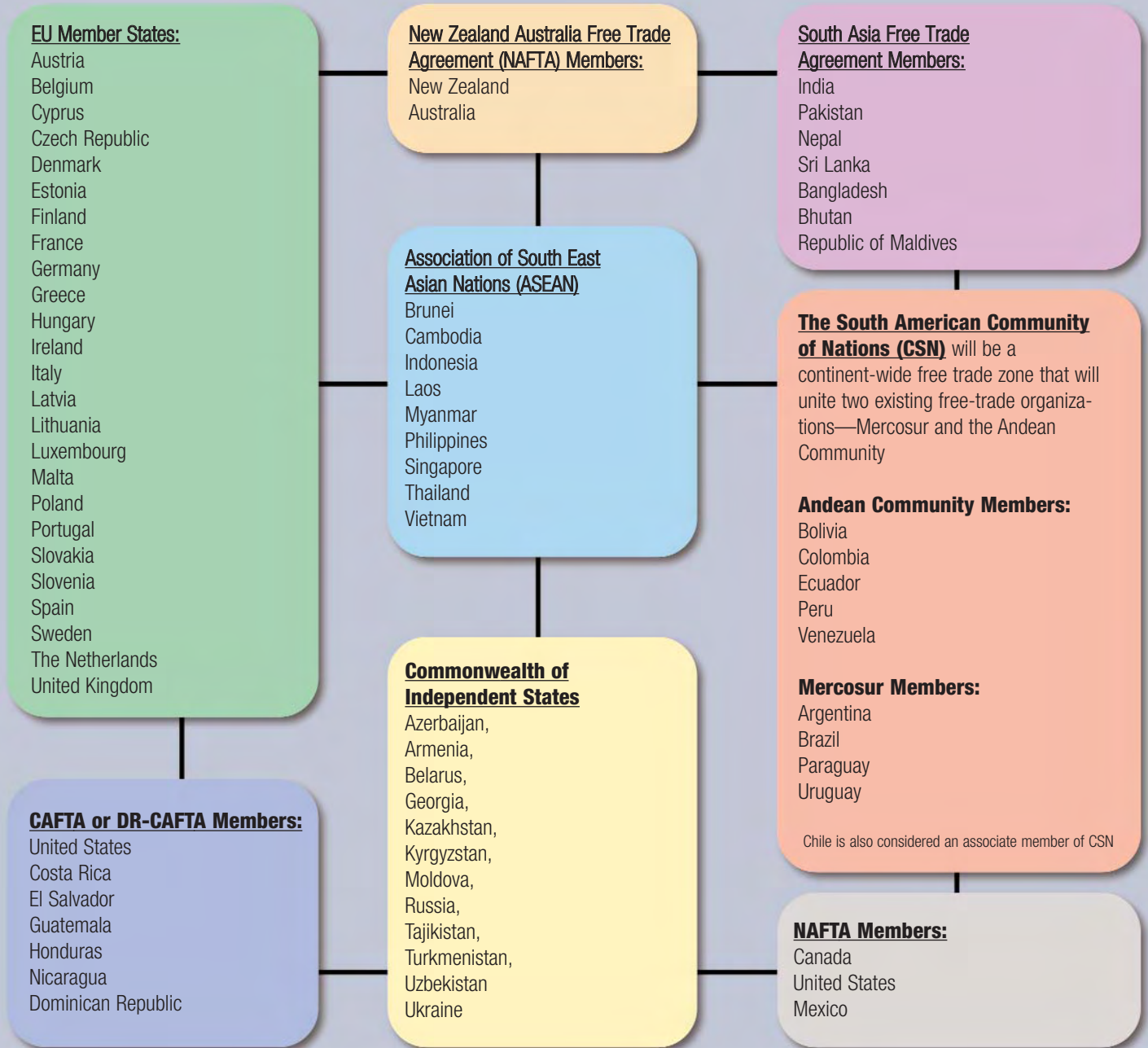
Zoellick, and the current USTR, former Congressman Rob Portman, bring brilliance and enthusiasm to a task that requires an abundance of both, and the two assembled an incredible team of trade experts and trade promoters to help America take the lead in liberalizing global trade.

Their efforts bear fruit in the Congress where the leadership of Rep. Bill Thomas, Chairman of the Ways & Means Committee, has put the full weight of his immense experience and wisdom into realizing the completion of trade agreements. The fact that a leader of Chairman Thomas's stature is committed philosophically to the benefits of free trade provides an immeasurable boost to the prospects of increased free trade. With Chairman Thomas stand other leaders, such as Congressman Kevin Brady, whose stewardship of CAFTA made possible the victory for free trade that the agreement represents.

