



# Policies & Recommendations to Revitalize U.S. Manufacturing

## **THE NEED FOR A STRONG, DOMESTIC MANUFACTURING SECTOR**

Revolutions are often characterized by periods of dramatic change that represent major turning points in cultural, social or economic policy. The United States is at such an inflection point now.

Just as our predecessors created pragmatic and purposeful policies that ushered in a new wave of prosperity with the Industrial Revolution of the 1880s, we have the opportunity now to fuel a new era of sustainable economic growth for America through advanced manufacturing.

Manufacturing employs nearly 13 million people in the U.S., plus another six million in such related fields as supply chain, finance and wholesale. No other sector performs more R&D, drives more innovation, exports as much or contributes more to our nation's economy. Because manufacturing provides the critical base for everything else to grow and acts as the building block for the rest of the value chain, the future economic strength of America depends on a vital, resilient manufacturing sector.

To ensure the United States enjoys the full benefits that manufacturing can unleash, however, we must encourage a new, comprehensive policy revolution that will reinvigorate advanced manufacturing and help it regain its competitive edge in the U.S. and abroad. A new policy revolution for advanced manufacturing will drive innovation, increase productivity, encourage technology investments and, importantly, create jobs in the United States.

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## THE CHALLENGES OF U.S. MANUFACTURING

### 3 STEPS TO COMPREHENSIVE REFORM

- 1: Address structural costs suffocating U.S. manufacturing
- 2: Develop a broad policy framework that enables economically sustainable growth
- 3: Consider a multitude of issues — from climate change to education — as part of a broad, comprehensive undertaking

History is replete with once-great countries that have dissolved into obscurity precisely because they did not change. If the U.S. wants to keep its economic lead, we have to understand that change is constant, and that we must lead the change or fall victim to it. To keep the many benefits that accrue from a strong economy, we must change course and initiate a manufacturing policy revolution.

The first step in that effort is addressing the structural costs that are suffocating U.S. manufacturing. Manufacturers in the U.S. are buried in red-tape that increases structural costs and consequently causes production costs to be a staggering 32 percent higher than our trading partners. It is imperative that we remove the artificial anti-industrial policy costs that disadvantage American manufacturers.

Manufacturing also needs a broad policy framework that allows its manufacturing base to enable growth in an economically sustainable way. We need a legal and regulatory framework that helps American industry compete around the world. These policies should be designed to restore the resiliency and fortitude of our economic system while promoting global competitiveness, fairness, and a renewed sense of vigor and entrepreneurship. To succeed, we must unleash companies to innovate; partner with policymakers to enable; motivate consumers to demand; and inspire everyone to collaborate to transform sustainable change into sustainable prosperity.

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## WHAT CONSTITUTES ADVANCED MANUFACTURING POLICY

The concept of an Advanced Manufacturing Plan (AMP) has a hard core, but very soft edges. To rejuvenate the economic base, it must allow industry to be competitive again and re-grow jobs. It should also address the structural costs that have weakened the very foundation of our manufacturing enterprise. Because by its very nature an Advanced Manufacturing Plan is the sum of other policies, agreement on what should and should not be included can be difficult to achieve.

Dow believes any comprehensive Advanced Manufacturing Plan must first address these eight policy issues hindering the revitalization of U.S. manufacturing.

- Energy and Climate Change
- Tax Environment
- Trade
- Civil Justice Reform
- Regulatory Reform
- Infrastructure
- Healthcare Reform
- Education K-12

We must be prepared to put a multitude of issues on the table and consider them all as part of a broad, comprehensive undertaking. Although systemic reform may be difficult, given the multiple congressional jurisdictions involved and the entrenched positions of various interests, we firmly believe incremental progress is achievable. Adoption of an Advanced Manufacturing Plan can happen in bits and pieces, as long as we don't lose sight of the goal of comprehensive reform.



# Energy and Climate Change

## OVERVIEW

According to the World Economic Forum, global population is expected to grow from 6.6 billion to more than 8 billion in the next 25 years. This growing population, combined with rising incomes in the emerging economies, will dramatically increase the need for energy.

The International Energy Agency forecasts that global energy use will rise 70 percent by 2050 with major increases seen across the building, transportation and industrial sectors. In the U.S., energy consumption will grow an estimated 14 percent by 2035, with fossil fuels providing 78 percent of all energy. Providing these services while slowing, stopping and ultimately reversing the growth of greenhouse gas emissions will be one of the most daunting challenges facing our global society.

The trend for future energy demand is clear. As we transition to a low-carbon future, the growth of the U.S. economy will depend on the development of all sources of energy — including oil, coal, natural gas, nuclear power, wind, solar, and more. Without an effective, sustainable and comprehensive energy policy to drive development of all energy sources and the management of demand, the U.S. economy will struggle to grow and create the jobs of the future.

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## DOW'S CONTRIBUTION TO A SUSTAINABLE ENERGY FUTURE

Reductions of GHG emissions from the use of Dow thermal insulation products are seven times greater than Dow's total GHG emissions.

Dow is aggressively reducing our own impact on the environment and harnessing our innovation engine to help customers, communities and society do the same.

Dow's innovations are leading to more energy-efficient products, cost-effective energy alternatives and less carbon-intensive raw materials and manufacturing processes. These solutions include solar shingles for builders and homeowners, higher efficiency building and appliance insulation materials, energy storage technology and innovations to put carbon to work.

Dow has been a recognized pioneer and leader in industrial energy efficiency. From 1990 to 2009, Dow reduced its energy intensity by 38%, saving 1,700 trillion Btu, which is the equivalent of the electrical energy used by all residential buildings in California for a full year.

And we are not done. As part of our 2015 Sustainability Goals, established in 2005, we have pledged a further 25% reduction in our energy intensity. If the U.S. were to adopt a similar economy-wide goal, this country could save the Btu equivalent of all of its oil imports from the Middle East.

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## PATH TO A SUSTAINABLE ENERGY FUTURE

We believe that America needs a comprehensive and sustainable national energy and climate change policy that enables the transition to a sustainable energy future — balancing economic, environmental and security concerns. For any economy, especially one the size of the United States, this takes time.

We are confident that policies supporting these principles will also stabilize energy prices, lead to innovative technologies, strengthen our economy, boost our competitiveness and revitalize U.S. manufacturing. For the materials industry, "energy security" includes feedstock security — meaning competitively priced raw materials with lower price volatility and sufficient alternate approaches to ensure diversity of supply.

Dow firmly believes there are four fundamental principles to create a new energy policy that will make the transition possible. They include:

1. Aggressively pursue energy efficiency and conservation;
2. Increase, diversify and optimize domestic hydrocarbon energy and feedstock supplies;
3. Accelerate development of alternative and renewable energy and feedstock sources, and
4. Slow, stop and then reverse the growth of greenhouse gas emissions.



# Energy Efficiency and Conservation

Dow has saved over 1,700 trillion Btu of energy since 1994, enough to supply California's residential electrical needs for one year.

Today, few in the U.S. would disagree that we waste too much energy, whether we are talking about drivers, homeowners, or businesses.

