



The Impact of **High Energy Prices** on Key Consumer Sectors of the U.S. Economy

September 15, 2008

Table of Contents

Introduction 2

Executive Summary 3

Trucking & Distribution 5

Roads, Highways & Transportation 7

Air Transport. 9

Business Travel 13

Manufacturing 16

Small Business 18

Agriculture & Fertilizer 20

The Business of Chemistry 23

The Business of Petrochemicals 26

Retirees 30

Defense & National Security. 33

Utilities: Home Heating 35

Conclusion 38

Acknowledgments. 40

Introduction



Today's energy problems have become the No. 1 issue for America's consumers, businesses and political leaders. High gasoline prices and a vital need to move toward responsible energy solutions continue to dominate the nation's headlines. Global supplies are frequently failing, more and more, to meet escalating demand while energy markets are increasingly constricted and subject to price swings.

Energy and its increasing costs are at the core of some of our country's most pressing security and economic issues, including a ballooning trade deficit, rising inflationary pressures and mounting geopolitical challenges, forcing the U.S. to compete with a growing global demand for resources that are becoming less accessible.

Consumer Energy Alliance (CEA) and its more than 100 affiliated organizations and thousands of grassroots supporters have long advocated that the country needs a national energy policy that provides a comprehensive solution. In short, we need it all!

- More access to offshore and onshore oil and natural gas;
- Increased utilization of alternative energy; and
- Enhanced energy efficiency and conservation.

The energy problems facing our country did not emerge overnight. They will not be corrected overnight, either. Too often, we hear political rhetoric that argues against developing one energy resource because it will be "years before it can help reduce our energy prices." In truth, any single energy resource — oil and gas access, alternative energy, nuclear — will take several years, if not decades, to develop. It is exactly this long-term approach to comprehensive energy policy that the nation needs.

Every sector of the U.S. economy is impacted by high energy prices. The following Consumer Energy Alliance report, "The Impact of High Energy Prices on Key Consumer Sectors of the U.S. Economy," will provide summary information from various consuming sectors on how energy prices are negatively impacting their respective markets — from airlines to trucking to retirees to small business — and the overall economy. In the coming months, CEA will provide additional reports outlining the impacts high energy prices have on the economy and possible solutions to meeting the U.S. energy challenge.

The conclusion reached by all the members of Consumer Energy Alliance: America needs long-term national energy security and reasonable prices for energy consumers.

Consumer Energy Alliance is a nonprofit, nonpartisan organization whose mission is to expand the dialogue between the energy and consuming sectors to improve overall understanding of energy security and the thoughtful development and utilization of energy resources to help create sound energy policy and maintain stable energy prices for consumers.

About Consumer Energy Alliance

CEA is dedicated to working with the administration and Congress, as well as consumers, small businesses, manufacturers and agricultural groups among others to improve the national dialogue and maintain an open and honest discussion about the direction of our energy policy and the benefits of legislation that includes all available resources from both traditional and non-traditional energy sectors.



Executive Summary

Energy is the lifeblood of the global economy and impacts our daily life in thousands of ways.

Imagine a day without using energy resources or products derived from energy. Obviously, you couldn't drive your car or turn on your lights, air conditioning or television. But, you also couldn't sleep in a bed made with a foam mattress. You couldn't sleep on the floor either, if it were covered in carpeting. You couldn't use shampoo to wash your hair. You couldn't wear tennis shoes, or most clothing for that matter. Your home wouldn't have drapes to cover the windows. You wouldn't be able to take aspirin if you had a headache. Any roads in your neighborhood that use asphalt would no longer exist. Your lawn, as well as the corn, broccoli, bread, cereal and the meat on your table — anything that needs fertilizer to grow — would be significantly impacted. Your computer, television, fax machine, as well as your pens and pencils, would no longer be available.

It is easy to take our energy resources for granted.

As prices have skyrocketed over the past few years, the impact has been felt by every sector of the U.S. economy. From shipping, trucking and distribution to air travel to business to retirees — the economy is hurting because the country has neglected forming a comprehensive, long-term energy policy for too long. Ultimately, the consuming public bears the burden of these costs.

Consumer Energy Alliance — a nonpartisan, nonprofit organization made up of consumers, small businesses, agriculture, air travel, trucking and distribution, manufacturing and energy providers — has asked several of our consuming organizations to write short summaries of the impacts high energy prices are having on their respective sectors.

The net result: The impacts are real, tangible and likely to continue.

As the following pages will more fully illustrate:

- A recent survey by the National Association for Business Economics found that high energy prices are one of the biggest short-term problems facing the U.S. economy.
- According to a November 2007 Report from the Consumer Federation of America, over the past five years, household energy expenditures (home heating and gasoline) have nearly doubled, and are now 50 percent more than health care expenditures and 23 percent more than spending on food.
- According to a recent study, 12 percent of senior citizens have been forced to limit their food purchases or go hungry because of higher energy costs; 11 percent have reduced or gone without medical services; and 10 percent have cut back on their prescription drugs or gone without them altogether.
- Rising energy prices rank as the “biggest cost increase” for U.S. small businesses.
- The energy crisis on America's manufacturing and industrial base, its farmers and its workers has been staggering: billions lost in business, more than 3 million lost manufacturing jobs, nearly 120,000 of those in the chemical industry as the sector has gone from a \$19 billion trade surplus in 1997 to an \$8 billion trade deficit. For the forest products industry, energy is the third largest manufacturing cost — up 50 percent in the past couple of years for pulp and paper mills. For some mills, the cost of energy has eclipsed employee compensation.

Meanwhile, nearly half of U.S. fertilizer capacity has been permanently lost, and America's farm sector is being weakened by constraints on domestic natural gas development, even as global demand for food is growing every year.

- According to the National Association of Manufacturers, the U.S. manufacturing sector, which generates \$1.6 trillion of Gross Domestic Product (GDP), consumes one-third of all energy in the country and is especially vulnerable to high energy prices. Since 2000, when energy prices began to climb, especially for natural gas, the U.S. has lost more than 3.7 million high-wage manufacturing jobs.
- In less than one year, unprecedented increases in the price of jet fuel have resulted in the shutdown of 10 U.S. airlines, the announcement of more than 36,000 job cuts, the grounding of 750 airplanes and dozens of airports nationwide losing significant levels of, if not all, scheduled air service.
- Based on the current U.S. Department of Energy forecast for 2008, American Trucking Associations projects that the trucking industry will spend an astonishing \$163.4 billion on fuel this year, up \$50.8 billion from 2007 and \$97.5 billion more than they spent just four years ago.
- According to the Association of Corporate Travel Executives, in the past year, airfares on certain routes jumped more than 300 percent in direct relation to the cost of aviation fuel. To put the issue in perspective, imagine suddenly having to pay \$14.11 for a gallon of milk or \$9 for a loaf of bread.
- The U.S. Department of Agriculture reports that farming production expenses for 2008 are forecasted to increase to almost \$280 billion, up 9 percent from 2007, and following an 11 percent increase last year.
- Average prices paid by U.S. farmers for the major fertilizer nutrients reached the highest level on record in July 2008, 104 percent higher than in July 2007, according to the U.S. Department of Agriculture.
- According to the American Highway Users Alliance, many highway users are impacted by high energy prices, including the Recreational Vehicle (RV) industry and its customers. The spike in fuel prices has shut down production lines of RV plants, left RV dealers unable to sell vehicles and kept RV users (many of whom are families and seniors) from going

on recreational trips. This chain of economic losses not only harms these industries and people, but it means less tourism and a drop-off of visitors to national and state parks.

- As of 2006, the National Defense Council Foundation determined that the direct loss of economic activity arising from U.S. oil import dependence amounted to \$117.4 billion. Importing oil eliminates more than 2.4 million American jobs.

As the following pages detail, the impacts on the U.S. economy from high energy prices are real, tangible and pervasive. No single solution will alleviate the problem. Meeting the nation's energy challenge cannot continue to receive the same "politics as usual" rhetoric. Consumers need action.

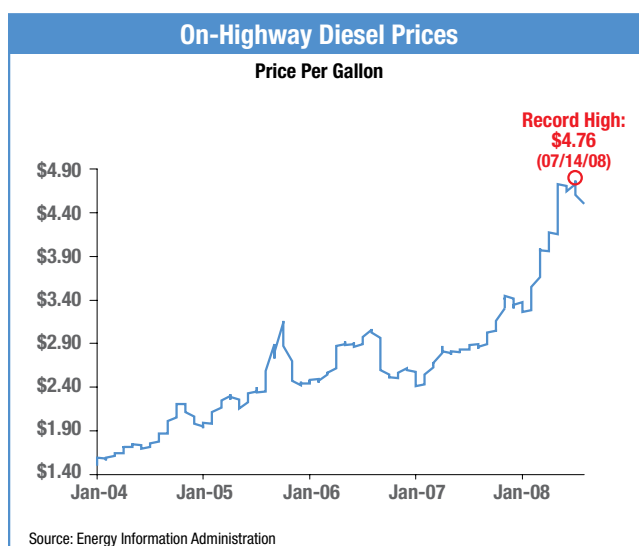
In the coming months, CEA will provide additional reports outlining energy impacts and possible solutions to meeting the U.S. energy challenge.



American Trucking Associations (ATA)

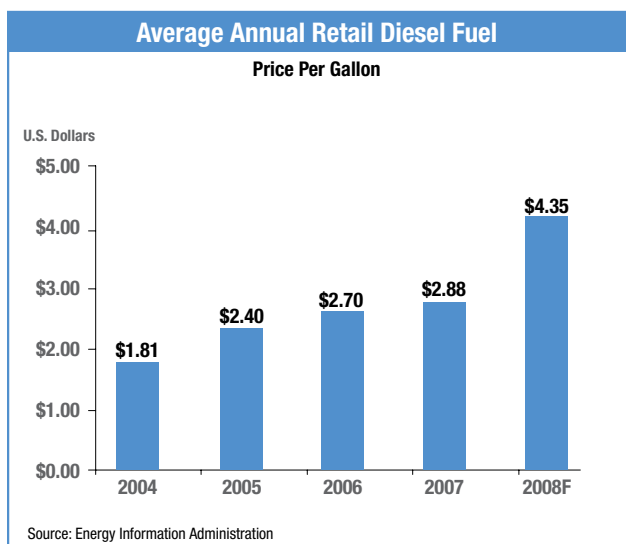
The trucking industry is the backbone of this nation's economy, accounting for more than 80 percent of the nation's freight bill with nearly 9 million hard-working Americans in trucking-related jobs. The trucking industry delivers virtually all of the consumer goods in the United States. Trucking is an extremely competitive industry comprised largely of small businesses. Roughly 96 percent of all interstate motor carriers operate 20 or fewer trucks.

Diesel fuel is the lifeblood of the trucking industry. The trucking industry consumes more than 39 billion gallons

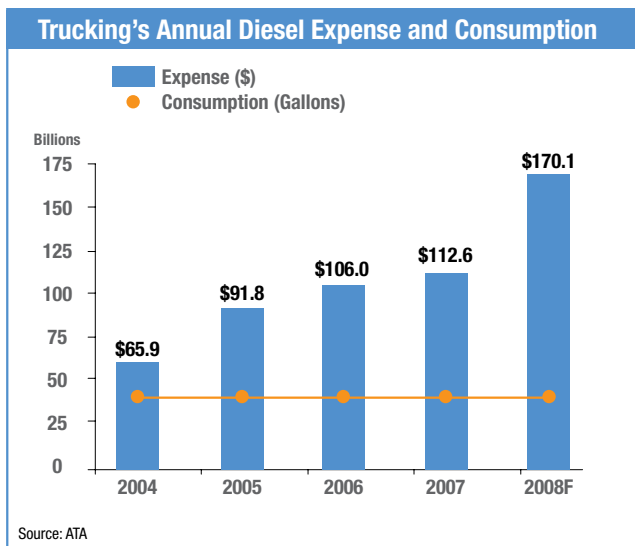


of diesel fuel annually. This means that just a one-cent increase in the average price of diesel annualized over an entire year costs the trucking industry an additional \$391 million a year in fuel expenses.