The challenges of free trade, namely convincing the skeptics and overcoming the doubts that naturally flow from voluntarily engaging in open competition, remain for our country and for Congress. But we can only overcome them if Congress is part of

**“The challenges of free trade, namely convincing the skeptics and overcoming the doubts that naturally flow from voluntarily engaging in open competition, remain for our country and for Congress.”**

## Becoming increasingly integrated - do Trade Blocs bring a boon or a barrier to trade?



the process. A return to the old-time coalitions of the past, such as the bipartisan spirit that won passage of the African Growth and Opportunity Act, would be a welcome development.

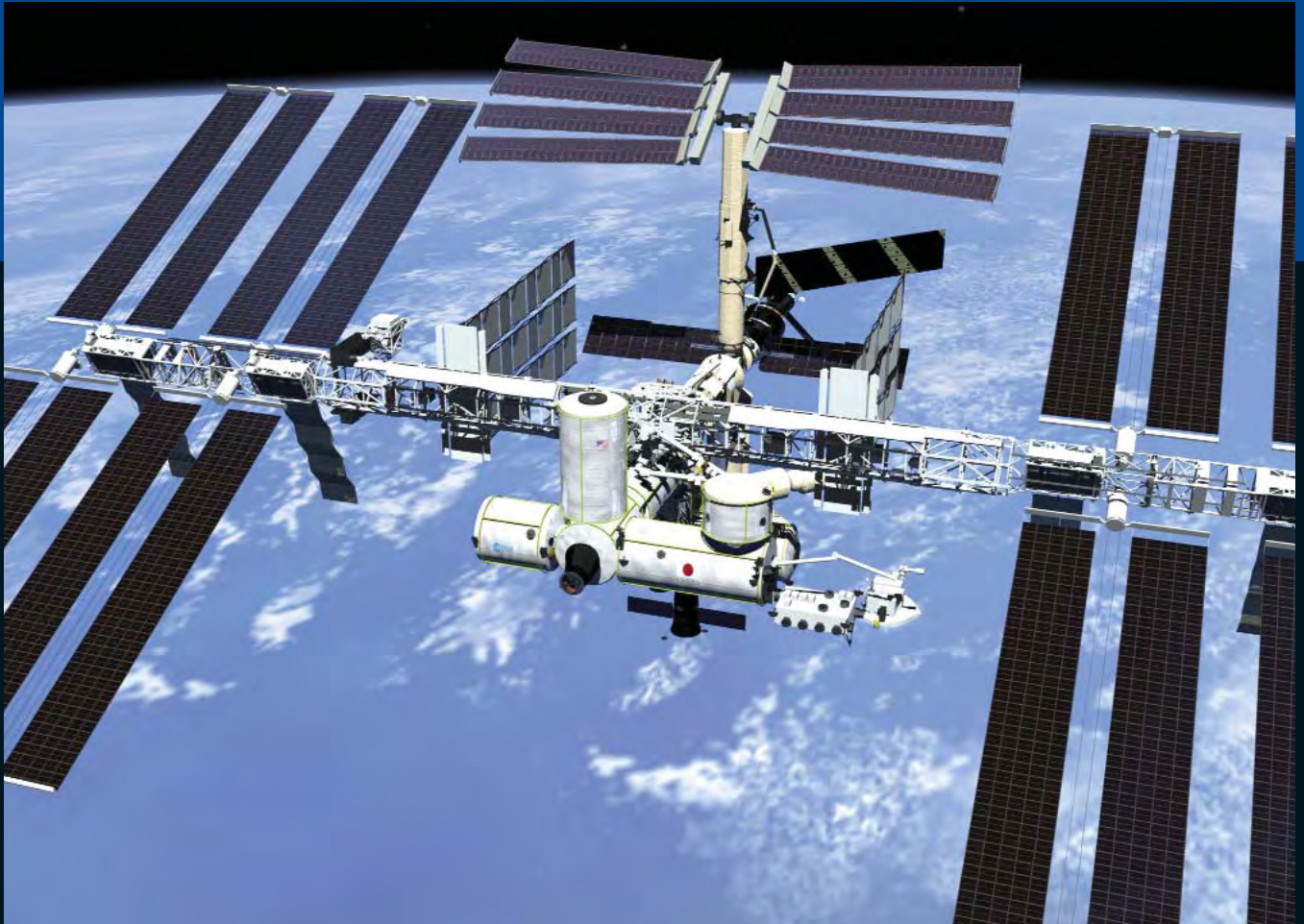
As someone who now observes these political debates from the outside but with continuing avid interest, I am greatly encouraged by the movement I have seen and the potential for future progress. Our future clearly lies in the international arena. The more we do to gain access to other markets, to level international playing fields,

and to increase competitiveness, the more we do for the prosperity not only of our own country but also for those with whom we trade. 🌿

— Bill Archer was Chairman of the House Ways & Means Committee from 1995 to 2001 and the Congressman representing the 7th District of Texas from 1971 to 2001. He currently serves as Senior Policy Advisor at PricewaterhouseCoopers LLP in Washington, D.C.