Energy efficiency is often the most affordable and most available way to improve the U.S. energy situation and reduce carbon emissions. A 2009 report from the National Academy of Sciences estimated that accelerated deployment of cost-effective technologies in buildings could reduce energy use by 25 to 30 percent by 2030. The National Petroleum Council found that available efficiency technology applied today to residential and commercial buildings would reduce energy use 15 to 20 percent and yet our nation's building industry continues to lag behind other sectors in effective policies that could provide the savings estimated.

As a first step in this comprehensive and more sustainable energy policy, we need an accelerated energy efficiency program over the next 10 years.

Our recommendations highlight tackling all energy demand sources and climate change contributors. As an example, the building sector in the U.S. accounts for about half of all energy consumption. In addition, greenhouse gas emissions have seen growth in the transportation and building construction sectors, with both areas representing more than 60 percent of final energy demand.

## THE SOLUTION

- Policies that provide incentives for power generators and distributors to undertake cost-effective and innovative energy efficiency measures.
- A combination of federal financial incentives, low interest loan programs and energy efficiency building codes to provide large-scale savings and significantly improve our nation's building stock and increase our country's energy security.
- Promote the use of tools and incentives to assist manufacturers of all sizes in implementing energy efficiency measures.



## Building Sector Efficiency

### THE NEED

One of the fastest, most cost-efficient ways to reduce our nation's energy demand and greenhouse gas (GHG) emissions is through increased energy efficiency across all sectors.

The Buildings sector (residential and commercial) is the largest consumer of energy in the U.S., accounting for approximately 48 percent of energy use (compared to Industry at 25 percent and Transportation at 27 percent). One of the fastest, most cost-efficient ways to reduce our nation's energy demand and greenhouse gas (GHG) emissions is through increased energy efficiency across all sectors. This is especially true for Buildings, where policy needs to address both new construction and the retrofit of existing buildings.

According to the U.S. Department of Energy (DOE), the energy wasted in the U.S. is equal to more than two-thirds of global consumption. With Congress targeting an 80% reduction in GHG emissions by 2050, 40 percent of that amount is expected to come from energy efficiency measures.

The DOE estimates that there are approximately 116 million homes in the U.S. housing stock, of which almost two-thirds (nearly 77 million) predate modern energy codes. These homes (and their owners) could benefit greatly from energy efficiency retrofits. In fact, the DOE believes that this is the largest area of opportunity for energy demand reduction. It is also important to note that rising energy costs — combined with inefficient energy use — have helped drive up the cost of home ownership, playing a significant role in both the increasing number of mortgage defaults and reduced consumer and business spending.

On the new construction front, DOE's vision is that, by 2030, consumers will be able to buy a cost-neutral, net-zero energy home (NZEH) anywhere in the U.S, with commercial buildings also targeted the same year.

### THE SOLUTION

Incentives such as tax credits, rebates, and low-cost loans must be used in conjunction with energy efficiency building codes to encourage homeowners and businesses to make their buildings as efficient as possible. This should provide a "win" for virtually all stakeholders:

- Building/homeowners – Improved energy efficiency, lower energy costs, increased building value
- Local contractors, workers – More projects/increased income
- State and U.S. economies – More jobs, lower unemployment, increased tax base
- Most importantly, the environment – Significantly reduced GHGs

The key is in finding the right mix of programs to properly incentivize owners of new and existing buildings in both the commercial and residential markets.

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Energy efficiency tax credits for renewable energy sources and commercial buildings, new construction and existing residential homes have been continued at least through 2011. While we believe the government has a role as a partner in the country's movement toward energy efficient construction of homes and buildings, as well as retrofits, we also believe that these incentives will need to be reevaluated in the context of the tax reform debate.

Following are additional programs we believe will help make serious inroads on the journey to a more sustainable energy future:

- Dow supports Congress' goal of increasing U.S. energy efficiency by 30 percent for model energy codes by 2012 and 50 percent by 2018 based on the 2006 International Energy Conservation Code (IECC). An intermediate goal of 40 percent by 2015 should also be established to help bridge the transition to higher energy efficiency targets.
- Congress should:
  - Continue to establish grants to regional sponsors of programs, such as Home Improvement with Energy Star, aimed at improving the energy efficiency performance of existing homes in the U.S.
  - Approve the proposed HOMESTAR legislation, which will establish a \$6 billion rebate program to encourage immediate investment in energy efficiency improvements for existing residential buildings (i.e., retrofits). The initiative's strong, short-term incentives are also intended to help create jobs in existing industries.
  - Continue funding the DOE Weatherization program at levels commensurate with the American Recovery and Reinvestment Act funding levels.
- DOE efforts include:
  - The State Energy Program (SEP), which provides grants and technical assistance to states and U.S. territories to promote energy conservation and reduce the growth of energy demand in ways that are consistent with national energy goals.
  - A series of pilot programs that incorporate low-interest loans and other financial incentives for retrofitting.
- Policy and legislation should be developed to allow financial institutions to consider the value generated by increased energy efficiency when writing mortgages for new home construction. Such a program would offer higher loan ratings to home builders that opt for the highest levels of efficiency. It's also worth noting that this type of program could also potentially work in conjunction with traditional tax credits.
- A building labeling program that explains a building's energy efficiency performance to potential buyers with graphics that are easily readable.

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## WHAT DOW IS DOING

Dow is a leader in energy efficiency. Since 1990, Dow has improved its own energy intensity by more than 38 percent. Since 1994, Dow has saved more than 1,700 trillion Btu, the energy equivalent to power all the homes in California for one year.

Dow is also a leading provider in energy solutions. Installed in over 20 million buildings worldwide, Dow STYROFOAM™ Brand Insulation insulates over 20 billion ft<sup>2</sup>, saving more than \$10 billion in energy costs annually. In addition, the total 20 year North American production capacity of Dow insulation products (STYROFOAM™, THERMAX™, GREAT STUFF™ ) when properly installed in buildings could save over 10 trillion pounds of a carbon dioxide (CO<sub>2</sub>) equivalent.

Dow supports a number of organizations working on the 30 percent and 50 percent model energy code initiatives. Dow is also active at various state adoption levels for new codes.



## Hydrocarbon Energy Supplies

Hydrocarbon energy sources are the basic building blocks for chemicals and plastics used in 96 percent of all manufactured goods, including clean energy technologies such as windmill blades and solar shingles.

Hydrocarbon resources, in the transition to a sustainable energy future, must be leveraged for their greatest intrinsic value as a raw material or feedstock for products and solutions that not only drive our economic activity, but are also critical to unlocking the energy and feedstock sources of the future.

These hydrocarbon resources will continue to enable multiple improvements including increased agricultural production, pharmaceutical breakthroughs, and the production of insulation, photovoltaics and windmill blades. The wise use and availability of these resources for value added products must remain a policy imperative to ensure continued economic growth and job creation.

American economic growth will continue to rely on hydrocarbon energy and will require additional domestic supplies to improve energy security and reduce price volatility. Surprisingly the U.S. is the only country in the world sitting on known reserves of oil and gas that it has chosen not to develop. Chemical technologies will play an increasingly important role in enhancing the recovery of both conventional and unconventional oil and gas supplies and thus have an important role in responsibly accessing our domestic resources.