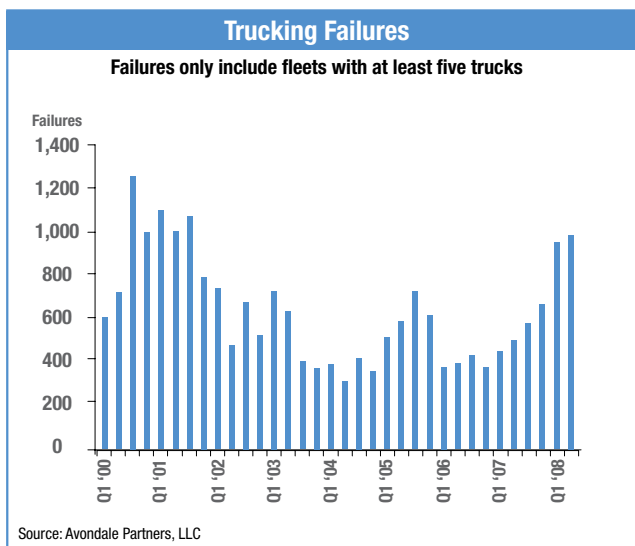
The national average price of diesel fuel is more than \$4.50 per gallon, which is an incredible \$1.60 more than just one year ago. The Energy Information Administration (EIA) projects that diesel will average \$4.35 per gallon in 2008, which is \$2.54, or 140 percent, more than four years ago.



Based on the current EIA forecast for 2008, ATA projects that the trucking industry will spend an astonishing \$163.4 billion on fuel this year, up \$50.8 billion from 2007 and \$97.5 billion more than we spent just four years ago. That \$104 billion is equivalent to 2.6 million trucking industry employees or 1.04 million new, environmentally friendly Class 8 tractors (the types of trucks used in most tractor-trailer combinations).



Today, it costs approximately \$1,400 to completely refuel a truck. As a result of this dramatic increase in the price of diesel, which has coincided with a downturn in the economy and a softening of the demand for freight transportation services, many trucking companies are struggling to survive. In the first half of 2008, more than 1,900 trucking companies with at least five trucks failed. These are the highest numbers since the 2001 recession. It is very likely that significantly more truckers (with less than five trucks) turned in their keys as well during the first half of this year.



This hardship surprises few in the industry. For most truckers, fuel has caught or surpassed labor as their No. 1 operating expense. Over the past four years, total industry consumption of diesel fuel has gone up roughly 10 percent, yet the price of diesel has more than doubled during the same time period. Nearly all of the

miles that truckers drive are non-discretionary — they are not joy riding.

Trucking is a very low profit margin industry; therefore, it is easy to see why many motor carriers are reporting that higher fuel prices have greatly suppressed profits, if they are making a profit at all. The industry can't absorb it all, so we have to pass through some of these high fuel costs, which will ultimately show up on the store shelves. So not only do high fuel prices devastate truckers, but their customers as well, many of which are mom-and-pop stores, and ultimately the consumer.

About the American Trucking Associations

The American Trucking Associations is a federation made up of three unique and separate entities, all working toward one common goal. The Federation consists of: ATA, representing the national interests; the 50 affiliated state trucking associations, representing the state and local interests; and the affiliated councils and conferences, representing specialized areas of the trucking industry. ATA today and for its 70-plus year history is the national voice for the trucking industry before Capitol Hill, regulators, the courts and the media. It is the driving force in effecting change, ensuring that the industry's interests are vigorously promoted and improving the business climate for trucking companies. At the same time, ATA promotes safety and sound environmental policies to benefit all of America.

ATA's mission is to serve and represent the interests of the trucking industry with one united voice; to influence in a positive manner federal and state governmental actions; to advance the trucking industry's image, efficiency, competitiveness and profitability; to provide educational programs and industry research; to promote safety and security on our nation's highways and among our drivers; and to strive for a healthy business environment.



American Highway Users Alliance

All Americans are financially impacted by the costs of transportation, whether they spend a great deal of their time driving or don't even own a vehicle. Even the person who never drives or rides in a car feels the pain at the pump when insufficient energy supplies drive transportation costs up for consumer goods. These indirect costs are reflected in the price of food and other delivered products. Of course, the vast majority of Americans are highway users who are directly impacted by the price of fuel at the gas pump. Traditionally, stable and plentiful energy supplies have resulted in two important outcomes that have grown individuals' wealth and our economy as a whole: First, people have had a variety of "opportunities" made possible through affordable personal transportation. Second, with lower fuel prices they have had more disposable income to pay for products and services. The economy has grown as a result.

Affordable fuel and good transportation infrastructure provides most Americans with a large "opportunity circle" with which they can choose a job, select stores to shop at, socialize with friends and family, and visit cultural and recreational sites. As fuel prices rise, this "opportunity circle" contracts. Fewer job options are accessible from a person's home, shopping for the best price becomes harder as fewer stores are reachable, social and family interactions become less frequent and

quality of life generally diminishes. The "opportunity circle" is particularly important for poor and disadvantaged populations in both rural and inner-city communities. For these communities, the ability to find work is critical to a promising future. Groundbreaking research on Welfare to Work has shown that affordable personal mobility is the key to finding and holding the most rewarding jobs.

As personal opportunities become constrained by the price of fuel, the economy of communities, regions, states and the entire country is devastated by a double-whammy. First, the pressure to spend more money on fuel means less money is available for the purchase of other goods and services. Second, if vehicle-miles-of-travel declines (as it has for the first half of 2008), the "lost" trips mean fewer people are even taking the time to go to stores or otherwise contribute to the economy through travel. Most of the current decline in vehicle-miles-of-travel has been due to people skipping trips and finding ways to shorten the trips they do take. Only a tiny fraction of lost highway trips shift to other transportation modes, such as mass transit or bicycles.

The high price of fuel also impacts businesses that rely on highway travel. Fleets and family-owned truck operators have been devastated by diesel pump prices that exceed \$1,200 per tank. Those who cannot pass on the costs to their customers are forced to let their trucks idle. Those who can pass on their costs, increase the costs on their customers and reduce demand for their services.

Farmers and rural businesses have been particularly hurt by the high fuel prices. As vehicle-miles-of-travel has declined, the hardest hit areas have been in rural areas, where driving distances are the farthest. Farming and other rural industries are highly affected by the cost of

fuel, as these costs impact both the costs of production as well as the cost of delivering goods to market.

Other highway users impacted include automobile dealerships, most of which are family owned. The price of vehicle deliveries has skyrocketed at a time when consumers have more difficulty affording a new vehicle. As a result, dealers have been stuck with excess inventory and forced to cut prices and take huge losses.

Another group of highway users that has taken an enormous hit has been the Recreational Vehicle (RV) industry and its customers. The spike in fuel prices has shut down production lines of RV plants, left RV dealers unable to sell vehicles and kept RV users (many of whom are families and seniors) from going on recreational trips. This chain of economic losses not only harms these industries and people, but it means less tourism and a drop off of visitors to national and state parks.

The road construction industry and materials suppliers have been hurt by the high cost of energy. The price of oil has led to the abandonment of contracts whose cost estimates were developed assuming lower materials prices. The price of asphalt and steel has risen in particular as energy costs have spiked and international demand for energy and materials have grown. Although the industry itself is hurt, taxpayers are hurt as well because public works projects are delayed and costs increase.

In summary, the impact of high fuel prices has a devastating consequence on highway users. Both individuals and businesses are hurt and the economic impact is enormous. Congress and the executive branch have a duty to increase and stabilize energy supplies, particularly the supply of oil and natural gas, so that the economy grows and Americans' quality of life improves.

Some have argued that tight energy supplies and high fuel prices should be used as a social engineering tool to reduce highway use; however, those arguments ignore the devastating effects that such policies have on real people, real businesses and the American economy. Policymakers should reject these suggestions and do as much as possible to reduce prices and stabilize fuel supplies for the long term. Anything less is irresponsible.

About the American Highway Users Alliance

The American Highway Users Alliance (The Highway Users) is a nonprofit, nonpartisan organization, which advocates for public policies that improve mobility and safety, to benefit the millions of American road users. It is an association that brings together the interests of users of all the highway modes that contribute to the Highway Trust Fund, through a membership roster that includes numerous AAA clubs from coast-to-coast, trucking groups, bus companies, motorcyclists and recreational vehicle enthusiasts. These members and the hundreds of other member businesses and associations require safe, reliable and efficient roads to facilitate the movement of their employees, customers and products.

Air Transport



AIR TRANSPORT
ASSOCIATION

Air Transport Association (ATA)

In less than one year, unprecedented increases in the price of jet fuel have resulted in the shutdown of 10 U.S. airlines, the announcement of more than 36,000 job cuts, the grounding of 750 airplanes and dozens of airports nationwide losing significant levels of, if not all, scheduled air service. Indeed, according to Standard & Poor's:

"Passenger airlines have probably been hurt more significantly by high energy prices than any other sector... First, fuel represented a major operating expense for airlines...even before oil prices began their sharp increase over the past year. Now that proportion is over 40% for many airlines, having surpassed labor as the largest single cost item. Second, the cost of jet fuel is a function not only of oil prices, but also of the added cost (known as the 'crack spread') to refine oil into aviation kerosene. That added cost has surged from historical levels of \$5-\$10 per barrel to around \$30 recently."

From June 1 through August 19 (most recent data available as of publication), jet fuel averaged \$158.36 per barrel in the United States, a 76 percent increase from the \$89.78 price experienced in the prior-year period. Jet fuel remains the most costly of transportation fuels refined from crude oil, resulting

¹ Standard & Poor's, "S&P Looks At How Two Airlines Try To Offset Ever-Higher Fuel Costs," (July 3, 2008)

in a disproportionate impact on the air transportation system, as airlines currently have no alternative to conventional kerosene-based jet fuel.

U.S. Airlines Ceasing Operations

Out of Business	Last Day of Ops
MAXjet	24-Dec-07
Big Sky	7-Jan-08
Aloha	31-Mar-08
ATA	2-Apr-08
Skybus	5-Apr-08
Eos	27-Apr-08
Champion	31-May-08
Air Midwest	30-Jun-08
Vintage Props & Jets*	18-Jul-08
Gemini Air Cargo	12-Aug-08
ExpressJet **	2-Sep-08

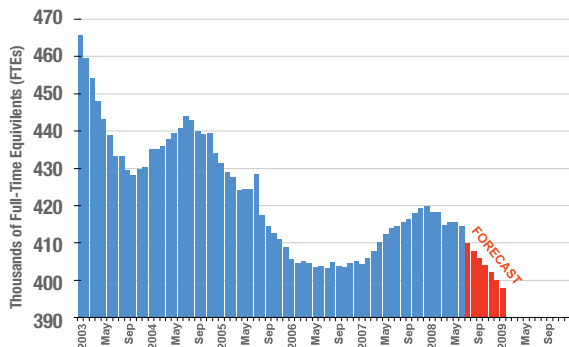
* Intends to re-launch operations should market conditions permit

** Ceasing branded commercial operations only; will continue to fly as Continental Express

The Bureau of Transportation Statistics (BTS) expanded its collection of U.S. passenger airline employment data in January 2003 to include an expanded portfolio of regional carriers. At the time, the industry employed close to 466,000 full-time equivalent workers. Amid steadily rising fuel prices and softness in pricing, that number had plummeted to 403,000 by July 2006. As the industry's fortunes began to improve, hiring in the passenger sector resumed, coming just shy of 420,000 in December 2007. In that month, jet fuel averaged \$111 per barrel. By June 2008, it had soared to \$165 per barrel. Not surprisingly, during that period, the airlines shed 5,200 jobs and cumulatively announced the need to cut at least 31,000 more.

Soaring Fuel Prices Taking Heavy Toll on Airline Workers

U.S. Passenger Airline Jobs Will Fall Below 400,000 Before 2009

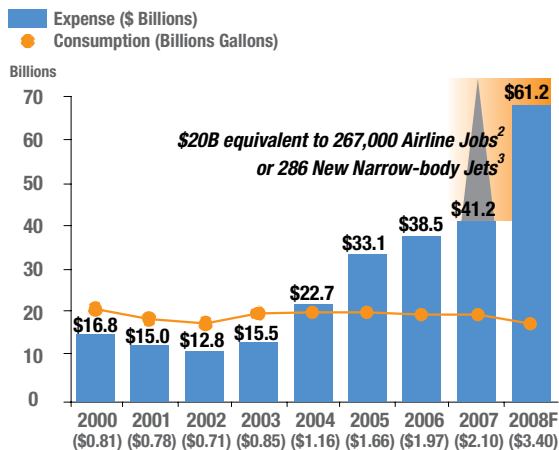


Source: U.S. Bureau of Transportation Statistics

The cost of fuel per passenger-mile rose from approximately two cents in 2000 to an estimated seven cents in July 2008. That means that in July, a \$420 fare was required on a cross-country, round-trip flight just to break even on the fuel, 3.5 times the \$120 required for the same flight in 2000. Through August 19, the price of jet fuel in 2008 was averaging 70 percent more than in the prior-year period. At a projected consumption rate of 430 million barrels, that puts U.S. airlines on track to spend more than \$60 billion on fuel in 2008 despite reducing fuel consumption from 2007. In fact, the 2008 fuel expense will likely exceed the combined tab for 2000 through 2003. The \$20 billion jump from 2007 alone is the equivalent of employing 267,000 airline workers or acquiring 286 new narrow-body jets.