# New Technology

Image © Reuters/CORBIS



# Technology in America: We Will Reap What We Sow

U.S. Representative Bob Goodlatte

**F**rom satellite radio to Internet phone service to wireless handheld devices that multi-task as phones, music players, web surfers and more, the technology industry is providing citizens and businesses with exciting products to increase quality of life and reduce the costs of doing business. As Co-Chair of the Congressional Internet Caucus, I realize that technology, and the Internet in particular, transcend traditional regulatory and jurisdictional boundaries. Perhaps much of the innovation we have witnessed over the past few decades is due to the amorphous nature of the Internet which has allowed the technology industry to escape the traditional red tape other sectors face. However, this fluid characteristic of the Internet also presents challenges to lawmakers who seek to punish the bad actors while shielding legitimate actors in this space.

The Internet continues to be an engine that empowers consumers by providing virtually unlimited amounts of information right into citizens' homes with the click of a mouse. Services which citizens once had to wait in line for hours to access can now be



U.S. Representative Bob Goodlatte

Courtesy of Rep. Goodlatte's office

accessed via the Internet in seconds. Online shopping has empowered folks who cannot physically make it to department stores or grocery stores. Businesses use the Internet to communicate with consumers, provide information about products, and deliver their products and services. In addition, governments use the Internet to reduce costs and provide essential information and services to citizens faster and cheaper. One example of government harnessing the Internet to provide better service is found in Virginia. Virginia now uses an exciting new solution called eVA for its procurement

needs. Product and service providers register and list their prices and then State officials use the Internet-based system to monitor who is providing the best goods and services at the best prices. This solution has eliminated waste and increased efficiency in Virginia's procurement process. It holds the promise of transforming the way government does business.

Another exciting development is the growth of "Voice over IP" (VoIP) technology. This technology allows calls to be placed over

**I believe the right approach is a light regulatory touch that fosters innovation and allows the market to decide the winners and losers.**

the Internet instead of over traditional telephone lines, reducing costs for businesses and consumers. Additionally, VoIP users can manipulate messages in ways never before imagined; including programming their systems to have incoming calls ring all of their phone devices at once, reducing the instances of missed calls.

VoIP is a great example of a cutting edge technology that is causing lawmakers to rethink traditional regulatory schemes. While the service is provided over the Internet and in information packets, it is also used to allow people to communicate. One of the key debates is whether to classify VoIP as an “information service,” a “telecommunications service,” or as a new category altogether.

It is crucial that government refrain from creating inflexible laws that could stifle competition and these types of innovations in the technology sector. I believe the right approach is a light regulatory touch that fosters innovation and allows the market to decide the winners and losers.

In addition, lawmakers must ensure that legislative proposals impacting the Internet establish the appropriate incentives for consumers and businesses to create, innovate, and utilize the Internet more. Some of the most troubling concerns consumers face when deciding whether to interact online are security and privacy. A recent report issued by the Federal Trade Commission states that identity theft is one of the fastest growing forms of fraud. The Internet is one way in which identity thieves obtain personal information. Congress must address this problem and punish those that steal and use the identities of others. The Internet will only reach its full potential when consumers feel safe to transmit information over the Internet.

Likewise, companies must also feel confident that the Internet is a safe place to do business before it will reach its full potential. One example of Congress updating old laws to reflect the challenges of the digital age is found in copyright law. In 1997, Congress enacted the No Electronic Theft Act (NET Act), which I introduced, to strengthen the nation’s copyright laws and to enhance the penalties for the electronic piracy of copyrighted materials.

A few years later, Congress began to face similar challenges with peer-to-peer (P2P) networks. When used properly, P2P networks can provide users with incredible access to vast amounts of information in the public domain. When used improperly, they can be used as tools by millions to steal music, movies and other copyrighted works, which could devastate a huge sector of our economy and ruin the Constitutional incentives for innovators to

create new works and products.

While the debate over P2P piracy is a controversial one, one thing is certain - our nation’s strong commitment to intellectual property protections has encouraged investment and innovation online. Without the exclusive right to permit and restrict access to their works, content owners would never have developed new and exciting online music delivery systems. This has directly resulted in the success of projects like Apple’s iTunes, which provides access to legal online music.

Congress must continue to ensure that America remains the world leader in technological innovation for all sectors. Another important way to accomplish this is to examine our patent laws to make sure that they protect innovators. As we continue our journey into the digital age, we must make sure that the incentives our Framers put into our Constitution remain meaningful and effective.