We believe that the increased supply of natural gas from unconventional sources, such as shale gas, will be an important resource for the United States over the next decades. However, further work on the production side is required to ensure the potential reserves can be brought to market in an environmentally acceptable manner at an affordable cost. We must avoid any measure that drives increased demand without first assuring ample supply is really available. This becomes even more critical for use in categories that have inelastic demand characteristics as is the case in electric power production and transportation.

Incentivizing fuel switching to gas in the power sector will exacerbate natural gas volatility, as utilities will pay nearly any price to assure heat and electricity to homes, schools and hospitals. Manufacturing companies, faced with foreign competition, become the shock absorber for high natural gas prices, in the form of disinvestment and lost jobs.

The data on new natural gas supply from shale and other unconventional sources is quite promising, but our experience has shown that the government is good at legislating demand, but not as good at promoting supply (access) to meet that demand. As recently as the 1990s the Clean Air Act drove significant demand for natural gas while at the same time Congress and predecessor administrations systematically increased restrictions on access both on and off shore. As a result, natural gas prices went up over 400 percent and more than a million good manufacturing jobs left the U.S.

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There are numerous examples of how markets can and do transition to a more sustainable future. A pragmatic approach to energy security that first creates adequate supply capabilities is the best way to ensure these transitions are viable over the long term.

According to the Department of the Interior, there are 93 billion barrels of oil and 456 trillion cubic feet of natural gas offshore on our nation's Outer Continental Shelf. These are domestic supplies that can be produced with state-of-the-art technologies that assure environmentally friendly production, while greatly enhancing our nation's energy and feedstock security.

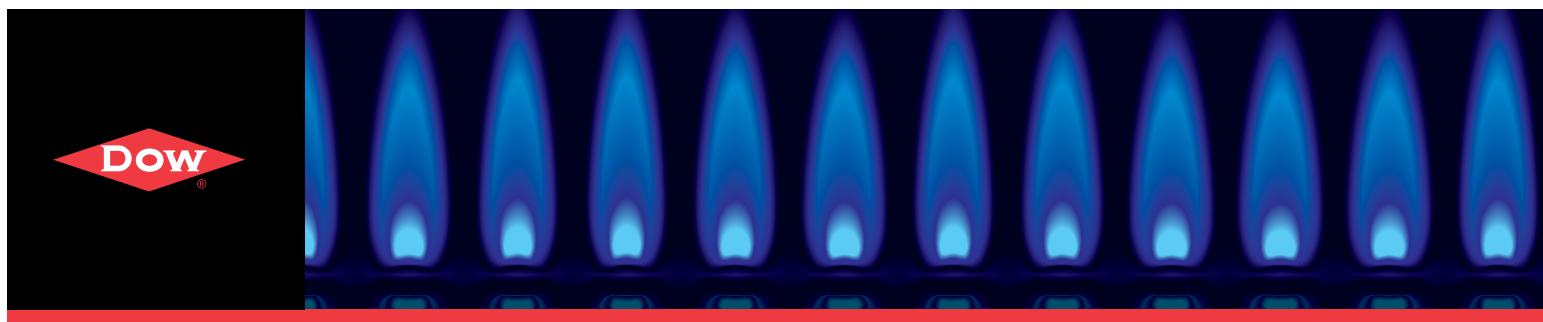
More than 50 percent of the electric power used in this country is coal-generated electricity. We believe that more sustainable uses of coal are critical components of any energy plan. Deployment of cost-effective carbon capture and storage (CCS) is necessary to promote energy security and to help offset price pressures on domestic natural gas.

To accelerate CCS as part of the climate change solution, options beyond storage also need to be considered. The U.S. needs to implement a "putting CO<sub>2</sub> to work" strategy that includes value creating opportunities such as enhanced oil recovery, creation of bio-fuels and bio-feedstocks and coal bed methane recovery.

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## THE SOLUTION

- Policies that include measures to first ensure reliable access to natural gas supplies
- A new political consensus on offshore oil and gas production that is both environmentally responsible and accesses significant resources
- Policies that recognize and promote the value add of hydrocarbon feedstocks
- The federal government to provide direct loans and other assistance to demonstrate commercial scale carbon capture and storage (CCS) viability and other carbon sequestration strategies



## Reliable Natural Gas Supplies

### THE NEED

According to the International Energy Agency, long-term worldwide demand for natural gas (NG) is expected to grow 42 percent from 2007 to 2030 (1.5 percent/yr.), and 90 percent of this growth will occur in non-OECD countries. Conversely, production from existing fields — the prime factor in determining the amount of new capacity and investment needed to meet projected demand — is expected to decline sharply. A detailed, field-by-field analysis of the historical gas-production trends of nearly 600 fields (accounting for 55 percent of global production) undertaken for World Energy Outlook 2009 found that close to half of the world's existing production capacity will need to be replaced by 2030 as a result of depletion.

Natural gas supply in the U.S. from existing conventional fields is also in decline. The EIA expects U.S. supply from conventional sources to fall by over 20 percent by 2030. The application of horizontal drilling to shale gas has allowed the U.S. to economically develop new unconventional reserves.

While the U.S. has ample shale NG reserves, policies must ensure safe and reliable access to this precious resource as a means of balancing demand with supply and thereby ensuring more stable and competitive pricing. Such an approach is the best mechanism to reduce volatility while enhancing U.S. energy security as well as providing domestic manufacturers the greater cost and supply continuity that is fundamental to American advanced manufacturing growth.

### THE SOLUTION

Energy policies must ensure safe and reliable access to natural gas with competitive, stable pricing.

Currently, 85 percent of U.S. energy demand is based on fossil fuels, with NG supplying about 22 percent of the total. As conventional NG sources in the U.S. continue to decline, shale gas will play a vital role in the nation's energy demand. Estimates show enough gas to meet at least 100 years of demand is available through extraction methods such as hydraulic fracturing ("fracking") and continued access to the Outer Continental Shelf.

These developments enable extraction of NG in a highly cost-efficient manner. In fact, fracking can be done at lower costs than conventional drilling. While the economics look to prove attractive, we need to thoroughly evaluate concerns raised regarding fracking such as possible groundwater contamination, increased use of scarce water resources,

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and air quality impact. Research to date indicates that, if done in a safe and effective manner, hydraulic fracturing poses little threat to the environment and is essential for the production of NG from shale formations.

Policy and legislation must therefore be developed to ensure safe and reliable access to natural gas.

- Natural gas producers using unconventional extraction methods must do so in an environmentally responsible manner.
- Each shale formation is different and as a result, state and local regulations are needed to deal with issues that are specific to individual shale reserves (including testing the geology for deviations and other issues). No additional federal regulations should be necessary so long as producers operate in a safe and responsible manner and adhere strictly to state and local regulations.
- We must continue efforts to utilize all domestic resources, including access to the Outer Continental Shelf, to ensure U.S. energy security and domestic supply. Policy regarding state revenue sharing on adjacent federal properties should be investigated further, with the possibility of expanding upon existing agreements.
- While events in the Gulf highlight the need for additional safeguards and practices, the fact is that a stable U.S. economy will be predicated on continued access to this critical source of supply.

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## WHAT DOW IS DOING

Dow transforms ethane — a minor component of natural gas — into a multitude of chemicals and plastics. In the process, the Company creates a “chain reaction” stimulating local investment, creating high paying jobs, attracting top scientists and engineers and strengthening the industrial and economic base of the U.S.