2008 Jet Fuel Expense¹ Will Break 2007 Record

Expense (Excl. Taxes and Into-Plane Fees) Could Exceed \$61B on 18B Gallons



1. U.S. Passenger and cargo airlines

2. Based on \$75K to employ one FTE

3. Based on approx. \$70M per aircraft

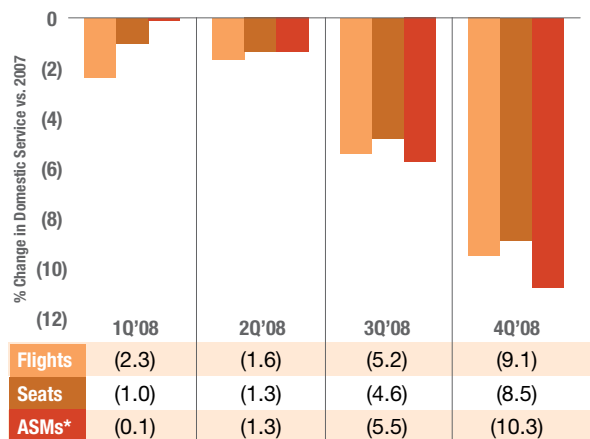
Note: Value in parentheses below year is average price paid per gallon excluding taxes, into-plane fees, pipeline tariffs and hedging costs.

Sources: ATA, Energy Information Administration, Department of Transportation

The monumental increase in fuel prices has left the airlines with no choice but to reduce the level of air service available to the flying and shipping public. The chart below shows how schedule cuts have deepened as the carriers adapt increasingly to triple-digit oil prices. As of August 15, published schedules showed year-over-year declines in the fourth quarter of 2008 as follows: 9.1 percent fewer domestic flights, 8.5 percent fewer domestic seats and 10.3 percent fewer available seat miles flown.

Soaring Fuel Prices Forcing Industry Contraction

Reduction in Domestic Route Frequency and Seating Capacity Reverses 2007 Trend



* An available seat mile (ASM) is one seat flown one mile and is the standard unit of capacity in the passenger airline sector.

Source: ATA analysis of Seabury APGDat airline schedules as of Aug 15, 2008

Of course, these cuts affect local communities, and metropolitan areas have not escaped fuel-induced reductions in service.

The table on the next page reveals, in order, which of the nation's busiest airports have suffered the deepest cuts in scheduled domestic departures:

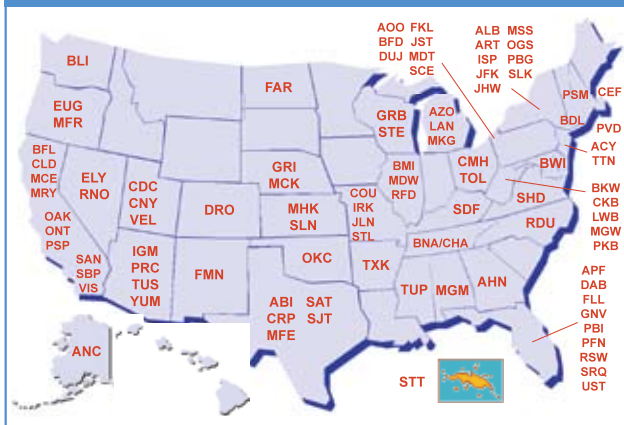
Percent Change in Domestic Flights

Airport	Code	% Change
Ontario, CA	ONT	(35.1)
Kansas City, KS	MCI	(25.8)
Oakland, CA	OAK	(25.5)
Tucson, AZ	TUS	(25.0)
Cincinnati/Covington, OH/KY	CVG	(24.1)
Milwaukee, WI	MKE	(24.0)
Kahului (Maui), HI	OGG	(23.6)
Honolulu, HI	HNL	(21.6)
Pittsburgh, PA	PIT	(21.6)
Reno, NV	RNO	(20.8)
Sacramento, CA	SMF	(20.7)
Raleigh-Durham, NC	RDU	(18.5)
Los Angeles, CA	LAX	(17.6)
Orlando, FL	MCO	(17.1)
Jacksonville, FL	JAX	(16.5)
Columbus, OH	CMH	(15.5)
Cleveland, OH	CLE	(15.3)
Omaha, NE	OMA	(15.1)
Austin, TX	AUS	(15.1)
Las Vegas, NV	LAS	(15.0)
Chicago (Midway), IL	MDW	(14.9)
Albuquerque, NM	ABQ	(14.9)
San Diego, CA	SAN	(14.2)
San Jose, CA	SJC	(14.0)
Hartford, CT	BDL	(13.9)
Manchester, NH	MHT	(13.6)
Portland, OR	PDX	(13.5)
Orange County, CA	SNA	(13.5)
Salt Lake City, UT	SLC	(12.9)
Burbank, CA	BUR	(12.8)
St. Louis, IL	STL	(11.9)
Tampa, FL	TPA	(11.8)
Phoenix, AZ	PHX	(11.5)
Houston, TX	IAH	(11.3)

Source: ATA analysis of published schedules via Seabury APGDat as of Aug. 15, 2008

Another way to examine the impact of high energy prices on the air transport sector is by examining which communities have seen a reduction in the choice of carriers. The map in the next column reveals the geographic breadth of airports that have completely lost the service of at least one U.S. passenger airline.

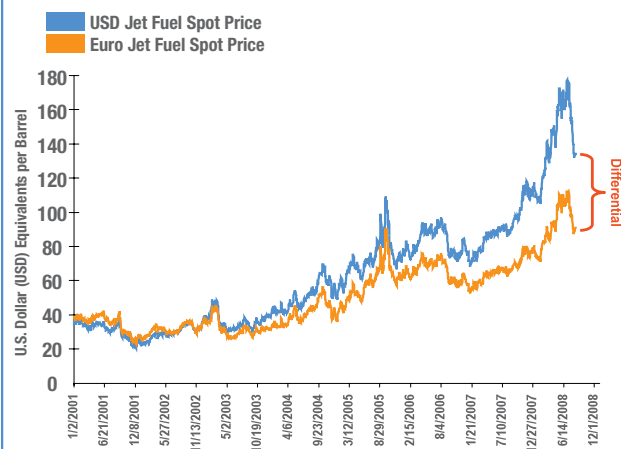
Dozens of U.S. Airports Have Lost or Will Lose Scheduled Service by at least One U.S. Airline by the End of 2008



The weak dollar has added a competitive dimension to high jet fuel prices in the international aviation marketplace. Specifically, the USD-Euro exchange rate, when applied to dollar-denominated fuel exceeding \$100 per barrel, has translated to a substantial advantage for the European-flag carriers when competing across the Atlantic with their U.S. rivals. On July 14, 2008, the effective differential peaked at \$65.30 per barrel, allowing the European carriers to sustain service at markedly lower fares than the U.S. carriers given the advantage they enjoyed on fuel expense. This has profound implications for the global competitiveness of U.S. airlines and the dependent U.S. travelers and shippers.

U.S. Airlines Paying Transatlantic Premium for Jet Fuel

USD-Euro Exchange Rate Has Boosted Fuel Price Differential to 45-60%



Source: Energy Information Administration (NYH/USGC/LA) and <http://www.eia.com/convert/fxhistory>

A year ago, ATA's financial outlook for the industry was "guardedly optimistic... leaving the airlines vulnerable to fuel spikes, recession or exogenous shocks." The steep increase in fuel prices in 2008, coupled with a

deteriorating U.S. economy, is taking a toll — not only on the airline family but also on the communities it serves across America. A thoughtful, balanced, comprehensive national energy policy and a disciplined legislative and regulatory posture of “do no harm” are essential to begin to re-establish an economically vibrant airline industry. If serious steps are not taken immediately to stem the economic damage, a much smaller air transport network will become a permanent reality, hindering economic growth and seriously crimping American mobility, just-in-time movement of goods and the lifestyle to which all of us have become accustomed.

Along with the airlines, policymakers and the public at large must recognize that in order to enhance the travel experience, renew fleets, expand and develop new infrastructure, retain talented employees and promote economic well-being, the industry’s financial conditions must improve markedly. Public policies that have long contributed to industry instability will need to be abandoned. In particular, it is critical that failed energy policy not be overtaken by poorly conceived environmental policy. Airline restructuring and environmental improvements must continue to progress without interference. More than 10 million U.S. jobs are depending on it.

About the Air Transport Association

Founded in 1936, the Air Transport Association of America, Inc. (ATA) is the nation’s oldest and largest airline trade association. The association’s fundamental purpose is to foster a business and regulatory environment that ensures safe and secure air transportation and enables U.S. airlines to flourish, stimulating economic growth locally, nationally and internationally. Consistent with its founding principles, the Air Transport Association serves its member airlines and its customers by:

- *Assisting the airline industry in continuing to provide the world’s safest system of transportation;*
- *Transmitting technical expertise and operational knowledge to improve safety, service and efficiency;*
- *Advocating fair airline taxation and regulation worldwide to foster a healthy, competitive industry; and*
- *Developing and coordinating industry actions that are environmentally beneficial, economically reasonable and technologically feasible.*



The Association of Corporate Travel Executives (ACTE)

The full impact of the current fuel pricing crisis hit the business travel industry at its most critical fiscal juncture. With travel budgets for 2008 long since set and allotted — and the current economy stalled on the threshold of recession — staggering increases in fuel costs constituted the third element of a perfect storm. The resulting tremors went far beyond anticipated fare increases. A cash-strapped U.S. domestic airline system suddenly found itself cutting services, imposing a slew of surcharges and new charges, and dropping routes — which changed travel patterns for hundreds of companies and hundreds of thousands of people.

What would normally be perceived as a simple domino cause-and-effect price increase now threatens to topple a national transportation network and isolate hundreds of businesses from customers or suppliers.

It is difficult for the average American to conceive of the impact of rising fuel costs on business travel costs. That is because the average American does not need to travel regularly for business and pay for flights four or five times a month. Yet in the past year, airfares on certain routes jumped more than 300 percent in direct relation to the cost of aviation fuel. To put the issue in perspective, imagine suddenly having to pay \$14.11 for a gallon of milk or \$9 for a loaf of bread. Now imagine

having to do this 10,000 times a year as a company when there is no previous plan or funds available for doing so. This is the reality facing hundreds of U.S. firms across the country.

Business travel budgets are generally determined and set by July of the previous year. The sudden onslaught of overwhelming ticket increases virtually evaporated existing 2008 travel budgets for hundreds of companies. Fifty-one percent of U.S. business travel managers responding to an Association of Corporate Travel Executives (ACTE) survey indicated they had already substantially reduced or curtailed corporate travel by May 9, 2008. This was an attempt to either sustain revenue-generating travel or to limit the impact of surcharges and increases.

Airlines then began an accelerated program to cut capacity. Initial estimates put the first cuts at 12 percent, to be fully implemented by the fall. Travel weary road warriors were now faced with the likelihood of fewer flights to less competitive cities, more frequent delays and crowded flights. While the perceived deterioration of service has placed the carriers in a “no-win” situation with passengers, cutbacks in service to remote U.S. business destinations is hobbling companies’ abilities to fill their core missions. ACTE leadership learned that for the first time in more than 30 years, reductions in flights to U.S. cities by the nation’s airlines in response to rising fuel costs was having an adverse effect on accomplishing corporate objectives. Fifty-nine percent of survey respondents stated that flight cutbacks would limit their company’s ability to meet directly with manufacturers, suppliers or buyers.

“The extensive U.S. transportation network developed since the mid-1960s has created a unique business traveler reliance to move quickly between customers and clients in various cities and manufacturing plants or

resources suppliers in rural areas,” said ACTE President Richard Crum. “Airlines have now announced proposed cutbacks in frequency or route cancellations that threaten to strand businesses that are dependent on a more effective transportation model.”

When one thinks of rural business destinations, urban centers like Kansas City, Missouri or Rochester, New York do not come to mind. Yet manufacturing crossroads of this size — the businesses based there — will be among the first to feel transportation cutbacks.