It is only right that as more and more inventions with increasing complexity emerge, we should examine our nation’s patent laws to ensure that they still work efficiently and encourage, and not discourage, innovation. All inventors will reap the rewards of a streamlined patent system that ensures good quality patents are issued and opportunists cannot take advantage of loopholes in our enforcement laws.

America’s technological future looks bright, but in order for our economy to continue to reap the benefits of what our nation’s brightest minds sow, we must be diligent to protect intellectual property rights online and to guard against overly burdensome red tape and regulation in the technology sector. 🌿

— U.S. Representative Bob Goodlatte is in his 7th term representing Virginia’s 6th District. He is the Chair of the House Agriculture Committee.

# The Rise of the Silicon Eye

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By George Gilder

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**D**eath Valley Nuts and Sweets,” beckons the neon sign. Amid the lunar desert rimmed with remote mountains, in a little shop claiming to be “the most beautiful gas station in the world,” a 69 year-old man named Carver Mead assumes the iconic pose of the 21st century pilgrim. A trim bearded figure, he is hunched prayerfully among the gas pumps trying to get reception on his cell phone.

The glow from the sign falls on the back seat of his rental car. It is full of arcane century-old technology—an array of apparently random electrical devices that might intrigue a teenaged tinker or strike terror in the mind of an airport security guard. A small middle-aged blonde woman sits patiently in the car in front of the electrical debris. She has been through this before.

Who is this Carver Mead, collector of electrical relics? And what is he doing at a dive in the midst of Death Valley in early October 2003, haplessly trying to catch up with the world?

Following his own visions and disciplines, whims and raptorial will, Mead has always managed to remain ahead. Although little known outside the silicon valleys of America, he has been the leading intellectual figure in four decades of American electronics, through three generations of the fastest advancing gauntlet of

world technology. Crucial to his lead has been his intuitive sense of *phase*, his special feel for the timing of the crests and troughs of opportunity in life and electricity, science and history.

Born the son of an engineer in a Southern Pacific hydroelectric plant in Kern Valley in California’s High Sierras, Mead had come to learn of the immense power of electricity and the portentous relationships among its phases in the plant. When the power was in phase, with the crests and troughs aligned between the generator and the line, electricity would rush reliably down the eighty miles to Los Angeles. But if the waves of force between the generator and the transport line were out of phase, the voltage might reverse with a torque that could blow up the plant.

The Gordon and Betty Moore professor of science and engineering at Caltech in Pasadena, Mead early in his career had moved his concerns from the millions of watts of power in his father’s plant to the nanowatts (billionths of a watt) of power in exotic microelectronic devices. In 1963 he built the world’s fastest transistor. He researched the proposition about the rate of advance of semiconductor technology, doubling every 18 months, that he named Moore’s Law after its author Gordon Moore. He conceived the chip design technologies that soon dominated the industry. He

proposed and taught an historic course on computational physics with the late Nobel Laureate physicist Richard Feynman, with whom he shared a belief that electro-magnetic waves can move both ways in time. He wrote a revolutionary book on quantum theory and superconductivity called *Collective Electrodynamics*. Crucial in all these pursuits were phase relationships. Whether the waves of force were in alignment—whether they resonated and grew, or dissipated and dispersed—determined whether connections were made or useful effects were achieved.

The waves of influence from his classes at Caltech often impelled Mead North to Silicon Valley. From his early years advising Moore at Intel, where Mead wore the seventh badge, he spent much of his career commuting to the Bay Area to consult with his students and guide their endeavors. His quiet voice, steady gray eyes, trim goatee, and swirly colored open necked shirts became familiar in the high councils of the industry. When he says something you listen. As if to await an alignment of the phases of his thought with yours, he pauses. He thinks before he speaks, and as he thinks he radiates, and the radiation reaches the listener and opens his mind for the impending idea. During the course of his career, many have listened attentively enough to act on his concepts. He has served as a founder of twenty companies.

Prominent among the twenty is a photographic imager company off Zanker Road in Santa Clara named Foveon, where Mead serves as Chairman of the Board. Imagers take light from a lens and transform it into electrical signals containing an image. Until early in the new century, nearly all cameras were analog, using film that directly transcribed the image into a visible pictorial pattern. But this is a digital age. In digital you don't make direct chemical analogies of a scene; you translate it into a set of numerical values of the light colors and intensities, which can be processed by computer into the desired picture that you choose to print out.

In September 2003, one month before Mead's stop in Death Valley, digital imagers that converted the picture into a pattern of bits and bytes to be stored on a computer memory exceeded the unit sales of the usual analog film imagers for the first time. Sold in 2003 were close to 35 million digital cameras. Incorporated in cellphones were a rapidly growing additional ten million digital imagers soon to pass beyond a hundred million in subsequent years.