As an energy solutions provider, Dow offers innovative chemistry and technologies for improved shale stabilization and well bore stability. In addition, Dow Biocides offers a wide range of products that will help meet the many different treatment conditions of water for oil and gas stimulation and in the antimicrobial protection of end-use oil, gas, and their derivatives.



## Transition to a Low Carbon Economy

An important first step to reduce GHG emissions and accelerate clean energy innovation is a market-based approach to putting a price on carbon.

A fundamental element to realizing a sustainable energy future is a long-term shift to a low carbon economy. The principal catalyst behind this transition will be efforts to slow, stop and reverse the growth of greenhouse gas emissions (GHGs) while preserving economic growth and future prosperity.

The right mix of fundamental research, innovation and aggressive implementation is needed to achieve both this transition and continued economic growth. The next decade in this journey must see dramatic improvements in energy efficiency, the optimization of existing energy resources, and investment in basic research to generate future energy breakthroughs. At Dow, we believe the following decade of this undertaking will be characterized by the increased implementation of – and a reliance on – these new innovations at a commercial scale. Throughout both decades, federal and state policies should be designed to facilitate basic research to drive the development, commercialization and deployment of yet to be discovered technologies necessary to increase efficiency, bolster our energy security and drive emissions even lower.

Dow believes an important first step to simultaneously reduce emissions and accelerate innovation is a combination of measures that puts a price on carbon. We support the enactment of environmentally effective and economically sustainable energy and climate legislation. If this legislation is to foster the transition to a low carbon economy, it must make possible the shift to an advanced manufacturing economy that produces and employs a spectrum of clean, low-GHG technologies designed to help keep energy prices stable and affordable. A flexible, market-based approach to lower emissions is the only real solution. Regulation of greenhouse gas emissions through the Clean Air Act would be rigid, stifle innovation and impose significant new costs on U.S. manufacturers.

The latest World Energy Outlook from the International Energy Agency (IEA) includes abatement scenarios to reduce global GHGs. The most aggressive scenario aims to limit atmospheric CO<sub>2</sub>e concentrations to 450 ppm and includes significant reduction options from all energy technologies. The IEA study further indicates that it will take approximately a decade for global emissions to level off and another 10 years to reduce emissions below their 2009 levels. This scenario reinforces the need for an effective plan to include achievable implementation timelines to slow GHG growth before tackling the significantly more difficult challenge of reversing GHG emissions.

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An effective U.S. commitment to reduce greenhouse gas emissions must include short and long term targets to spur commitments by other major emitting countries to reduce absolute levels of GHGs in the atmosphere. This will also send strong signals to the marketplace to develop and adopt innovative solutions and new clean technologies. Ultimately, the transition to a low carbon economy must be global, so American policy should therefore include incentives that encourage actions by other countries to implement GHG emission reduction strategies and introduce new, global markets for clean technologies.

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## THE SOLUTION

- Coordinated policies that allow an adequate timeframe to reduce GHGs without sacrificing economic growth
- A price on carbon that is primarily pursued through market-based mechanisms to assure the lowest cost of compliance while stimulating innovation
- A targeted approach to promote aggressive basic research and development with accelerated demonstration and deployment of clean energy and new generation energy efficient technologies
- Minimizing carbon leakage by maintaining the competitiveness of energy-intensive, trade-exposed manufacturers



# Trade Policy

## OVERVIEW

Dow's U.S. operations support American jobs beyond our own Company, sourcing approximately 15 percent of our inputs from over 2000 small- and medium-sized companies. In 2009, that amounted to \$616 million in total input purchases from American small- and medium-sized enterprises (SMEs) to support Dow's global operations.

It is a simple fact that having access to the 95 percent of world consumers (representing nearly 80 percent of Global GDP) living outside the United States is good for American manufacturers. Consumers buy products and drive demand – which American manufacturers are well equipped to supply. Key emerging markets like China, India, Russia, Eastern Europe, Brazil, and ASEAN are projecting annual growth rates three or more times greater than those in mature markets such as the U.S. and EU.

Trade policy facilitates market access by establishing a level playing field, ensuring that trade partners are committed to the multilateral rules-based trading system and establishing transparent and fair mechanisms for dispute resolution.

For American manufacturers, “trade policy” actually covers a wide range of international policy issues including not only tariff reduction but also combating non-tariff barriers (NTBs), promoting a high-standard investment climate for global operations, and protecting intellectual property rights (IPR). Foreign affiliates of American manufacturers support operations here in the United States by driving additional exports, contributing profits and sales that are remitted to the U.S. operations, creating high value-add jobs at home, and ensuring that American companies are globally competitive.

Dow has been headquartered in Midland, Michigan, since 1897. Approximately 40 percent of Dow's global workforce operates in the U.S., supporting American manufacturing, creating products for export and partnering with global operations for Dow's overall growth. Of the product produced in the United States, approximately 20 percent of Dow's U.S.-based manufacturing is exported – supporting one-fifth of our work force. For certain business units, those numbers are even higher. Dow Water & Process Solutions exports 80 percent of their Minnesota-manufactured product.

Almost two-thirds of Dow's sales are outside the U.S.; in 2007, that amounted to \$14.2B worth of U.S.-manufactured products being sent abroad. Trade and market access will allow Dow to export more goods to Dow facilities and customers while broadening its customer base.



# Trade Agreements

## THE NEED

The United States has three signed free trade agreements awaiting Congressional action. Each has been stalled for over three years.

- The United States and the Republic of Korea signed the United States-Korea Free Trade Agreement on June 30, 2007.
- The United States-Colombia Trade Promotion Agreement was signed on November 22, 2006.
- The United States-Panama Free Trade Agreement was signed on June 28, 2007.

American leadership on trade is critical, and U.S.-driven trade agreements are of the highest standard in the world. But by not passing the agreements we have, and by not launching new negotiations with our key trading partners, the U.S. is falling behind. Other countries are negotiating preferential access to key emerging markets, ensuring their competitive market access at the expense of American manufacturers.

The EU has four trade agreements and seven under negotiation, covering such regions as Central America, India, Korea, South Africa, Chile, and the Gulf Cooperation Council (GCC). India is negotiating nine new agreements to build on their existing 15, including ASEAN. China currently has 14 free trade agreements with five under negotiation. The U.S. meanwhile has signed seventeen agreements — with three on hold in Congress — and only one new regional agreement, the TransPacific Partnership, under negotiation.

The U.S. is sitting on the sidelines. America needs a new consensus on trade — to drive our global leadership, to ensure a level playing field for competitive U.S. manufacturers and to ensure sustainable economic growth and job creation.

As an important first step, the U.S. Congress must pass the three pending free trade agreements (FTAs) – Colombia, Panama and South Korea. The U.S. must also take the lead in negotiating a positive outcome from the Doha negotiations in the World Trade Organization and work aggressively to conclude domestic trade initiatives.

## CURRENT U.S. FREE TRADE AGREEMENTS

The U.S. government has negotiated three high-standard FTAs with Colombia, Panama and South Korea. Implementation of the agreements, however, requires a Congressional vote.

These agreements demonstrate the tangible market access-opening benefits of FTAs. FTAs don't create trade deficits — they create trade surpluses. According to the National Association of Manufacturers, 95 percent of the nation's trade deficits exist with countries that lack FTAs with the United States.