U.S. corporations are no strangers to dramatic increases in transportation costs. Fuel spikes, rising insurance costs and other operating expenses generated by the transportation industry are routinely foisted on the corporate consumer. Organizations like ACTE have become rather adept at proposing innovative ways to manage these costs and in suggesting alternative methods that support traditional travel means. For example, considerable savings are available to corporations whose travelers have the option to drive to a slightly more distant airport to take advantage of a discounted fare structure. This simple practice enables American companies to save millions in domestic travel expenses.

In the current fuel crisis, however, service to many of these alternative airports — and even to some primary ones — has been reduced, eliminating this option. And in cases where the option still technically exists, the cost of gasoline has risen so dramatically that any savings garnered by driving to an alternate airport is now reduced or negated.

How severe is the problem? Current estimates place the extra fuel costs for the carriers in 2008 at \$20 billion (USD). Only \$7 billion can be passed onto the customer. The manner in which this \$7 billion is being passed on (charges for food, soft drinks, advanced seating, and first, second or additional carry-on bags) is causing the traveling public in general and business travelers in particular, to have second thoughts about air travel. A recent study carried by CNN revealed that for the first time, it is cheaper for a family of four to travel distances of up to 400 miles by car.

For decades, it was assumed that business travel was a necessity directly tied to corporate growth and profitability. The economic bust of 2000, coupled with the 9/11 tragedy the following year, cast the first major doubt on that premise. The business travel industry measures its growth and successes in single

digit percentages. Savings of 3 percent to 5 percent can be very significant to a corporation with an air volume of \$100 million or more. To a smaller company, these savings are even more significant. The first fare increases this year amounted to 7 percent or more. Other fare increases (as high as 300 percent), coupled with unbundled service charges, are decimating the savings earned by travel departments and causing firms to reconsider the reasons why they travel.

Ninety-two percent of corporate travel managers responding to an ACTE poll indicated that their companies had determined that there was an economic tipping point at which their companies would be forced to consider travel alternatives. Sixty-two percent thought that point would be reached this year.

A vast economic structure is based on the current business travel model. We have only addressed the cost-to-business factor up to this point. Fifty-one percent of ACTE member companies cutting back on travel could easily amount to \$25 billion (depending upon the extent of the travel restrictions). Companies are attempting to reclaim this amount by canceling training sessions, non-revenue producing meetings, and all discretionary travel. This eliminates a huge source of revenue to hotels, rental car companies, meeting facilities, restaurants and support businesses.

While the actual amount has yet to be calculated over the industry as a whole, corporations instituting effective alternative travel programs have trimmed as much as 15 percent from their domestic travel budgets — without compromising corporate growth or profitability. For a company with a \$100 million (USD) air volume, this amounts to \$15 million. Some companies are reporting greater success. Firms generating results of this nature are unlikely to resume pre-fuel crisis travel procedures in the immediate future.

This jeopardizes the revenue streams of hotel chains, surface transportation companies and support firms in cities all across the country. But it also will deprive hundreds of states, municipalities and airport authorities in billions of dollars in tax revenues. While the business travel industry has railed against the shortsighted practice of tacking on room taxes, rental car taxes and airport fees on travelers (with the logic that they can't vote like residents) for years, these entities have continued to do so. With staggering fuel costs causing companies to find business travel alternatives, these authorities will be compelled to find a different source of tax revenue. The most likely solution is unlikely to please their constituents.

Massive reductions in business travel spending due to staggering fuel costs will reduce tax revenue required to support various levels of state and federal infrastructure already in jeopardy.

The oil crisis showed us the inefficiencies in our system. Falling oil prices do not mean that the inefficiencies have been resolved. With the price of gas in a slight decline, the general public may be likely to lose the urgency critical to resolving this dilemma. However, the business travel industry knows that this issue continues to be of the utmost importance. Congress and the White House must work together in a higher level of bipartisan unity to make a comprehensive energy package a reality. Every hour costs the business travel industry more than \$6 million (USD) in lost revenue.

There is no more time to waste.

About the Association of Corporate Travel Executives

The Association of Corporate Travel Executives (ACTE) represents the global business travel industry through its international advocacy efforts, executive level educational programs and independent industry research. ACTE's membership consists of senior travel industry executives from 82 countries representing the €200 billion business travel industry. With the support of sponsors from every major segment of the business travel industry, ACTE develops and delivers educational programs in key business centers throughout the world. ACTE has offices in Africa, Asia-Pacific, Canada, Europe, Latin America, the Middle East and the United States. For more information on ACTE, and to visit our Rising Fuel and Energy Costs page, please go to www.acte.org.

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National Association of Manufacturers (NAM)

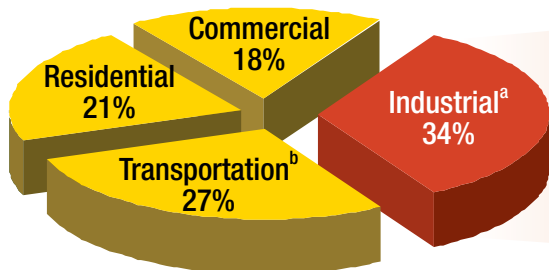
The U.S. manufacturing sector, which generates \$1.6 trillion of Gross Domestic Product (GDP), consumes one-third of all energy in the country and is especially vulnerable to high energy prices. Not only do manufacturers use energy sources, especially natural gas, as a means to generate electricity like other consumers, but the sector also uses it as a

feedstock to make products ranging from plastics to pharmaceuticals. Affordable energy is therefore essential to the competitiveness of this very important sector of the economy.

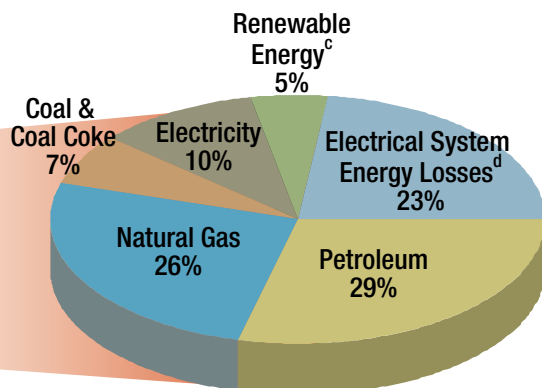
According to April 2008 statistics, the manufacturing sector employs more than 13.5 million Americans with an average compensation of more than \$68,000 per year, which is more than 20 percent higher than the national average wage. Since 2000, when energy prices began to climb, especially for natural gas, the U.S. has lost more than 3.7 million high-wage manufacturing jobs. By expanding and diversifying domestic sources of energy, the U.S. can retain these high-wage jobs and its competitive edge in the most innovative sector of its economy. The following chart demonstrates energy use by sector and where that energy comes from:

Industrial's Energy Usage

End-Use Sectors of Energy
in percent of total energy consumed (BTU)



Industrial Sector Energy Consumption
in percent of total energy consumed (BTU)



Source: Department of Energy, Energy Information Administration

High energy prices have hit every sector of the manufacturing economy. Since the mid-1990s, the U.S. chemical industry has gone from a trade surplus of \$20.3 billion to a trade deficit of more than \$9 billion. The forest products industry has seen more than 200 mills closed and nearly 200,000 jobs lost during this decade alone, with many of those closures and layoffs due to soaring energy costs, especially for natural gas. Unlike oil, which is priced globally, the price of natural gas varies significantly from region to region because of the relative difficulty of shipping it overseas. In the U.S., for example, federal policies have mandated increased use of clean burning natural gas while simultaneously limiting access to domestic supplies, creating a market imbalance that imposes a significant burden on U.S. industry.

Flawed federal policies that ban access to domestic sources of natural gas and oil have posed other challenges to the U.S., ranging from a ballooning trade deficit to leaving us vulnerable to reliance on politically volatile regions in the world for energy. The U.S. energy trade deficit is more than 25 percent of our total balance of payments. In the next 25 years, this imbalance will worsen as our energy consumption is forecast to grow by 34 percent, while domestic production will only increase by 27 percent. Today, imports account for approximately 60 percent of our petroleum consumption, and 34 percent of our total energy consumption.

Because the manufacturing sector relies on natural gas as a feedstock for products ranging from plastics to pharmaceuticals, the increase in demand for natural gas for electricity generation has resulted in a spike in basic overhead costs for domestic industry.

Like all U.S. consumers, manufacturers are also vulnerable to volatile petroleum markets. American manufacturing uses 29 percent of all petroleum consumed in the U.S. The U.S. can reduce volatility by increasing access.

Two Examples: Increase Access, Reduce Prices

The U.S. Department of Interior (DOI) estimates that the Outer Continental Shelf (OCS) contains more than 420 trillion cubic feet of natural gas, which is enough energy to heat approximately 100 million American homes for 60 years. According to DOI estimates, the OCS also contains approximately 86 billion barrels of oil, or enough to drive 85 million cars for 35 years. Unfortunately, federal policies have blocked access to resources on more than 85 percent of the OCS.

The U.S. has the largest reserves of oil shale in the world providing another significant source of domestic energy to bolster the competitiveness of the industrial sector. U.S. demand for petroleum products is about 20 million barrels per day. If oil shale could be used to meet a quarter of that demand, 800 billion barrels of recoverable resources would last for more than 400 years, according to some estimates.

According to the U.S. Department of Energy (DOE), the nation's capacity for production for oil shale is around 2.5 million barrels per day by 2030. Under a high-growth scenario conducted by the Rand Corporation, in 30 years the U.S. could reach production levels of 3 million barrels of oil per day from oil shale. Oil prices could fall by 3 percent to 5 percent at production at these levels. Assuming a 3 percent to 5 percent fall in world oil prices, the resulting benefits to consumers and business users in the United States would be roughly \$15 billion to \$20 billion per year. As long as the U.S. policies allow innovative energy processes such as oil shale development to move forward, the U.S. manufacturing sector will be able to retain its competitive edge among its strongest international competitors.

Increasing access to domestic energy sources will do more than increase the competitive edge of the country's manufacturing sector. New policies would benefit the nation's economy on several fronts. By developing our vast reserves of oil and natural gas on the OCS and oil shale, the U.S. can reduce prices, the trade deficit and dependence on foreign energy sources.

About the National Association of Manufacturers

The National Association of Manufacturers is the nation's oldest and largest broad-based industrial trade association, representing 11,000 companies in every industrial sector in every state and the 13.5 million people who make things in America.

NAM's mission is to advocate on behalf of its members to enhance the competitiveness of manufacturers by shaping a legislative and regulatory environment conducive to U.S. economic growth and to increase understanding among policymakers, the media and the general public about the vital role of manufacturing in America's economic and national security for today and in the future.



National Small Business Association (NSBA)

Small businesses are experiencing an increase in energy costs — in the U.S. and abroad.

An NSBA energy survey inquired about small-businesses' energy costs and found that 92 percent of small- and mid-sized small-business owners reported that their energy costs had gone up in the previous 12 months; and 77 percent of respondents said that the effect of rising energy costs on their business had been negative.

To mitigate their rising energy costs, 37 percent of small-business owners report increasing their prices, while another one-third report reducing their amount of business travel and 10 percent said they reduced their work force.

- 31 percent of respondents have done nothing to mitigate this effect, either choosing to forgo profit or being forced to.

Echoing these findings is a recent IBM Global Survey of 1,400 small- and mid- sized businesses in eight countries, including the U.S. The small businesses in this survey identified rising energy costs as the “biggest cost increase” for them over the past two years, surpassing health care, payroll, rent and equipment.

- Small businesses in the U.S. rated rising energy prices and health care as tied for their “biggest cost increase” in the past two years.

It hardly is surprising that rising energy prices rank as the “biggest cost increase” for U.S. small businesses, given the very recent findings of an Office of Advocacy-funded report, “Characterization and Analysis of Small Business Energy Costs.” The report found that in 26 of the 31 commercial industries studied, small firms have higher energy expenditures on a cost per dollar of sales basis. The median commercial sector industry has a small entity energy cost per sales ratio that is 2.7 times the ratio for large entities.

- The report also found that small firms spend considerably more for energy than large firms, on a per value of industry shipments basis, in 10 of the 17 manufacturing sectors for which data were available. For food manufacturers, leather and allied products manufacturers, and computer and electronic products manufacturers, the costs per dollar of output were more than double those of their larger counterparts.

Given these statistics, and the fact that small businesses produce more than half of the private sector output and consume nearly half of all of the electricity and natural gas used for commercial and industrial purposes in the United States, NSBA believes that it is imperative that America's small businesses be comprehensively involved in the crafting and consideration of energy and environmental legislation.