Seven years before, in 1996, Mead founded Foveon to launch an imager for this new era. He devoutly believes that Foveon's imager chip is far superior to any other imager in the world.

Among many experts in agreement are analysts at several leading photography magazines in Japan and the US, John Markoff of *the New York Times*, futurist John Dvorak of *PC Magazine* and the photography team at *Consumer Reports*.

Yet here it was seven years after the company's founding, with the market for new imagers exploding, and something at Foveon was way out of phase. Of the nearly 50 million microchip imagers sold in 2003, the Foveon device commanded a share of the market less than one tenth of one percent. One wondered why the Chairman chose this moment to exhume the residual devices from the original American power grid.

Mead, however, is often a contrarian and he had his reasons to leave the company to its own devices for a spell. In the midst of this critical transition, he chose to turn off his cell phone and set out with his life partner Barbara on a car trip across the country. Said to be hidden deep in the Appalachians in North Carolina were intriguing power line artifacts that could aid Mead's new efforts to write a history of the creation of the power grid that his father had served for a lifetime.

For ten days, Mead and Barbara had found no relevant relics. But on the 11th, deep in the mountains where no one had meddled with the equipment, they began to uncover "phenomenal original amplifiers and insulators," the key devices that made the power grid of 1909 work in North Carolina. "This stuff was not covered in any of the histories. No one knew how these systems worked. Everybody had it wrong," Mead said. "To find this stuff is an incredible thrill." Filling up a rental car with the artifacts, they set off for their home in California down Interstate 40 through the Blue Ridge Mountains in Tennessee, down into Texas and New Mexico, and across to Death Valley. After more than two weeks, Mead decided to check his cell phone for messages.

His Verizon service somehow only stored three calls at a time. But one of the messages that got through was a voicemail from a woman named Mildred Porter.

"She alluded to a Fillbond or something," Mead recalls. "I didn't know whether it was a thing or a person." It turned out to be Phil Bond, the Undersecretary of Commerce for Technology.

"Has anyone talked to you?" she asked as the cellphone crackled.

"I can't hear you," said Mead, hunched by the gas pumps.

She wanted to know: "Can you do a film for the presentation?"

"What presentation?" Mead asked.

# New Technology

“*You don’t know!*” said Mildred. Within a few minutes, Mead managed to learn that he was a recipient of a National Medal of Technology to be awarded by President George W. Bush at the White House.

In the East Room ceremony a month later in early November, Bush would yawn through many of the presentations. But he was concerned about the future of US manufacturing and employment. When he heard of Mead’s twenty companies, he exclaimed, “Wow. That’s what we need.”

Sure. But the President did not know that Mead, standing there in the White House after a fall of travels and historical researches, was on the verge of a failure in his most promising project. Foveon was indeed a company vital to American competitiveness and manufacturing employment. It was targeted to retrieve leadership for the US in cameras and digital cellphone imagers, long lost to such Japanese firms as Sony, Fuji, and Canon. But this most promising of American innovations, in the company into which Mead had poured the most energy and creativity, was still drastically out of phase with the market.

With its roots in a research project twenty years before at Caltech in a field called neural networks, developing into a company called Synaptics through the late 1980s and early 1990s and emerging at Foveon at the turn of the century, Mead’s new imager had once seemed likely to be a capstone of his career. Yet US technology had suffered through a devastating crash in the year 2000. Attempting to bring the Foveon imager to market, the company had found the possible US customers, from Kodak to Motorola, in disarray and the Japanese camera titans such as Canon and Nikon did not wish to rely on a small American startup for their key imager technology. Amid all the honors and successes, failure at Foveon seemed a distinct possibility as the new century dawned over Death Valley.

In moments of weakness and enthusiasm, Mead and the other creators of the new Foveon imager, which for the first time creates all the functionality of high end film on a silicon chip, speak of transforming the camera business. Perhaps, *en passant*, they may achieve this goal. But as a target, it will lead them astray. A more plausible and practical goal is to dismantle the camera altogether and diffuse it through the world.

Both in the etymology of the word and in the history of the device, a “camera” is a curved room, a vaulted chamber, an arched vestibule, a cavernous black box. *In camera* the judge meets privately with Perry Mason, to upbraid him for rhetorical excesses. In a

*camera obscura*—an original dark room—pictures shone on a wall from a lensed hole that passed light in from outside. Often made in the form of a circular building, the *camera obscura* enclosed a group of observers around a plain white table, on which a luminous image was projected by a lens above in the roof. By rotating the lens around, the “camera” casts on the table a periscopic view of the surrounding scene.