And while we wait, other countries are going ahead with negotiating their own market access benefits, so the U.S. slides backward from potential "first mover" in these markets to a lagging copycat. The EU has signed with South Korea and will shortly conclude negotiations with Colombia.

For Dow, the U.S.-Colombia FTA would immediately eliminate 90 percent of tariffs on the over \$220 million of Dow U.S. products exported to Colombia. Those tariffs, currently five to 15 percent, amount to over \$14 million annually – funds which would be better served

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invested in jobs, R&D and capital equipment. And while we wait, American companies like Dow lose market share to the competitors in Mercosur who already enjoy duty-free access to Colombia.

For the U.S.-South Korea FTA, not only would the agreement reduce and/or eliminate tariffs on Dow's \$400 million annually of U.S. production exports to South Korea, it would also create new demand for South Korean manufactured goods – ultimately our customers and the companies that provide high value products for American consumers. The more the advanced materials and electronics industry grows in Korea – the more opportunities for chemicals/plastics sales as well as high value-added R&D partnerships with flagship South Korean companies.

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## THE WTO DOHA DEVELOPMENT AGENDA

The Doha Round is the world's best stimulus package — an across-the-board opportunity to lower tariffs, create market access and streamline barriers to the free flow of goods and services.

Doha contains tremendous opportunities for progress — in agriculture, non-agricultural market access (“NAMA”) and services. But progress in this nine-year marathon negotiation has been minimal, with advanced developing countries resisting opening their markets, particularly when it comes to the innovative concept of wholesale tariff elimination in key industrial sectors — such as chemicals. Building international consensus with key trading partners (through mechanisms such as the G20) would provide critical impetus.

A chemical sector that includes all countries with a developed chemical industry, such as South Africa, China, India and Brazil, would eliminate tariffs on the most critical element to ALL manufacturing. Chemical inputs are a key component to create downstream manufacturing industries, which provide significant job creation. According to the American Chemistry Council, for every one job created in the chemical industry, there are five jobs created downstream. The goal of all developed and developing nations should be to open up building block markets like chemicals, which create opportunities — especially job creation opportunities — in downstream markets such as food packaging, automotive industry, advanced materials, and others.

For Dow alone, elimination of worldwide tariffs on chemicals would free up over \$170 million – funds which could be used for innovation, research and development and additional capital investment in jobs, training and operational facilities.

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## THE SOLUTION

- The U.S. government must aggressively pursue closure of a commercially meaningful WTO Doha Round. Dow is involved, leading industry efforts to encourage governments to support an ambitious, balanced Doha agreement, including a meaningful, comprehensive chemical sector agreement.
- The U.S. Congress needs to schedule and positively vote on all three FTAs this year in order to restore America's competitiveness in these markets. U.S. business, including Dow, remains strongly committed to supporting and encouraging passage of these agreements.



# Domestic Trade Initiatives

## THE NEED

American companies are an integral part of the vast global supply chain that powers the worldwide economy. Trade policy supports our ability to access overseas markets and maintain domestic competitiveness. Programs like the Miscellaneous Tariff Bill and Generalized System of Preferences allow companies like Dow to bring in inputs, raw materials and other components not available in the U.S. to sustain American manufacturing.

## MISCELLANEOUS TARIFF BILLS (MTBS)

Miscellaneous Tariff Bills (MTBs) are a long-standing annual congressional process wherein companies work with Members of Congress to secure legislation to eliminate tariffs on manufacturing inputs that are not made or are otherwise not available in the U.S. Eliminating these duplicative tariffs supports companies' ability to competitively manufacture in the U.S. by ensuring they don't have to pay unnecessary tariffs and/or taxes. MTBs are designed to be non-controversial and limited to non-U.S. manufactured products. The program has traditionally enjoyed broad, non-partisan support on the Hill and been non-controversial.

The process has become increasingly difficult over the last several years, however, including several years where Congress was unable to pass any bill. In 2010, only one of three tranches of bills was passed, and many manufacturers were left without access to these critical domestic manufacturing provisions.

The MTB process is open and transparent. MTB bills are posted on the Internet and include the name of the Congressional sponsor, the benefiting company, and reports of the vetting done by the independent International Trade Commission (ITC) and the U.S. Department of Commerce.

The MTB is necessary for American manufacturing. These tariff suspensions — many of which are extensions of previous suspensions — are built into and therefore critical to local plant site business strategies. U.S. jobs depend on the MTB, but the current controversy over "earmarks" has extended to the MTB even though the standing definition of earmarks does NOT include limited tariff suspensions.

The business community is interested in working with Congress to propose a new approach to the process; one that will enshrine the positive provisions of transparency, non-competitive and positive support for domestic manufacturers. Congress should commit to reforming the process so that the MTB can continue to be a critical component of support for American manufacturing.

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## GENERALIZED SYSTEM OF PREFERENCES (GSP) RENEWAL

The Generalized System of Preferences (GSP) program was established to help developing countries grow their domestic economies by providing preferential access (reduced tariffs) to the U.S. market. Over the years, GSP has become an important component of multinationals' global growth prospects by enabling key inputs to be manufactured in lower cost countries and then imported for further, high-quality U.S. production. GSP has been the subject of some controversy, and a range of opinions exists both in the Congress and the business community, with some advocating that "more developed," developing countries, such as Brazil and India, be "graduated" from the program.

The GSP program was temporarily extended after its expiration on 12/31/2009, but its future remains unclear. Discussions are ongoing with the Congress to both renew current GSP benefits and seek reform options for the program. Ideas under consideration include graduating certain key industries in more developed countries in order to ensure that advanced economies are not unnecessarily benefiting from "development" status. The business community needs the certainty of a clear and sustained GSP program to build effective business plans. Dow therefore remains committed to working with Congress to achieve a GSP program, whether modified or not, that encourages development for all of us.

Renewal of GSP and the Andean trade preferences is currently a component of the proposed bills of the three pending FTAs. Congress should move forward quickly to pass the FTAs – including the GSP renewal provisions.

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## THE SOLUTION

For Dow, GSP renewal for Brazil is vital. Over half a million dollars of Dow Brazil product is imported to Dow U.S. manufacturing to support Company jobs in both geographies and to reduce the cost for manufacturing in America. Dow is also actively supporting GSP accreditation for Vietnam as a demonstration of our support for domestic economic growth and opportunities for investors.

- Reform the MTB to ensure that the open, transparent opportunity to support American manufacturing continues. In the longer term, authorize the program to be administered by the Executive Branch and thereby further streamline the process.
- Congress should pass the three pending FTAs with the GSP renewal provisions intact.
- Reforming GSP to cover certain products critical to the mission of supporting development in less developed countries without requiring wholesale graduation of countries (such as Brazil, India).
- Expand GSP benefits to key emerging trading partners, such as Vietnam.



# “Next Generation” Trade Policy

## THE NEED

Re-establishing a consensus on trade is critical. Right now, the perception is that trade is unfair or somehow benefits our trading partners more than it does Americans.