Any federal initiatives must not only protect small businesses, however, they must make full use of them. At the forefront of the effort to provide energy solutions, drive economic growth, create new jobs and protect the environment are innovative, entrepreneurial and fast-growing small businesses. These firms already are generating new technologies at an unprecedented rate, supplying business solutions to environmental and energy concerns.

This hardly is surprising, as small business arguably constitutes the most productive and creative half of the U.S. economy. Virtually all net new jobs, for instance, are created by fast-growing small businesses and two-thirds of all innovations are produced by small businesses. Small firms produce five times as many patents per dollar as large companies and 20 times as many as universities.

NSBA believes that improving America's energy efficiency must be a central component of any national energy policy. Thankfully, improving the energy efficiency of most small businesses does not require years of expensive research and development. Most of the technology needed is available now. And a fast turnaround is possible because energy-efficiency upgrades for many small businesses are simply a matter of doing the same basic thing over and over again in lots of places.

- Small-business owners can make a big dent in energy demand, for instance, just by using window film to reduce summer heat, and by installing improved lighting, better thermostats and occupancy sensors in bathrooms, offices and storerooms.

Even better, many of the firms that stand to benefit most substantially from an increased emphasis on the energy efficiency of small businesses are other small businesses, like air-conditioning, electric, roofing and plumbing-heating-and-cooling contractors.

Unfortunately, the ease and relative inexpensiveness of these upgrades have not yet fully reached the small-business community. Nearly 70 percent of the respondents to a NSBA energy survey reported that they had not invested in energy-efficiency programs for their businesses.

Only 18 percent of the respondents to our new survey reported investing in energy-efficiency upgrades in an attempt to mitigate the impact of rising energy prices. It is obvious that most small businesses are either unaware of the energy-efficiency opportunities available to them or unable to afford the capital expenditure required.

About the National Small Business Association

The National Small Business Association (NSBA) was founded in 1937 to advocate for the interests of small businesses throughout the United States. The organization's origins date back to its founder, DeWitt Emery, a small-business owner from the Midwest.

Emery was frustrated with the bureaucracy of Washington and the disregard displayed toward the needs of small businesses. In an attempt to make a difference, he brought together a group of proactive small-business owners in 1937 and formed the National Small Business Men's Association.

This group, which originally consisted of just 160 small businesses, now reaches more than 150,000 small businesses. The organization is proud to have started the small business movement. NSBA also took the lead role in initiating the White House Conference on Small Business in 1980, 1986 and 1995.

To find out more about the importance of the small-business community, please visit NSBA's Small Business: 70 Million Strong...And Voting campaign at www.nsba.biz/vote.



Agriculture Energy Alliance

Fertilizer is a world market commodity, which means that supply and demand factors in major markets around the world impact the price U.S. farmers pay for fertilizer. Average prices paid by U.S. farmers for the major fertilizer nutrients reached the highest level on record in July 2008, 104 percent higher than in July 2007 according to the U.S. Department of Agriculture (USDA).

Fertilizer is a world market commodity necessary for the production of food, feed, fuel and fiber.

Humans, animals and plants rely on a safe, healthy supply of food and nutrients like nitrogen (N), phosphorus (P) and potassium (K) for proper growth and development. Fertilizer is the “food” that plants — from corn and wheat to pumpkins and apples — need to produce a healthy and bountiful crop. All crops require nutrients in one form or another.

Increased global demand for fertilizer has played a large part in placing upward pressure on fertilizer prices. Overall, world nitrogen demand grew by 11 percent, phosphate demand grew by 13 percent and potash demand grew by 17 percent from fiscal year 2001 to 2006. China, India and Brazil are the three largest contributors to the growth in world nutrient demand.

The quest for healthier lives and better diets in developing countries is the primary driving factor behind

the increased global demand for fertilizer. People in China, India and Brazil are seeking more diversified diets that require more nutrients to replenish the soil.

Supply and Demand Factors:

- Global demand for fertilizer has placed upward pressure on fertilizer prices.
- The U.S. ethanol boom is driving fertilizer demand higher, therefore placing upward pressure on fertilizer prices.
- Increased transportation costs to move fertilizer products is factoring into increased delivered fertilizer prices.
- The value of the U.S. dollar has fallen significantly in the past few years, increasing the cost of goods imported — including fertilizer.
- High natural gas prices in the United States continue to lead to higher fertilizer production costs, also leading to increased fertilizer prices.

U.S. ethanol production is increasing domestic fertilizer demand.

Corn, wheat, soybeans and cotton account for 70 percent of total U.S. nutrient use, while corn alone accounts for 43 percent.

While world nutrient demand has risen significantly since fiscal year 2001, U.S. nutrient demand remained relatively flat, ranging from 20.7 to 23.4 million nutrient tons. Then came the ethanol boom. The annual capacity of the U.S. ethanol sector stood at 5.6 billion gallons in February 2007. Ethanol plants under construction or expansion are expected to add another 6.2 billion gallons of capacity. According to the USDA, U.S. ethanol production could

easily reach 11 billion gallons in 2011. Farmers are responding to higher corn prices resulting from the increase in demand by planting more corn acres.

Farmers planted 93.6 million corn acres in 2007 — a 19 percent increase from the 78.3 million acres planted in 2006 and the highest corn acres since 1944. The average annual corn price received by farmers stood at \$1.97 per bushel in 2005, \$2.28 in 2006 and \$3.39 in 2007 — the highest annual average since 1996.

Changes in U.S. nutrient use are driven by two factors: changes in crop acres planted and changes in application rates. Strong international demand coupled with increased domestic demand will continue to place upward pressure on fertilizer prices.

Higher transportation costs are also contributing to higher delivered fertilizer prices.

Fertilizer transportation costs by all modes — ocean freight, rail, barge and truck rates are up.

Higher energy prices, a significant demand for transportation and even weather related events, have caused shipping and distribution costs to rise. Shipping rate increases include all methods of fertilizer transportation — ocean freight, rail, barge and truck.

Ocean freight rates are up significantly. Continued strong demand for vessels, strong import demand for iron ore and coal, exports of steel by China and higher fuel costs have been the primary drivers of higher ocean freight rates. Weather disturbances and port congestion have also contributed to higher ocean freight rates by tying up vessels and lengthening the shipping times.

The cost of shipping fertilizer by rail has increased significantly due to fuel costs, security requirements and liability concerns.

Barge rates have risen primarily due to steep demand spurred by competition from other industries. Also factoring in are higher fuel costs and new security requirements.

Truck rates have been significantly impacted by the continued high cost of fuel.

Transportation providers have significantly higher capital costs such as fleet replacement and expansion. With much of the fertilizer applied in the United States having its origin beyond U.S. borders, it is not only possible, but likely, that the fertilizer applied on a field in Missouri has taken each of these transportation

modes to arrive at the field. Thus, the combined transportation costs are significant.

Fertilizer prices, like most other commodities, are priced in U.S. dollars. The value of the U.S. dollar has decreased significantly, increasing the cost of imported goods — including fertilizer.

The exchange rate allows for the conversion of one country's currency into that of another, thereby facilitating international trade and it allows price comparison of similar goods in different countries. The exchange rate is a significant factor influencing the competitiveness of commodities, including fertilizer. Simply put, a weak U.S. dollar increases the price of imported commodities.

The value of the U.S. dollar has fallen significantly in the past few years, increasing the costs of the goods we import. The United States now imports more than half its nitrogen and more than 90 percent of its potash. With fertilizer materials priced in U.S. dollars, foreign producers have to raise the price of fertilizer in U.S. dollars to offset the fall in the value of the dollar to maintain the revenue they receive in local currency. For example, if a fertilizer material is priced at \$300 per ton and the value of the U.S. dollar falls by 30 percent relative to the currency in the country where the material is produced, producers in that country will experience a 30 percent decline in local revenue, if all else remains equal. In order to maintain revenue in local currency, the price of the material in U.S. dollars has to be increased by 43 percent as follows. The new price in U.S. dollars, \$429, is equivalent to the revenue the foreign producer received in local currency (\$300) before the dollar declined since $\$429 \times 0.7 = \text{the equivalent of } \$300 \text{ in local currency.}$

Average U.S. ammonia production costs have risen 172 percent since 1999. U.S. farmers must compete with farmers from around the world for nitrogen, phosphate and potash.

The United States is the largest importer of nitrogen (more than 50 percent of supply) and potash (more than 90 percent of supply) and the largest exporter of phosphate.

Natural gas is the feedstock for producing ammonia, which is the building block for all nitrogen fertilizers. The cost of natural gas accounts for 70 to 90 percent of the production cost of ammonia. Thus, with U.S. natural gas prices increasing significantly since 2000, average U.S. ammonia production costs rose by 172 percent from fiscal year 1999 to fiscal year 2005.

While fertilizer prices have risen, many U.S. producers were faced with negative margins due to the severe escalation in production costs. High natural gas prices have caused 26 U.S. ammonia plants to close since fiscal year 1999. Several plants also remain idle.

As a result of ammonia plant closures, U.S. ammonia production fell by more than 42 percent since fiscal year 1999. Consequently, the U.S. fertilizer industry, which typically supplied 85 percent of farmers' domestic nitrogen needs from U.S. based production during the 1990s, now relies on net nitrogen imports for more than half of new nitrogen supplies.

This situation also impacts phosphate fertilizer production, as average U.S. production costs for ammonium phosphates increased by 20 percent from 1999 to 2003. These costs are expected to show continued increases as ammonia prices have increased further.

After years of relative stability, North American potash prices increased significantly beginning in mid-July 2003. The bulk of the price increase realized has resulted from the 17 percent growth in global potash demand since fiscal year 2001.

This article was prepared with the help of The Fertilizer Institute, 820 First Street, NE, Suite 430, Washington, DC 20002.

About The Fertilizer Institute

The Fertilizer Institute (TFI) is the leading voice in the fertilizer industry, representing the public policy, communication and statistical needs of producers, manufacturers, retailers and transporters of fertilizer. Issues of interest to TFI members include security, international trade, energy, transportation, the environment, worker health and safety, farm bill and conservation programs to promote the use of enhanced efficiency fertilizer.

TFI is also a member of the Agriculture Energy Alliance whose 108 members represent a broad-based coalition of farm organizations and agribusinesses that face a crisis because of government policies that have created demand for natural gas while at the same time restricting access to supply sources. The farm sector depends on significant amounts of natural gas for food processing, irrigation, crop drying, heating farm buildings and homes, and production of crop protection chemicals and nitrogen fertilizers.



The American Chemistry Council (ACC)

The business of chemistry is energy-intensive. This is especially the case for basic chemicals as well as certain specialty chemical segments (e.g., industrial gases).

The business of chemistry relies upon energy not only as fuel and power for its operations, but also as raw materials in the manufacture of many of its products. For example, oil and natural gas are raw materials (termed “feedstocks”) for the manufacture of chemicals. Primary energy consumption by the business of chemistry for both of these purposes in 2007 amounted to 6.2 percent of total U.S. energy consumption. The industry’s total primary energy needs are equivalent to about 2.9 million barrels of crude oil per day, drawn from a wide mix of primary energy sources. Because of this energy-intensiveness, higher energy prices directly and adversely affect the industry:

- Every \$1 increase in the price for a barrel of oil costs the chemical industry \$660 million.
- For every \$1 per million BTU increase in the cost of natural gas, it adds \$3.4 billion in costs to the industry.

Although oil and its derivative products are widely used throughout the economy, natural gas plays a significant role in industrial production, as an input to various industrial processes and products in addition to providing heating and cooling. For the business

of chemistry, natural gas is the starting point for 33 percent of all energy used by the industry, followed by natural gas liquids (23 percent) and petroleum products (21 percent). Coal, electricity (much of which is natural-gas fired), and other sources account for the balance.

Energy represents a significant share of U.S. business of chemistry manufacturing costs. For some energy-intensive products, energy for both fuel and power needs and feedstocks account for up to 85 percent of total production costs. Because energy is a vital component of the industry’s cost structure, higher energy prices can have a substantial impact on the business of chemistry. The recent run-up in energy prices has had (and will continue to have) a profound effect on the business of chemistry. In 2007, the industry purchased nearly \$73 billion in energy for both feedstock and fuel/power purposes. Annualizing data through June 2008, the industry’s energy purchases could increase 39 percent to more than \$101 billion in 2008. This large gain is much higher than the gain in annualized shipments to more than \$702 billion, which represents a 6 percent gain. The following table illustrates the run-up in energy costs.