In other words, the camera began as a theater, bigger even than a mainframe computer. In the case of *camera lucida* (a light room), cameras project an image on paper as an aid to sketching or drawing. Made in the shape of a cone with a lens and a reflecting mirror or prism at the apex and a drawing table inside, these devices allowed painters to trace out a sketch of the scene. At an opening on one side of the “camera” the artist sits, partly enveloped by a dark curtain. The camera lucida caused a small media scandal in 2002 when *The New York Times* revealed that several great artists used this crutch as the first step in their painting.

Technological advance eventually banished the artist from the room, allowing considerable miniaturization and automation. Replacing him was a silver halide homunculus, a light sensitive plate or film. In 1839, in Paris, came L.J.M. Daguerre and the daguerrotype, using actinic effects (the impact of radiant energy on certain metals) to create better images through chemistry. Imparting a distinctive jaundice or sepia look to these pictures were the vapors of iodine used in developing them.

With the daguerrotype and its descendents, the portrait photographer became a hooded hangman fixing stiff images of posed subjects. Despite letting the victims remain unhooded, this process inflicted a facial malady that might be called *rigor photos*, hardly distinguishable much of the time from the rigor mortis that has now befallen all the subjects of these otherwise benign attentions.

The sepia saga of portable “boxes,” vaulted chambers, hooded hangmen, canopied cavities, arched little caves of light, chemical baths, emulsions, tripods, and films dwindled over the decades into sleek metal vessels, full of tiny lenses and mirrors, that could easily be held in two hands, and then into miniature Minoltas that could be held between two fingers of one hand. Now, in the pattern of the computer, the camera will shrink further onto a sliver of silicon and become sand-cheap and common. Then it will diffuse across the network, often connected by wires. The final liberation will dispense with the wires, linking the one-chip silicon imagers through the air to storage facilities capable of holding their voluminous reports.

**“He conceived the chip design technologies that soon dominated the industry.”**

The future after Foveon will confine the old paradigm of vaulted “cameras” chiefly to images that cannot be seen. Still needing a curved protective chamber rather than a mostly bare microchip will be tools for semiconductor photolithography and etching, scanning electron tunneling microscopes, nuclear resonance imagers, Computerized Axial Tomography (CAT) scanners, x-rays, and inspection machines for baggage and shipping containers. But even in these applications, the chip itself will increasingly bear lenses and other apparatus required for capturing high resolution images wherever they are needed. Already available from National Semiconductor are chips in the form of pellets that are consumed orally by the user and which take a series of photographs of the esophagus, stomach, and intestines, and then are unceremoniously extruded and flushed along with other offal, having wirelessly transmitted their report.

Foveon will do for the camera what Intel did for the computer: reduce it to a chip and make it ubiquitous. Dismantle it and disperse it across the network. Render it wireless, wanton, and waste-able. Then, as Moore’s Law shrinks the actual imager to an ever-smaller portion of the chip—just as it relegated the CPU to an ever-smaller corner of the modern single chip system—the Foveon device will assume ever more functions. No longer merely a sensor, it will aim toward intelligence. It will evolve into a vision system. It will become something of an eye, something of a brain.

That is, it will no longer serve merely to reflect the visible aspects of the world. Attaining powers of recognition and pattern matching, it will identify movements, threats, anomalies, fingerprints, faces, scenarios, poisons, weapons. It will find defects in manufacturing processes and descry trends in ambient traffic. It will prevent automobile accidents by recognizing dangerous patterns. It will help the ornithologist find his rare bird, the hunter his dangerous beast, and the rescuer her lost child. It will baby sit and house sit.

It will be described as an enemy of privacy. But it will enable us to defend privacy against the muggers, rapists and terrorists who would most brutally rend it. It will eliminate most false charges that rip open the privacy and smear the reputation of non-muggers and non-rapists. It will allow us to take more risks in the knowledge that our fate can be observed—that doctors and police will more often be in reach and informed.

Today human beings have more privacy than ever. Through much of human history people lived in small towns economically difficult to escape, where repute remained at the mercy of rumor,

and from time to time, delusionary vigilantes burned a witch or lynched an adulterer. The increasing ubiquity of imagers will empower us to document our lives and prove our innocence against false charges, protect ourselves against predators, and enable more reliable and just enforcement of laws.

Many long-term challenges lie ahead for Foveon. To save the databases of the world from diluvian exabytes of image data, pouring in everywhere from billions of high-resolution chips gushing pixels 24 hours a day, graphic intelligence must be distributed and localized just as computer intelligence was distributed and localized by the PC. Capable of still and motion coverage, the imagers will have to select their targets, identify their subjects, and interpret the scene. Rather than remitting endless raw files, Foveon’s chip will necessarily move toward recognition and pattern matching, selectivity and signaling.