Re-establishing this consensus is also our opportunity to revisit trade policy and ensure that agreements currently being negotiated reflect the realities of the 21st century economy. Ultimately, we need to advocate for agreements that address the economy we want to create – not just the economy that exists today. In doing so, we need to proactively address the barriers to this vision before they become barriers to our progress.

Currently, trade agreements cover a broad number of chapters, but the general focus on trade negotiations tends to be on reducing tariffs and subsidies. Tariffs are easy to understand and quantifiable and are generally the first issue that comes to mind when many people think about trade. However, thanks to multilateral negotiations in the WTO, many bilateral agreements and tariffs are already being reduced around the world. Applied rates in many countries – especially in the chemical sector – tend to be in the six percent range, with some stark exceptions.

The future key barriers – non-tariff barriers – to future progress are more difficult areas to address. They include:

- **Non-Tariff Barriers.** Different than duties, taxes and import quotas, these include the broad range of regulatory and standards impediments that represent de facto market barriers.
- **Customs Issues and Trade Facilitation.** The ability to move product over the border is crucial. Even with agreements, many customs authorities are inconsistent in the application of rules, product classifications and licensing requirements.
- **Intellectual Property Rights.** Even with good laws, there are significant problems enforcing intellectual property rights. The U.S. and EU have already established cooperative efforts to reach out to third countries, but more can be done.

## THE SOLUTION

To help address non-tariff barriers, the federal government must strengthen the interagency process to create a consistent agenda on regulatory issues:

- The U.S. government should develop an action plan to address regulatory issues not just in trade agreements but in all multilateral negotiations (i.e., WTO or UN processes).
- The inter-agency consultative mechanism should incorporate an industry consultation process so that we can consistently provide better, timely technical data on regulatory issues to all elements of the U.S. agency structure.

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#### **On Customs Issues and Trade Facilitation:**

- The U.S. government should strengthen cooperative, capacity building initiatives with other key trading partners. One excellent model is the joint EU-U.S. cooperation on intellectual property. In this effort, the U.S. works with the EU to leverage joint customs expertise and officials for training sessions with developing country customs officials on enforcing intellectual property standards.
- Develop additional outreach to key developing economies. Such outreach (including the joint approach outlined above) could include training forums on Good Laboratory Practices (GLP) and the promotion of the Global Harmonized System (GHS) classifications.
- Promote and support initiatives like “National Single Window” (i.e., across ASEAN countries). This initiative works to ensure that all ports of entry within a country treat imports exactly the same, from classification definitions, to tariff allotment, to registration requirements, rather than the current practice which can have variable assessments of the same product.

#### **With Respect to Intellectual Property Protections:**

- Preserve and promote strong data exclusivity requirements for patent and regulatory submissions.
- Make the elimination of agricultural-chemical counterfeiting a priority.
- Harness the expertise of the U.S. legal field to assist in capacity-building with developing country judges, law enforcement, customs, and legal services.

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#### **MAKING A DIFFERENCE NOW**

Adopting these approaches – with further input across industry and key stakeholders – would prepare a solid foundation for a “Next Generation” trade template. Such a template could serve as a model for progress in the current TransPacific Partnership (TPP) negotiations.

TPP is an opportunity to rebuild consensus around a new, high standard trade template capable of fostering a regional commitment to streamline free trade stretching from Asia/Pacific to the U.S. With the plethora of overlapping (and in some cases inconsistent) agreements currently in effect and being negotiated across the Asia/Pacific region, a true TPP block of key commercially meaningful countries would establish a high standard baseline for operations. Optimally, in time, this block of nations would expand to include significant economies like China, Korea, Japan, and Thailand. Such a scenario would create significant opportunities for American companies and facilitate economic growth across the entire region.

Done right, the TPP could — and should — serve as the precursor for aggressively pursuing agreements with major trading partners including the EU, China and India.



# Trade and Investment Policy

## THE NEED

Trade policies and agreements are not only about exports and market access but also helping to “level the playing field” for foreign investment opportunities at home and abroad.

By establishing new markets for product sales, foreign affiliates of American companies create jobs, growth and opportunities at home. Dow’s recent history in China demonstrates this benefit. Dow’s U.S.-based exports to China have gone from \$330 million in 2007 to over \$800 million in 2009 – and 93 percent of those exports are from our U.S. operations to our facilities in China. Simply put, Dow’s overseas operations create opportunities for American exports, and this means increased U.S. employment and stronger local economies.

To effectively compete in other countries, American multinationals need strong bilateral agreements between countries to protect foreign investment. These agreements, known as Bilateral Investment Treaties (BITs) are important mechanisms for foreign trade. BITs, when executed appropriately, protect investment abroad in countries where investor rights are not already protected through existing agreements. They also encourage the establishment of market-based policies and the development of rule of law standards consistent with international practice and open and transparent markets.

The Model BIT – the basis for U.S. government negotiations – is currently under review by the federal government. Unfortunately, this review has been running over a year, and during this period negotiations with key potential BIT partners such as China, India and Vietnam have been suspended. The Model BIT needs to stay focused on its mission. It can and should protect American investors in foreign markets, without the addition of non-core commitments on other standards, such as labor and environmental, which are already dealt with well under other agreements and through multilateral organizations.

## THE SOLUTION

- The U.S. government should re-start its BIT negotiations with key trading partners using the current 2004 version Model Bilateral Investment Treaties.

The current version represents a very carefully balanced compromise. Reopening that model text or making changes in any direction will mean extended delays and prolonged controversy among government and stakeholders. At present the U.S. faces a challenging economic climate, with high unemployment at home and a serious international gap in investment protections abroad. The U.S. government investment policy team needs to therefore be focused on aggressive enforcement of our existing BITs and negotiation of strong new treaties, especially in large emerging countries.

Negotiating strong new BITs with China, India and Vietnam should be our top short-term investment policy priority, and countries such as Brazil and Russia should closely follow. The gap in investment protections in such key countries must be closed as quickly as possible.

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## THE NEED

The National Export Initiative (NEI) is a good example of U.S. government support for incentivizing key exports from the U.S. It's important to balance export with the investment message, however. After all, our foreign investments create a new need for increased exports.

The NEI is also an opportunity to drive the broader domestic agenda in support of an Advanced Manufacturing Strategy. Research and Development is a core element of developing high technology products. In many cases, products developed in the United States will be customized and applied globally to help solve challenges around the world.

- Bilateral Investment Treaties need to include key elements of strong national treatment, Most Favored Nation (MFN) status and non-discrimination policies.

Strong “investor/state” arbitration provisions are essential to providing U.S. firms access to fair and balanced dispute settlement provisions. The provisions for “fair and equitable treatment” and “full protection and security” should be unequivocal and without ambiguity and applied equally to procedural and substantive obligations.

The obligations with respect to all transfers of funds, whether in the capital or current account, must remain strong and unambiguous. Specific language barring the imposition or enforcement of “performance requirements” must be maintained. Labor and environmental provisions in the Model BIT must be kept realistic.