Energy Costs					
	2004	2005	2006	2007	2008
Shipments (billion \$)	\$540.9	\$610.9	\$657.7	\$663.7	\$702.2
Energy Purchases (billion \$)	\$51.9	\$61.8	\$65.9	\$72.9	\$101.3
Employment (000)	887	872	866	863	863

Note: The 2008 data are annualized from year-to-date (YTD) data through June.

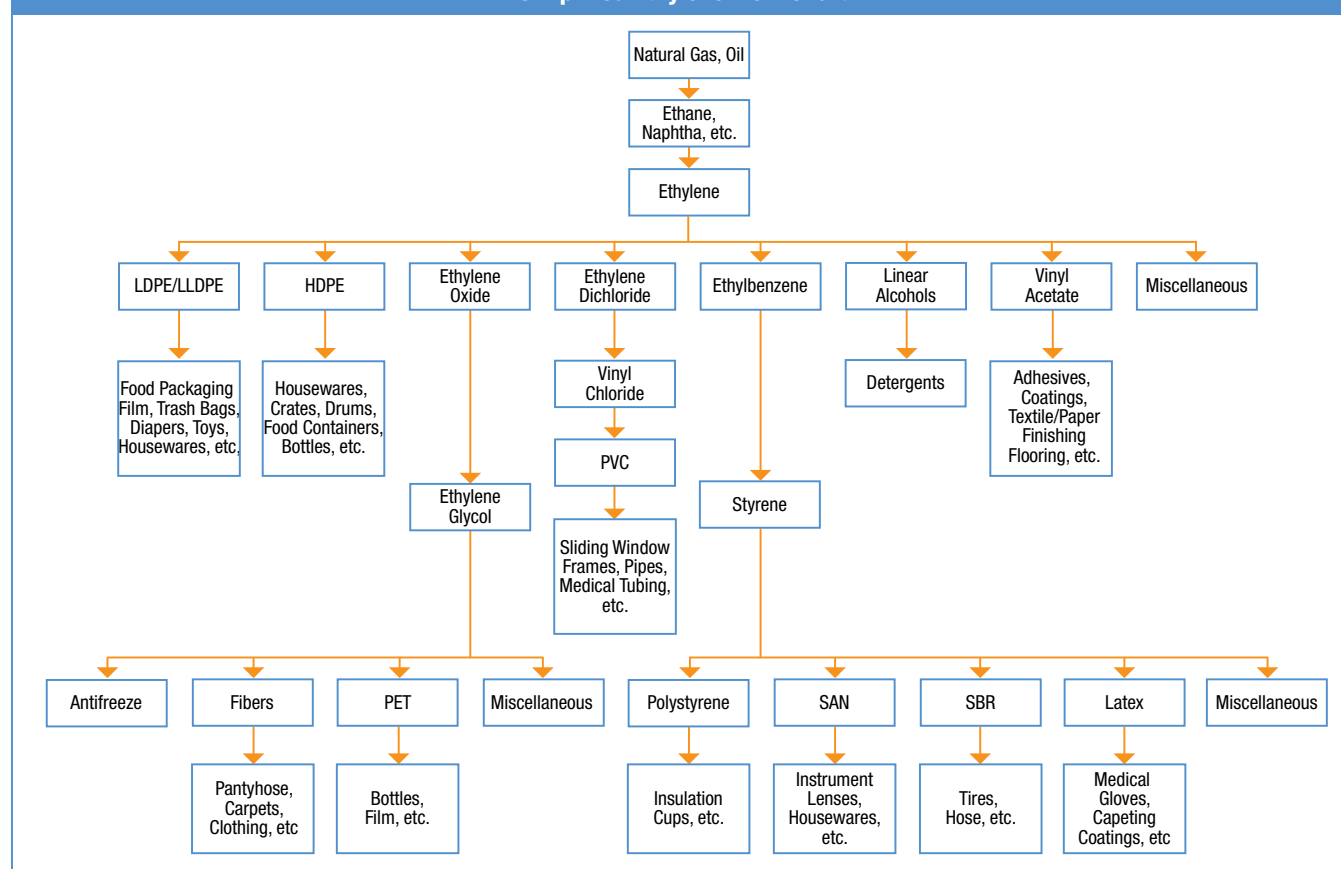
Natural gas prices have been rising since the start of this decade because supply is not keeping up with demand. The result of this supply-demand imbalance is higher prices for natural gas. The U.S. business of chemistry is the largest industrial user of natural gas, consuming one-tenth of total natural gas demand. Higher natural gas prices in particular severely affect the industry given its importance as a raw material (feedstock). Unlike oil, natural gas markets are regional and the price in North America affects only North American producers. For this reason, the competitive position of U.S. petrochemicals deteriorates when natural gas prices are high relative to oil prices. When natural gas prices rose relative to oil prices earlier in the decade, it adversely affected competitiveness, resulting in the chemistry industry's first deficit since the mid-1920s.

The rise in natural gas and other energy costs has adversely affected competitiveness and is one factor fostering the overseas movement of investment. This affects employment levels. Between 2004 and 2008, the U.S. business of chemistry lost 24,000 jobs. Between 1999 (prior to the start of the natural gas crisis) and 2008, the business of chemistry's employment declined from 983,000 to 863,000 — a 120,000 job loss.

The business of chemistry significantly affects the strength and global competitiveness of the U.S. manufacturing sector and economy. More than 96 percent of all manufactured goods are directly touched by chemistry, and industries that rely upon chemistry generate one-fifth of U.S. GDP. The simplified flow chart below for ethylene — a key building-block chemical — illustrates the ubiquity of chemistry in a variety of consumer and industrial goods. The products of the business of chemistry help other industries and consumers improve energy efficiency for the nation as a whole. In short, the U.S. chemical industry uses energy to save energy.

Additionally, the price of chemistry products subsequently affects pricing of goods containing chemistry. The chemistry content of the materials value of many household items we take for granted can be quite high. Analysis indicates that the chemistry share of the materials value of a bottle of shampoo, for example, is 100 percent. For carpets it's 68 percent. For tires it is 62 percent. For semiconductors it's 30 percent. Even for paper cups it's 22 percent. Higher prices for key industrial supplies and materials will filter down the value chain to other manufactured goods and

Simplified Ethylene Flow Chart



ultimately to the consumer. This is now showing up in the consumer price index, with the risk that this will eventually put some upward pressure on core inflation measures. As inflationary pressures intensify, interest rates rise, reaching a tipping point for the economy, resulting in the next downturn.

Sustained increases in natural gas and other energy prices act much like a tax on consumers, depressing disposable personal incomes and savings, and ultimately consumer spending, which accounts for two-thirds of the economy. A large increase in natural gas prices results in a lower economic growth rate, which reduces job creation and results in a higher unemployment rate. At the same time, inflation accelerates and interest rates rise. This affects the industrial sector, causing less production as well as lower business investment (or capital spending). Higher energy prices hamper the capital spending needed for a sustained economic expansion, holding back a recovery. Capital spending is critical to fostering long-term productivity growth and rising incomes and wealth.

Another effect of sustained high energy prices is to cause federal deficit and deficits run by state and local governments to deteriorate. Most state and local governments are currently facing severe fiscal difficulties and the federal government is running record deficits. (The analysis suggests that the current account balance deteriorates and the federal deficit increases as tax receipts fall short of expectations because of lower economic growth and as higher unemployment increases benefit claims.)

For energy-intensive sectors such as farming, cement, aluminum, steel and chemicals, the effects would be even more severe. For the business of chemistry, the effects would be felt across all segments. Exports would falter and imports would rise. In addition, lessened industrial activity would result in lower demand. Over the extended period, the basic chemicals segment would suffer the most.

Congress must therefore increase access to domestic energy supplies by enacting as soon as possible an aggressive, comprehensive energy package that promotes efficiency and conservation, fuel diversity (including renewables and alternatives), and expanded access to the OCS. Hundreds of thousands of American jobs in the business of chemistry are counting on Congress to take this important action.

About The American Chemistry Council

The American Chemistry Council (ACC) represents the leading companies engaged in the business of chemistry. ACC members apply the science of chemistry to make innovative products and services that make people's lives better, healthier and safer. ACC is committed to improved environmental, health and safety performance through Responsible Care®, common sense advocacy designed to address major public policy issues, and health and environmental research and product testing. The business of chemistry is a \$664 billion enterprise and a key element of the nation's economy. It is one of the nation's largest exporters, accounting for ten cents out of every dollar in U.S. exports. Chemistry companies are among the largest investors in research and development. Safety and security have always been primary concerns of ACC members, and they have intensified their efforts, working closely with government agencies to improve security and to defend against any threat to the nation's critical infrastructure. For more information, visit www.americanchemistry.com.



National Petrochemical & Refiners Association (NPRA)

It is difficult to understand the importance of petrochemicals without first looking at the world of organic chemistry. Organic chemistry began as a chemistry discipline related to vegetable or animal sources. Prior to 1850, people actually believed that organic chemicals had to come from living organisms and could never be synthesized. We have found over the years that organic chemicals can come from a variety of sources and can actually be synthesized efficiently and economically.

Organic chemistry, however, is bound by the laws of physics and nature. These physical laws place restrictions on what can and cannot be done when trying to make a chemical compound. For instance, a molecule (i.e., a chemical) is made up of atoms (e.g., sodium, carbon, chlorine, etc.) that are in specific locations or positions on the molecule. In organic chemistry, the goal is to take the atoms from one molecule and move them to locations on another, different molecule so that the target molecule takes on a specific function or behavior. The laws of physics dictate if, how and when those atoms can be moved. This is exactly how the base chemicals for products ranging from plastics to makeup to aspirin are created, only on a very large, commercial level.

Organic chemistry on the commercial scale affects just about every other manufacturing sector. Organic chemicals are used as raw materials, ingredients, processing agents, performance additives and in many other applications. Most, if not all, finished goods depend on organic chemicals. Petrochemicals are the fundamental building blocks for organic chemistry; without an abundant supply of petrochemicals, manufacturing in the United States would be virtually non-existent.

What Exactly is a Petrochemical?

When people hear the term “petrochemical,” they often think of plastics or some other complex product derived from oil. Either that, or they think of petroleum-based solvents like those used in paints and coatings. In the strictest scientific sense, petrochemicals are a set of very specific chemical compounds, which can be made from oil, natural gas, coal, plants or other sources. The vast majority of petrochemicals, however, are derived from oil or natural gas.

The most basic of these petrochemicals are considered the building blocks for organic chemistry.

Basic Petrochemicals	
Ethylene	Benzene
Propylene	Toluene
Butadiene	Xylene

From this base set of petrochemicals comes myriad other chemicals, which in the petrochemical industry are called petrochemical derivatives or, just “derivatives.” Derivatives are grouped according to the number of steps it takes to convert the basic compound

into the new derivative. In other words, it takes one step to convert ethylene to acetaldehyde; therefore, acetaldehyde can be considered a first-derivative of ethylene. Taking it one step further and converting the acetaldehyde to acetic anhydride, the acetic anhydride is classified as a second-derivative of ethylene. Acetic anhydride is used to make aspirin.

Technically, any manufactured item containing carbon and hydrogen atoms is a petrochemical derivative; however, it would sound too complicated to call aspirin a third-derivative of ethylene (which is technically and scientifically correct). In short, the following table shows only a small sample of the thousands of products made with petrochemicals that touch all aspects of our everyday lives. Without energy and energy-derived products, we would literally lose our standard of living.

Energy & Energy Derived Products	
Aspirin and pharmaceuticals	Fragrances
Mouthwash	Furniture
Draperies & Curtains	Luggage
Paper	Plastic Beverage Bottles
Brushes	Rope
Toys	Shavers
Bowling Balls	Boxes
Appliance Parts	Packaging
Coatings	Wood Glue
Films & Tapes	Clothes
Foams (beddings, cushions, car seats)	Cosmetics
Suntan lotion	Telephones
Awnings & Blankets	Dinnerware
Pens & Pencils	Carpeting
Buttons	Tape
Lighters	Disposable Diapers
Shower Stalls	Wheels & Rollers
Automotive Parts	Cements
Adhesives	Rigid Forms (insulators, refrigerators, trucks & rail cars)
Dyes	Floor Polish

For the purpose of simplicity, the National Petrochemical & Refiners Association (NPRA) represents the base petrochemicals and their first and second derivatives that are critical for manufacturing

an extremely large variety of products used in our daily lives. Because petrochemicals are so integrally connected to manufacturing it is critical for the petrochemical industry to have access to affordable, abundant supplies of raw materials (i.e., oil and natural gas) needed to make their products.