Ironically these roles will lure the company back toward the kind of neuroscientific missions that gave it birth in Carverland, when soon to be Nobel laureate Max Delbruck burst in upon the young Carver Mead with a biological challenge, when Mead student Misha Mahowald created her first schematic of the retina, and when the band of brothers began their pursuit of brain science. Revived will be the challenges of intelligent imaging embodied in the neuromorphic devices and neural network recognizers that the company pursued under microprocessor pioneer Federico Faggin in its original incarnation as Synaptics.

In one of his freshman physics lectures, Richard Feynman explains how the retina develops in the embryo as an extrusion of brain tissue, with long fibers later growing back to link the eyes to the visual cortex. Through the retina, as Feynman quotes an unknown observer, “the brain has found a way to look out into the world.” Thus the retina is a window not only outward into the realms of light but also inward into the life of the brain and “the whole problem of physiology.”

It is the prime example of the “transducer physiology” that Mead studied with Delbruck. It is the key challenge of analog technology—the interface between the outside world and inside computation, the links between light and logic, sensation and

# New Technology

thought. It addresses the ways in which analogies for the shapes of things arise in the brain. And it offers a new way to understand the analogies between retina and camera—the way that the computer can extrude photosensitive silicon and find a way to look out into the world.

Like the retina, the Foveon camera must also find “long fibers” to link it back to its users and give the optical network a way to look out onto the world. To be stored or transported, Foveon pictures must be converted to digital form. If Foveon imagers are to make their way into the hands of every hobbyist and onto every computer videoconferencing terminal and into every surveillance application, from convenience stores to airports, the pictures will require and endow an abundance of storewidth: voluminous storage linked to immense bandwidth.

The natural way to process images is optical. With much of the information in the world interpretable as images, transmitted as images across fiber optic lines, and stored as images in digital video disks and image databases, much of the processing of the future world economy should move toward analog optics.

The first great optical technology exploiting the parallel advantage of light and image is wavelength division multiplexing. It is a wave network rather than a bit network. Exploiting the natural parallelism of light, the wave network combines many different “colors” of infrared radiation, each bearing the equivalent of billions of bits per second, on a single fiber thread the width of human hair.

But why “billions of bits” if it is an analog system? The source of the superiority of the wave net is its indifference to content. An all optical network can transmit any kind of information at all— analog or digital—without distortion; it does not have to convert its waves into any readable form until their destination. In all-optical wave networks, the different colored streams pass down passive analog optical paths that perform in parallel all the functions of active switching and multiplexing done in serial digital form in mixed optical and electronic networks. Bit networks have to read the digital addresses on every packet at every point where traffic must be added or dropped.

Wave networks are self-addressed in the very colors of the light, the frequencies of the waves. Each frequency designates a different path to a particular terminal. Like a Foveon camera, WDM is an inherently analog system optimized for the defining and transmission of colors. It is a camera on a country. The fiber optic wave network is not merely a communications medium. It is

also an analog processing path at the heart of a still massively digital Internet.

Despite the optical depression of the early two thousands, the superiority of the wave network grows steadily. New systems in preparation bear as many as one thousand wavelengths. Current equipment in the Broadwing network represents an 11,000 fold advance in six years, a rate of well over four doublings every year. Parallelism pays. With more than 1000 fibers now sheathed in a single cable and a 1000 wavelengths per fiber and 10 gigabits equivalent per wavelength, a single fiber installation will soon be able to carry over a petabit, more than a full day’s worth of 2003 Internet traffic, in one second. Emerging will be a global foveal economy, engaged in dense image traffic, teleconferencing in high resolution, with full exploitation of the parallel advantage of light and image.

As image bearing wavelengths become asymptotically free, they will be wasted in unexpected ways, enabling global simulations and experiences and transcending the isolation of human beings in time and space. Counting the number of wavelengths needed to accommodate some extrapolation of current bandwidth consumption is tantamount to counting the number of computers needed in the mainframe world of 1960, or tabulating the number of steam engines needed to run mines and factories in 1790.

The continuing prevalence of the routine digital camera and the digital switch in fact represent a forced stopgap on the way to analog solutions that respond to the physics of the media. An image or a path, a surveiller or a map, a spectrographic calculator or a retinal recognizer, a routing scheme or a pattern matcher, none of these are intrinsically digital at all. In analog form, these calculations happen naturally and instantly. As Misha Mahowald explained to me on our long walk on the mountains of Pasadena, your ears and eyes do it constantly. “They do not even know it’s hard.”

By the inexorable evolution of the industry, Foveon’s color imaging will become the analog first step in a long process of cerebration that will end in simulating ever larger reaches of the human brain and extending back over fibers into a new global consciousness suffused with color and light.