# Tax Policy

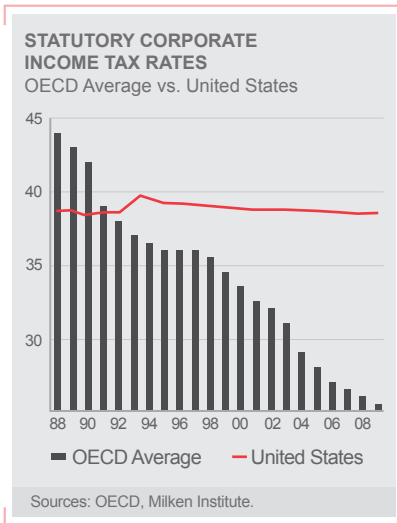
## OVERVIEW

U.S. manufacturers and foreign-based firms compete daily for product market share, and their success in the market has a direct impact on their local communities, region and country in the form of income, jobs and growing economies. For U.S.-based corporations to compete effectively in the new, global market, the U.S. tax system must be overhauled to ensure that domestic manufacturers can fairly compete not only on their home turf but also in other countries. The current structure – with a high income tax rate and a worldwide tax base – reflects a U.S. economy of a different era when international activity for U.S. manufacturers was far less important and U.S. companies faced far less competition.

Specifically, the manner in which the U.S. taxes the international activities of U.S. companies not only determines their ability to succeed abroad, but also their ability to increase U.S. employment. Similarly, the manner in which the U.S. taxes particular investments, such as research and development, determines what investment a taxpayer will select and the location of the investment. History has shown that as U.S. companies grow overseas, they increase their U.S.-based employment in key areas such as R&D, engineering and other headquarter roles.

U.S. tax policy should foster business-driven foreign investment. Tax policy actions that further reduce the competitiveness of U.S. companies will result in reduced corporate growth with a corresponding reduction in U.S. jobs.

## THE SOLUTION



- Globalization and cross-border trade have highlighted serious flaws that must be resolved not only in how the U.S. approaches trade policy, but also in the structure of the U.S. tax system. The U.S. corporate income tax system should be modified in the following ways:
- Lower the U.S. corporate tax rate. The U.S. corporate tax rate is the second highest of all 30 OECD countries, placing the U.S. at a significant competitive disadvantage when compared with other countries. A more competitive tax rate would incentivize investment (both from domestic and foreign companies) in the U.S. and allow U.S.-based companies to compete in the global marketplace.
- Tax U.S. corporations on a territorial basis. All major OECD economies tax their home companies on a territorial basis, which means that the country's multinational companies pay the same tax on foreign earnings as their local competitors. In contrast, the U.S. taxes its companies on a worldwide basis, so taxes must also be paid on income earned outside the U.S. (subject to anti-double taxation rules). A fair territorial tax system would allow U.S. manufacturers to compete better with foreign companies. To reduce tax arbitrage and unintended consequences, U.S.-based companies should be subject to similar tax systems as their foreign competitors.
- Should policy leaders pursue the establishment of a value added tax (VAT), ensure it occurs, in lieu of, and not in addition to, the existing corporate income tax. Most of the countries in which U.S. manufacturers compete have tax systems that do not rely solely on income taxes, but also include value added taxes or VAT systems. Substituting a VAT for corporate income tax will further increase the competitiveness of U.S. companies that operate abroad.
- Enhance the Research and Development Tax Credit. The U.S. ranks low (23rd of 38 major OECD countries) in its tax treatment of research and development investments. Other countries' experiences prove that greater research and development investments will result in greater economic growth and worker productivity and a higher standard of living for all Americans.



# Civil Justice Reform

## THE NEED

A fair and equitable civil justice system is a fundamental pillar of democracy. It provides the right to claim compensation to those who have been harmed by the actions of others, while allowing those who have been sued a full and fair right to defend against the claims. Unfortunately, U.S. courts are too often distracted from their legitimate business by frivolous lawsuits brought by plaintiffs' lawyers whose clients have not suffered legitimate harm, or who are demanding compensation that is out of proportion to their client's injuries. Predatory, frivolous lawsuits drain hundreds of millions of dollars from the U.S. economy every year. These costs add up in a variety of ways: excessively high insurance premiums; the cost of defensive medicine practiced by doctors and hospitals who fear frivolous malpractice lawsuits; windfall contingency fee awards; and the significant cost to all businesses (big and small) associated with defending frivolous lawsuits. Civil justice reform is an effort to reduce the wasteful, runaway costs associated with lawsuit abuse.

At the federal level, there is much Congress can do to reduce the runaway costs associated with lawsuit abuse.

1. Medical Liability/Health Care Reform. President Obama has acknowledged that the cost associated with medical liability is a problem that needs to be addressed in the context of health care reform. The Congressional Budget Office recently estimated that legislation to cap non-economic damages would save \$54 billion over 10 years. Medical liability reform needs to be part of the larger health care discussion. Substantive medical liability reform will reduce insurance premiums for individuals, reduce health care costs for government, and reduce the unproductive practice of defensive medicine that costs the U.S. economy millions and reduces the overall effectiveness of health care services.

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2. **Federal Preemption.** Where Congress has taken on the role of primary regulator for a particular business, activity, or product, that exclusive role needs to be respected. Trial lawyers, eager to attack products such as medical devices, are actively seeking the ability to sue manufacturers in state court, based on state law. Requiring manufacturers to defend federally regulated products in state courts – under state law – subjects these manufacturers to 50 sets of regulatory rules after the federal government has already set standards for warnings, products standards, and other related requirements. This is inefficient, expensive, and unfair. A related practice, equally inefficient and unfair, is the ongoing attempts by trial lawyers and their congressional allies to expand the ability of state attorneys general to enforce federal law. State attorneys general often exploit these grants of authority by hiring local plaintiff lawyers on a contingency basis to bring questionable class action lawsuits. Again, where Congress has taken regulatory dominion over a product, then exclusive regulatory control needs to be respected.

3. **Over-Criminalization of Corporate Conduct.** There are 4,450 federal crimes in the U.S. Code, and Congress adds an average of 57 new crimes per year. A Heritage Foundation study notes the correlation between election politics and the growth of federal crimes: Congress creates more criminal offenses in election years, and these criminal provisions are often exploited by trial lawyers and state officials to embarrass well intentioned individuals and/or to pursue unreasonable civil fines and penalties.

4. **Contingency Fee Tax Breaks.** Trial lawyers are actively seeking legislation that would grant tax breaks for contingency fee awards. The bill would provide trial lawyers with a nearly \$1.6 billion tax windfall over 10 years. This outrageous proposal would essentially increase the contingency fee award from 30-40 percent, to 50-60 percent by making these awards tax-free. The very lawyers responsible for draining hundreds of millions of dollars from the U.S. economy every year in the form of unnecessary costs now want to avoid paying taxes while at the same time giving themselves an even larger share of every settlement.

5. **Asbestos Litigation.** The inefficiencies and costs associated with asbestos claims remain a key issue for Dow and many other companies. Asbestos litigation has forced 80 companies into bankruptcy and put up to 60,000 people out of work, costing workers and their families up to \$200 million in wages. Legislation governing asbestos compensation (such as the FAIR Act) is desperately needed. Appropriate federal asbestos legislation would speed the payment of compensation to claimants, standardize the payment of claims across the country, and direct dollars toward the claimant (as opposed to wasting hundreds of millions every year on unnecessary litigation costs).