Oil and Natural Gas: A Potential One-Two Punch

Many petrochemicals are produced using extreme temperatures (more than 1,500° F) and pressures (more than 1,000 psi), which requires large amounts of energy and sophisticated engineering. Because of these extreme operating conditions, energy consumption accounts for a significant portion of the total cost of production. As energy costs rise, the cost of doing business also rises. As most people know, in 2008 the rise in energy costs was dramatic and, as much as oil and natural gas are important for their energy properties, there is another, potentially larger issue looming over the petrochemical industry and U.S. manufacturing in general.

Oil and natural gas are used as feedstocks to make approximately 99 percent of U.S. petrochemicals. Years ago, U.S. petrochemical producers shifted more and more toward natural gas as a feedstock to hedge against potentially volatile oil prices. With few exceptions, this strategy has been successful and allowed the U.S. petrochemical industry to remain competitive in an increasingly global marketplace. The value added as a raw material for everything from plastics to medicine has made natural gas much more valuable to the United States economy as a feedstock than as a fuel for base-load electric power. Compared to other sources of feedstocks, natural gas has been abundant and its price somewhat predictable. Gradually rising natural gas prices and recent volatility indicate this may change, however, resulting in a one-two punch that may debilitate U.S.-based petrochemical producers and, subsequently, other manufacturing sectors that rely on petrochemicals.

Energy or Feedstocks: That is the Question

According to the American Chemistry Council, the chemicals industry's fuel and feedstock costs have risen more than \$100 billion from 2000-2005. These increases, coupled with significantly lower costs abroad, have led to nearly \$60 billion worth of business going overseas and the loss of more than 110,000 jobs.

As a result, the United States has experienced, and is continuing to experience, an exodus in manufacturing. This phenomenon began years ago in efforts to save on labor costs, but now even manufacturing industries that are highly automated are either moving overseas or expanding capacity overseas and decreasing capacity domestically. The reason for this exodus cannot be pinned on any one particular factor; rather, it is a combination of factors, one of which is apathy on the part of lawmakers and bureaucrats who believe that manufacturing is not necessary for a robust economy.

As previously mentioned, petrochemicals are raw materials that help drive the U.S. manufacturing economy. The availability of raw materials is what allowed the U.S. to become a manufacturing powerhouse and a dominant economic player in the 20th century. Petrochemical production in the United States has been world-class only because of the abundance of petrochemical feedstocks; however, the availability of these feedstocks is becoming increasingly threatened.

In the search for “cleaner fuels,” a short-term (and short-sighted) solution for automobiles, manufacturing plants and electrical power generation appears to be a move toward natural gas. Currently in the United States, natural gas is the most important feedstock for petrochemical manufacturing; if the supply of natural gas feedstock is disrupted, it will affect manufacturing all the way down the supply chain to finished goods manufacturing. Lawmakers in California are considering a mandated switch to natural gas for automobiles as a “cleaner fuel.” At the federal level, Congress is debating climate change legislation that will force utilities to use an even greater amount of natural gas as a “cleaner fuel.” If this trend continues, the price of natural gas will rise and could prohibit its use as a raw material in this country. Such an occurrence would force petrochemical firms to look for other, more dependable supplies of feedstocks — most likely foreign oil and natural gas. In fact, petrochemical companies are already looking elsewhere to build or expand capacity in anticipation of increasing energy and feedstock costs, and a more complex regulatory structure. While natural gas prices have fluctuated between \$8 and \$11 per million cubic feet (mcf) in this country, prices abroad are significantly lower. For example, it is not uncommon for natural gas to be less than a dollar in the Middle East. It is critical for the United States to recognize this trend and expand its domestic supplies of oil and natural gas to protect our nation’s global competitiveness.

The Ripple Effect: As go raw materials, so goes manufacturing

Manufacturing businesses have certain needs for their economic prosperity, the most important being raw materials, logistical infrastructure and capital (human and monetary), and will locate wherever they can gain a competitive advantage over others in the marketplace. During its economic heyday, the United States had all of the right components for an ideal business location: abundant and cheap raw materials, competitive supply chains, talented and reasonably priced labor, and plenty of capital. Over time, however, the U.S. has been slowly losing its advantages.

The U.S. is still seen internationally as a safe place to invest; however, it now must compete with other regions, each having certain advantages and disadvantages, for capital. Many labor-intensive industries, such as clothing manufacturing, left for other regions years ago, but many of the automated manufacturing industries have remained. A significant portion of those companies are in the midst of, or soon will be, making decisions on plant expansions and upgrades. Moving goods around the United States has been easy, compared to many other regions, but the infrastructure is getting old and will require considerable expenditure to upgrade. In addition, lawmakers in certain states are pushing for more state-level regulation, which will make interstate commerce more complex and difficult. The one thing that has kept manufacturing in this country is the abundance of reasonably price raw materials. However, if the United States doesn’t act to expand use of its own domestic resources, we will start losing that advantage as well. In addition, several potential new or proposed fuel and climate mandates could threaten one of the nation’s most important feedstocks — natural gas.

With all of the decisions that businesses must make in the near future, along with all of the choices in a global economy, policymakers must act to expand supplies of domestic energy and feedstocks to ensure American manufacturers will remain in this country.

About National Petrochemical & Refiners Association

NPRA members include nearly 500 companies, including virtually all U.S. refiners and petrochemical manufacturers. Its members supply consumers with a wide variety of products and services used daily in their homes and businesses. These products include gasoline, diesel fuel, home heating oil, jet fuel, lubricants and the chemicals that serve as “building blocks” in making everything from plastics to clothing to medicine to computers.



60 Plus Association

The “pain at the pump” dilemma that we find ourselves in today is very real. This issue affects everyday Americans and seniors in particular due to fixed incomes. Seniors on fixed incomes need additional money for the Low Income Home Energy Assistance Program (LIHEAP) this year. The 60 Plus Association would not have to ask for LIHEAP funding year-in and year-out if funding measures by Congress did a better job of managing energy policy.

One of the iron-clad rules of economics is that growth requires more energy. Generally, for every 3 percent of economic growth we need approximately 2 percent more energy. By most estimates, the nation will need more than 30 percent more energy by 2030. Eighty percent of that energy will come from fossil fuels — oil, coal and gas. Alternative energy will grow but it will not make a major difference in the energy pie for many decades.

By tapping all available resources, Americans will reduce our vulnerability and improve our energy security — a goal that is both a winner for America and for advocates across the spectrum.

One of the greatest attributes a person can have is common sense.

Congress must exhibit some common sense, now, as it deals with the serious energy problems that confront our nation.

We can all agree on one thing — no one is happy about the price of oil. It’s frustrating to watch gasoline prices jump 20 cents in one day; it’s infuriating to receive a home heating bill that is 50 percent more than you thought it would be. And when these things happen, it’s easy to blame the most obvious target — the oil companies. They make the product, they charge us for it; it has to be their fault.

Some Members of Congress jumped on this bandwagon and made headlines by calling for windfall profits taxes to “punish” the oil companies. But a little common sense tells us that this reaction is wrong, and that levying extra taxes on the oil industry is just going to make things worse for everybody.

In the first place, if we’re upset about high oil prices, the last thing we want to do is add additional cost to oil production by increasing taxes. Taxes (like any other expense) are added to the retail price of a product and consumers — you and I — end up paying the difference.

Furthermore, American oil companies don’t set oil prices; they’re determined by trading on the international commodities market. This involves corporations from a number of foreign countries, trading oil produced around the globe. If we heap taxes on U.S. companies it will make them (and the oil they extract from our domestic reserves) less competitive in that marketplace. The end result of this is decreased domestic production, higher prices and increased American dependence on foreign oil. All things we desperately want to avoid.

But perhaps most importantly, we have to apply the common sense test to taxing oil company profits and ask ourselves — whom are we really taxing? When we tax corporations, we tax their owners and oil companies (like most corporations) are owned by

their shareholders. And — whether you know it or not — you're probably one of them.

It's estimated that 91 million Americans own shares of stock directly or through their mutual funds. Additionally, anyone who is involved in a pension fund is almost certainly a shareholder. And energy stocks — including oil — are among the most popular stocks in the nation.

A study recently released by the Investors Action Foundation found that retirees and those saving for retirement would be hardest hit by a windfall profits tax. Conducted by former Undersecretary of Commerce Dr. Robert Shapiro and international economist Dr. Nam Pham, the study found that over the next five years, the "Windfall Profits Rebate Act of 2005" would impose moderate opportunity costs on the federal employee pension system, but much larger costs on state and local pension systems.

Retirement funds, SEPs and 401k plans are often heavily weighted toward energy stocks. Placing additional taxes on oil companies is a direct drain on retirement savings — not very sensible at a time when Congress is trying to increase retirement security. According to the study, the cost to shareholders would depend on oil prices over 2006-2010 and could cost as much as \$122 billion.

More taxation is not the answer to our energy problems. We have to encourage more investment in domestic energy production and that means allowing U.S. oil companies to reward their shareholders for investing with them. Opening up off-limits areas of the nation to exploration and rewriting archaic regulations that handcuff infrastructure modernization would be other constructive moves. Let's let common sense lead the way to realistic solutions to the energy challenges facing our nation.

Higher energy costs are forcing our nation's seniors to make tough decisions. Sometimes these choices have deadly consequences. According to a recent study, 12 percent of senior citizens have been forced to limit their food purchases or go hungry because of higher energy costs, 11 percent have reduced or gone without medical services and 10 percent have cut back on their prescription drugs or gone without them altogether. Sixty-one percent of seniors have limited the use of energy in their homes, a step that can prove fatal during periods of extreme heat or cold. During the coldest months of the year, many seniors turn down their thermostat. Some use kerosene to heat

their homes, a fuel that is cheap but highly flammable. During the hottest months of the year, many are forced to go without air conditioning, leaving them vulnerable to heat-related injury or death.

This impact on our seniors is one of several reasons we must decrease our dependence on foreign oil and increase production of our domestic resources. We now import up to 70 percent of our oil from foreign countries, many of which are led by unfriendly or unstable regimes. This situation poses a serious threat to our national security, and it is the direct result of a misguided policy that has withdrawn U.S. lands from oil and gas exploration and development.

In 2005, the 60 Plus Association mailed a letter to 150,000 seniors in Florida, Virginia and New Jersey asking them to send a postcard to the Minerals Management Service urging exploration of the OCS. 60 Plus seniors responded in record numbers for two reasons: 1) It was explained that oil rigs would be so far out, that someone with binoculars could not see them and 2) More powerfully, these seniors were incensed when told that Communist Cuba, with aid from Communist China, was exploring for oil some 40-60 miles off the coast of Florida, yet Congress would not allow American exploration of the OCS!

Development of domestic resources alone will not solve our energy problems. We will also need to conserve and develop alternative and renewable fuels. Those who advocate a one-approach-fixes-all solution are misleading the American public. While our immediate future needs can only be met by more oil, we must develop a comprehensive policy that reflects our energy needs and prepares us for the future.

In terms of a real solution, we need all of the energy pieces working in unison to fuel our growing economy. In short, we need policies that encourage MORE. More oil, more natural gas, more coal, more nuclear, more renewables and more conservation.

The only way we can address our energy crisis is through a combination of initiatives: conservation, domestic production and the development of alternative and renewable fuels are all part of the broader solution.

The end to our crisis lies in the balance between them.

About the 60 Plus Association

Since 1992, the 60 Plus Association has led the fight to permanently repeal the estate or “death tax.” In fact, President Jim Martin is the modern-day father of the name “death tax” for the estate tax. The Association’s national spokesman is legendary entertainer Pat Boone. 60 Plus uses its influence by speaking out in press conferences, op-eds and forums such as this CEA Energy Forum in regards to many issues before Congress, including America’s great need for increased energy self-sufficiency.



National Defense Council Foundation (NDCF)

In re-assessing this country's energy policies, the National Defense Council Foundation (NDCF), with its proud 30-year-history and with veterans of military service as supporters, now considers energy policy not only an economic issue but a national security issue.

As of 2006, NDCF determined that the direct loss of economic activity arising from U.S. oil import dependence amounted to \$117.4 billion. Importing oil eliminates more than 2.4 million American jobs. Some portion of every dollar we spend on foreign oil lands in the hands of individuals that wish to do us harm. Oil money funds groups like Hamas, Hezbollah and Al-Qaeda.

National Defense Council Chairman Jim Martin says, "Some portion of every dollar we spend on imported oil finds its way into the hands of individuals who wish to do us harm."

As we purchase our oil from other states, we help build their strength and prosperity while we lose jobs domestically.