That was the original dream, and it is the continuing quest. ☞

—Excerpted from *The Silicon Eye*  
by George Gilder (WW Norton, 2005)

# A Better Prescription

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Bruce Mehlman

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**O**ur nation's health care system is full of contradictions. Advanced technology is available at all levels of care. Our doctors use magnetic resonance imaging, laser scalpels, smart drugs that pinpoint and destroy only cancerous cells, microscopic wireless cameras patients swallow, and 3D ultrasound devices that assess fetal health. Surgeons can practice operations on virtual reality simulators, learning by doing but without risk to patient. Conditions that were once incurable are now mere outpatient procedures.

Yet it is precisely the ubiquity of these amazing innovations that highlights the glaring absence of more basic technology in so

much of the rest of the health care system.

Your doctor, for example, may send you to a specialist with a \$1.5 million CT scanner, but every time you enter each new office you are handed a clip board with pages seeking your printed name, address, insurance information and medical history.

Amazing new medicines are on the market, but whether they can co-exist in your bloodstream depends on whether each doctor was made aware of the other's prescription. And whether the pharmacist gives you "Zoloft" or "Zocor" depends too often on her ability to discern the physician's handwriting – and makes a real difference in your life.

Our \$1.8 trillion medical system depends on antiquated paper files and out-of-date customs to make it work. And, too often, it simply doesn't provide the level of care you deserve.

A key problem is that the health-care system is based on actions, not outcomes. By design, we pay for process and not performance, placing quantity over quality for purposes of reimbursements. Whether the surgeon botches the operation, fails to follow modern procedure or performs a minor miracle, she is paid the same by Medicare or insurance.

But an even greater challenge is the lack modern information

**"...whether the pharmacist gives you "Zoloft" or "Zocor" depends too often on her ability to discern the physician's handwriting – and makes a real difference in your life."**

# New Technology

infrastructure. The digital tools that have radically improved productivity and quality across our economy have barely touched health care, and it shows. While almost every sector of our economy is transforming itself through new IT-enabled processes (such as direct-to-consumer connectivity, real-time online access to critical information and aggregation and analysis of detailed data), our health care sector remains characterized by islands of advanced technologies in a sea of paper.

Such a disconnected system lets down patients. A 2004 Rand study found that patients received the recommended care only 54 percent of the time. In a landmark analysis, the National Academies' Institute of Medicine found that up to 98,000 hospital patients die from avoidable medical errors each year – more than from AIDS, homicides and car crashes combined. And a recent estimate from the Technology CEO Council suggests Americans spend more than 135 million hours filling out forms in waiting rooms each year.

We're letting down our doctors too. By keeping vital patient information out of their hands, we limit their ability to make the best medical decisions. By failing to automate prescribing and delivery systems, we subvert their intentions and confuse their instructions. By failing to collect information on quality and outcomes, we decline to provide them with the best data they could have about the results of medications and treatments, information that would help them save lives.

And we are letting down our society more broadly. The inefficiency of the largest sector of our national economy is a strategic impediment to the competitive position of American citizens and employers.

## **We can do better.**

We have the tools to significantly improve the care, cost and convenience of health care for all Americans. We can once again lead the world, pioneering perhaps the most important changes enabled by the Internet yet to improve the human condition. And we can do so in a way that lets our doctors share information that can save your life; and empowers you and your family to participate effectively in your treatment and care.


A September 14, 2005 RAND study, determined that a true national health information network could save up to \$165 billion per year by shortening hospital stays, encouraging tests and earlier treatments and cutting administrative costs. Federal Reserve Chairman Greenspan suggests these efforts to use information

**“The digital tools that have radically improved productivity and quality across our economy have barely touched health care, and it shows.”**

technology to improve the health-care system “could provide key insights into clinical best practices and substantially reduce administrative costs” and provide “valuable knowledge about the best approaches to restraining the growth of overall health-care spending.”

The good news is there is growing recognition of the problems and need for solutions. At the national level, President Bush and Health and Human Services Secretary Mike Leavitt are leveraging the federal government's unique role as the largest provider, payer and regulator of health care to drive critically needed changes, especially the proliferation of electronic health records. Key Senators and Members of Congress are rising above partisanship to define this issue as a priority, introducing progressive legislation that could move the ball forward if passed and funded. State policy-makers similarly have an important role to play as well, and we are starting to see them step up to the challenges and opportunity.

But there is much work remaining. We will need to match the vision with the will to change. Lawmakers need to match their stated enthusiasm with action, despite immediate-term budget pressures and intense lobbying from interests vested in the current system.

Change is never easy, but it is essential because so much is at stake. A health-care system transformed through greater use of information technology will do more than save lives and save money. It will provide you and your family the confidence of knowing that the best doctors and nurses have all the tools they need to offer the best possible care. 

— *Bruce Mehlman is the Executive Director of the Technology CEO Council, a Washington, DC-based CEO advocacy association representing many of the global leaders in the information technology industry. Mehlman also founded the bipartisan lobbying firm Mehlman Vogel Castagnetti, Inc.*