We have the resources to become energy independent. It will not be easy, but it can be done. If we do not, America will see the hemorrhage of cash for oil imports grow and its enemies strengthened.

Today the national average for a gallon of gas is \$3.96. That's an increase of \$1.63 per gallon since 2006.

Recent polls suggest that 57 percent of the American public supports offshore development. Many criticisms to this percentage were that the majority of supporters must not be representative of states in which drilling would take place. Contrary to that perception, according to the *Miami Herald* and others, an even greater percent of residents of Florida supported drilling — 61 percent.

According to the U.S. Geological Survey (USGS), the United States has almost 175 billion barrels of oil reserves. These include 21.9 billion barrels of "proved oil reserves" — oil that has been discovered and can be produced right now — and more than 150 billion barrels of "undiscovered" reserves.

And according to the U.S. Department of Energy (DOE), the United States has some 320,222 trillion cubic feet of natural gas in the form of methane hydrates, the equivalent of 51.1 trillion barrels of oil.

But the bulk of our undeveloped energy resources are found on federal lands or federally controlled areas offshore. Since the 1970s, these areas have increasingly become foreclosed to natural resource exploration and development.

It is true that drilling is not the only solution to this problem we face. We need all forms of domestic energy that we can produce and this includes coal, natural gas, nuclear and renewables such as wind and solar. Renewable resources such as ethanol, biomass and geothermal technologies are important as well. However, we must stop gasping when we hear the term "fossil fuels" because fossil fuels will be one of the leading sources of energy for the next 50 years. Nuclear

power is another great route. France currently gets 80 percent of its energy from nuclear plants. Our military uses nuclear energy, and has done so for 60 years without incident.

The NDCF estimates that within five years, oil imports could be reduced by 40 percent. Within 15 years, they could be reduced by 75 percent, and within 25 years, oil imports could be eliminated entirely. Moreover, these goals can be met without discovering a technological breakthrough. It is first necessary to dispel one of the most persistent myths about our energy dependence: the United States lacks energy resources.

It is clear that America's continuing reliance on imported oil is imposing an enormous financial burden on the nation's economy — a burden that is a threat to the nation's economic and more ominously, its national security. Eliminating this dangerous dependence must be an urgent national priority.

Any limits to domestic exploration (whether offshore, drilling in the Arctic National Wildlife Refuge, etc.) at a time when international supplies are so uncertain is not good for this country. We must wean ourselves from our dangerous dependence on oil supplies from unstable foreign sources.

Finally, the opposition groups simply cannot continue opposing domestic energy production at every opportunity. The Santa Barbara, Calif., oil spill of 40 years ago simply will not occur with today's advanced technology. Mother Nature is more at fault with oil oozing up from the ocean floor. We must bridge this divide between those who claim the environmental mantle and those who are responsible for providing our energy needs.

About the National Defense Council Foundation

The National Defense Council Foundation is in its 30th year of operation. Former Chairman Andy Messing, a highly decorated veteran and a Special Forces Major in the Vietnam War, has served in 27 areas of conflict and flown in 144 tons of medical supplies and food to many of those areas. Remaining a member of the Board of Directors, Andy handed over the reins of the Foundation to James L. Martin, who served two tours on active duty in the U.S. Marine Corps, 1953-58, and is also Chairman of the 60 Plus Association, a senior citizen's advocacy group.



American Gas Association (AGA)

Energy is the lifeblood of our economy, and natural gas meets one-fourth of the United States' total energy needs.

The size of home heating bills reflects two factors: the price of each unit of natural gas, as well as the amount of natural gas the customer is using — which is often related to weather. Colder-than-normal winter weather predictably causes natural gas consumption to rise, which creates larger heating bills. The cost of the natural gas itself is the other key factor.

During much of the first half of 2008, natural gas prices on average were much higher than they are now. Spot prices at the popular Henry Hub in Erath, La., ranged between \$7.18 and \$13.01 per million Btu (MMBtu) from January through July. While prices started to fall in late July, natural gas utilities acquire their winter natural gas supplies throughout the year, so those recent lower prices will be blended in with the higher prices paid earlier in the year.

It's difficult to forecast the amount of natural gas customers will use, as this varies greatly with weather. The past several winters have been warmer than normal, helping to offset higher natural gas prices. Obviously, if the weather returns to a more typical cold winter weather pattern, customers will use more natural gas, and their heating bills will rise to reflect their increased consumption.

Most forecasters make their projections based on a “normal” weather pattern and adjust periodically to reflect actual conditions.

Factors Influencing Natural Gas Prices

As in most free markets, natural gas price is chiefly influenced by supply and demand.

Natural gas is a domestic resource that is found in abundance in the United States. It is a home-grown North American fuel that is highly efficient and whose use by power plants contributes to cleaner air. Homeowners love it for its comfort and warmth and policymakers love it for its environmental attributes. Use of natural gas is beneficial to energy security, keeps jobs in the U.S. and contributes to a cleaner environment.

Domestic natural gas resources are abundant — but access to that supply can be restricted. Although the U.S. has enough natural gas to serve many generations of Americans, exploration and production has been limited by politically motivated moratoria and other restrictions.

Most of our natural gas is produced along the Gulf Coast or in Texas, Oklahoma and the intermountain West. Many areas that are rich in natural gas have restrictions on access to that supply. For example, both coasts of the U.S. have moratoria preventing natural gas exploration and production and even a portion of the eastern Gulf of Mexico is currently off-limits, although legislation is pending in the House and the Senate that would lift some of those restrictions.

Just as weather can affect demand, weather can also affect supply, as it did in the fall of 2005 when Hurricanes Katrina and Rita hit the Gulf Coast. Together, they impacted a critical producing region and 3 percent of a

year's production (561 Bcf shut-in of approximately 19 Tcf total annual production.) The balance of supply and demand was already tight, so the hurricane-induced disruption caused prices to increase, significantly.

Increases in supply often take longer to materialize in the market, because it takes time to secure permits for drilling and to build the pipelines required to transport natural gas to market.

Natural Gas Price Volatility

The wholesale price of natural gas was relatively stable during the 1990s — around \$2 per thousand cubic feet (Mcf) — because natural gas supplies were ample to meet demand.

Since 2000, however, wholesale, or “wellhead” natural gas prices have risen, averaging \$7.33 in 2005 and settling back down to around \$6.40 per MMBtu in 2006 and 2007, according to the U.S. Department of Energy's Energy Information Administration (EIA). Factors that can result in higher natural gas prices include increased use of natural gas to generate electricity, especially during the summer months, disruptions to natural gas production caused by unusual weather or hurricanes and public policies that have made it increasingly difficult for energy producers to keep up with consumer demand.

The U.S. will be vulnerable to sudden energy price spikes as long as natural gas supply is not allowed to keep pace with demand. Changes in demand can happen quickly and the single largest factor normally affecting demand is weather. As has been shown over and over, extremes in weather can cause natural gas prices to spike.

Utilities Efforts to Meet Demand & Lower Prices

Utilities want what their customers want: an adequate supply of natural gas at affordable prices. Consumers love natural gas — but they do not like surprises. So natural gas utilities take a number of actions to stabilize natural gas prices and help consumers deal with fluctuations in their energy bills:

- **Billing plans** – Most utilities offer balanced-billing plans that allow customers to spread their natural gas costs over many months, which makes it easier for people to handle winter heating bills.
- **Storage** – Natural gas utilities often purchase natural gas during warm-weather months, when

it traditionally costs less, and store it for later use on cold winter days. Storage can account for half of some utilities' natural gas supplies on winter's coldest days — contributing to reliable service.

- **Hedging** – More than half of the states allow utilities to use financial tools such as futures contracts and weather risk insurance to stabilize natural gas prices. By the 2006-2007 winter heating season, 87 percent of the gas utilities surveyed by AGA used financial instruments to hedge at least a part of their gas supplies.
- **Contract terms** – Just as homeowners shop around for food and household items, gas supply managers obtain their gas supplies from a variety of sources and under different contract terms.
- **Programs for low-income households** – Energy utilities provided \$1.8 billion in assistance to low-income households in 2006 in the form of discounts, fee waivers, efficiency/weatherization programs and arrearage forgiveness funded by customers and stockholders.

Consumer Efforts to Lower Energy Bills

The best way to lower your energy bill is to use energy more wisely.

A programmable thermostat allows you to keep your house cooler at night and when you're away and will automatically warm your house to comfort levels for the hours you are home.

Also inspect your windows and doors for drafts. Use caulk or sealant to insulate.

While efficiency alone can help, it cannot solve the problem on its own. Additional natural gas must be produced to keep up with significant increases in consumer demand.

Natural Gas Price Impact on U.S. Economy

Natural gas is the backbone of American manufacturing, used to make steel, glass, chemicals, textiles, automobiles, food and many other products. Higher natural gas prices put America at a competitive disadvantage, since natural gas costs less in many countries.

Natural gas is also an essential component of many future sources of energy — we need natural gas to make hydrogen and ethanol.

Without natural gas — it can't happen.

About the American Gas Association

The American Gas Association (AGA) is an advocate for more than 200 local energy companies that deliver natural gas throughout the U.S. AGA provides member companies and their customers a broad range of programs, information and services promoting efficient demand and supply growth and operational excellence in the safe, reliable and efficient delivery of natural gas. AGA members are committed to delivering natural gas safely, reliably and cost-effectively in an environmentally responsible way and include natural gas pipelines, marketers, gatherers, international natural gas companies and industry associates. Of the nearly 70 million residential, commercial and industrial natural gas customers in the U.S., approximately 92 percent — more than 64 million customers — receive their gas from AGA members.



Conclusion

To meet the energy challenges facing the nation and its consumers, Consumer Energy Alliance (CEA) seeks a reasonable, more robust energy policy that ensures a proper balance between the use of traditional sources, the development of alternatives and improved energy efficiency and conservation.

“Energy independence” is a phrase often heard from policymakers. CEA does not believe that “energy independence” is achievable or realistic. We do believe, however, that improved dialogue and communication among consumers, industry and policymakers can help prevent false assumptions about energy providers, energy markets and national energy security.

More specifically, Consumer Energy Alliance supports national legislation, which specifically provides for:

Responsible access to all domestic energy resources

- Lifting moratoria on offshore and inland oil and natural gas development;
- Lifting moratoria on, and thoughtfully expanding, unconventional resource development;
- Supporting legislation that would allow states to exercise more control over their energy resources;
- Streamlining the permitting processes to encourage the creation and expansion of petroleum refineries; and
- Promoting technological advances in exploration and production of traditional energy resources to ensure further gains in environmental stewardship.

Accelerated use of alternatives and renewable resources

- Recognizing long-term development of these resources by creating realistic alternative energy production policies and feasible timelines;

- Streamlining the permitting processes to encourage the creation of new and improved alternative energy production facilities, including significant production from wind power, hydro-power, solar facilities and nuclear power;
- Ensuring adequate transmission lines to meet the expanding needs of all regions; and
- Promoting technological advances in wind, solar, hydro power and other forms of alternative energy while recognizing that all energy forms must be utilized.

Improved energy efficiency and conservation

- Creating public-private partnerships to make energy efficiency and conservation measures more accessible and affordable for the consuming public; and
- Facilitating dialogue among energy industry and consumers groups about how they can work together to increase energy efficiency and conservation.

Expanded energy education

- Increasing government funding for energy education and additional research and development related to both conventional and alternative energy resources to complement private sector investment;
- Increasing education outreach to consumers on how to improve energy efficiency and conservation at home and at work; and
- Developing a comprehensive U.S. program aimed at maintaining U.S. intellectual competitiveness through the education of skilled scientists, engineers and trade professionals needed to ensure a vibrant and progressive energy industry.

Hundreds of thousands of American jobs in manufacturing, agriculture, chemistry, business, travel and tourism, transportation and distribution, and energy depend upon Congress taking these important actions as soon as possible.

In the coming months, CEA will provide additional reports outlining energy impacts and possible solutions to meeting the U.S. energy challenge.

CEA looks forward to working with the administration and Congress, as well as consumers, small businesses, manufacturers and agricultural groups among others to improve the national dialogue and maintain an open and honest discussion about the direction of our energy policy and the benefits of legislation that includes all available resources from both traditional and non-traditional energy sectors.

Acknowledgments

Consumer Energy Alliance is extremely grateful to all of our affiliated organizations who participated in creating this publication, *“The Impact of High Energy Prices on Key Consumer Sectors of the U.S. Economy.”* Together with our affiliated organizations, we feel it provides further tangible evidence that a non-partisan, comprehensive approach is needed now to help meet further energy demand and maintain reasonable prices for consumers.