6. **General Reforms in the Legal Process.** The U.S. legal system confers procedural advantages that allow plaintiff attorneys to place substantial settlement pressure on defendants in large-scale litigation, regardless of whether their claims have merit. Defendants are often compelled to settle baseless claims because the high cost to litigate and win outweighs the cost to settle. The Fairness in Litigation Act (2006) provided helpful direction. Its important provisions:

a. **Reform the pretrial discovery process.** The discovery burden in mass tort and class action litigation is usually asymmetrical: Plaintiffs are often individuals or small entities with few documents relevant to the litigation, while defendants are often large corporations with substantial quantities of information. Discovery costs for defendants in large-scale litigation — particularly in the age of electronic communications — can run in the millions of dollars. Congress should shift the

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cost of discovery from the responding party to the requesting party in cases where the requesting party is seeking information only loosely related to the claims and defenses in the case, or where the requesting party refuses to coordinate with the discovery process of an established Multi-District Litigation proceeding.

- b. Provide further safeguards against “junk science” by allowing interlocutory (mid-case) appeals of trial judge rulings that deny challenges to expert testimony, while clarifying and standardizing the test for admitting expert evidence.
- c. Put teeth into punishment of attorneys who engage in litigation abuse by refreshing and clarifying provisions of 28 U.S.C. § 1927.

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## THE SOLUTION

- Reform U.S. liability laws to balance the rights of all litigants and ensure that courts provide a fair and reasonable forum in which to resolve disputes.
- Place reasonable limits on contingency fee awards with particular emphasis on challenging any new tax provisions that would reduce taxes for lawyers who are compensated by contingency fees.
- Enact medical liability reform that reduces the cost of health care by putting sensible limits on damages.
- Provide a legal system that honors the doctrine of preemption where the federal government has stepped into the role of primary regulator for a product or business.



# Regulatory Reform

## THE NEED

The EPA is proposing a new ozone standard, which will cost the U.S. billions to achieve. Meanwhile, many state and local governments are still working to meet the standard promulgated in 2008.

Dow believes that well-conceived, science-based, and effectively implemented regulations are important tools for protecting our work spaces and environment. Done right, they also ensure American industry retains the capacity to operate and innovate, and thereby bolster the economy and the nation's workforce.

Today, manufacturing facilities in the United States are required to comply with a massive amount of data collection, reporting and other regulatory requirements. In many cases, these regulations are vital and have contributed significantly to making our nation's work places the safest and our environment among the cleanest in the world. However, regulations not grounded in science or lacking a methodology for calculating risk are altogether different. Increasingly, unnecessarily burdensome regulations are imposing massive costs on U.S. companies with little or no public benefit. The fact is, some environmental regulations do little to further improve or protect our air, water and sensitive lands but still impose severe economic burdens on manufacturers. Where this is the case, the cost of compliance can be a major hindrance to the expansion of manufacturing in the U.S., and penalties for the slightest infraction, even where there is no intent or harm, can result in significant penalties. In these instances, American manufacturing and productivity suffers, and the result is too often felt most by the American worker.

We seek a proper balance that maximizes the effectiveness of both regulation and innovation. Effective regulations are vital to protecting our environs, but they do not spur

innovation. Success in the marketplace and profitability are what provide companies the capacity to hire outstanding workers and invest in innovative solutions. Regulations must therefore provide more flexibility for operations and reduce the burden of compliance while continuing to protect people and the environment.

Dow is in agreement with the need to protect the health and safety of employees, communities and the environment; however, there is ample room for regulatory reform.

## THE SOLUTION

### HARMONIZATION

- Coast Guard, EPA and DOT have different definitions of “oil.”
- There are multiple definitions of “process wastewater.”

- **Harmonize and Simplify Rules.** Different agencies need to harmonize and simplify rules, especially where there is overlap in jurisdiction.
- **Enact Performance Standard Regulations.** Change the regulations/statutes to orient toward performance standards rather than prescriptive, rigid requirements, and thereby allow industry to be creative and develop the most efficient method of meeting the intent of the regulation.
- **Increase Collaboration.** Agencies should work more collaboratively with industry in the regulatory development phase to ensure better, more implementable standards, are developed. Look for opportunities to utilize states as “proving grounds” for upgrading national regulations.
- **Accelerate Permitting Decisions and Extend Permit Durations.** The review and approval processes for operating permits can cause industry to miss the “window of opportunity”; don’t require construction permits before we’re required to order equipment. Extend the duration of permits that are working.
- **Fair Enforcement Focused on Statutory Requirements.** EPA must end the practice of increasing the stringency of regulatory programs through enforcement; the government should not be allowed to impose programs that go beyond the requirements of existing law.
- **Enhance Benefits to Self Reporting and Implementation of Managements Systems.** EPA should modify its audit policy to make it more attractive to continue to improve existing management systems.
- **Eliminate “Ratchets” in Regulations and Statutes; Utilize Voluntary Programs.** Increased regulation must be based on sound, peer-reviewed science and a demonstrable increase in human health or environmental benefits.
- **Benchmarking.** Any new requirements should be benchmarked against other developed countries’ equivalent regulations such that U.S. regulations don’t cost industry more than competing countries.



# K-12 Education

## OVERVIEW

Dow recognizes that advances in innovation and technology investments drive the economic strength of America. Enhancing the science and technology enterprise is critical to the nation's prosperity and security in a global economy. A strong science and technology enterprise gives citizens the ability to compete globally for high-quality, high-paying jobs. Unfortunately, recent trends suggest that the science and technology enterprise has weakened over the years and could impact future American prosperity.

Since the Company's founding in the late 1800s, Dow has had a long-standing commitment to education and has supported science, technology, engineering and math (STEM) programs in communities all over the world. Dow's Education Initiatives showcase our commitment to education as we collaborate with teachers across the United States to provide professional development and cutting edge teaching and curriculum resources. By promoting and funding programs that focus on STEM education, Dow has been able to reveal for students the excitement and challenge that a career in these fields can offer. Much more needs to be done, however.

## THE NEED

It is well documented that U.S. students are in a disadvantaged position when it comes to science and engineering education. A 2009 report by the National Academy of Engineering and the National Research Center highlights weaknesses in science education and focuses on the acute lack of K-12 engineering education nation wide. The absence of K-12 engineering curricula is seen as a major contributor to this problem. School funding cuts in many states are also further limiting schools' ability to offer technical curricula, making it more and more difficult to identify and implement quality professional development opportunities for educators and ultimately limiting quality programs for students.

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According to the National Academies' report, *Rising Above the Gathering Storm*, other nations are putting increased importance on STEM education. Though the U.S. still leads the world in education and scientific research, others are rapidly increasing spending in these areas and putting forth incentives for students choosing STEM careers. These efforts along with national science competition programs are engaging future scientists in large numbers. As a result, China and several other nations are closing in on the United States' leading position.

## THE SOLUTION

Almost 30 percent of U.S. students in their first year of college are forced to take remedial science and math classes because they are not prepared to take college-level courses.

- Success in improving STEM education and increasing the number of students that choose STEM majors and careers is imperative for the future of the advanced manufacturing industry in the U.S. Dow, like other companies dependent on a workforce literate in science, technology, engineering and math, has a responsibility to use its credibility and resources to make students and the workforce stronger. Success will be measured by the degree to which both of these groups become larger and improve over time.
- Dow supports the recommendations embodied in the 2007 America Competes Act. Dow also recommends placing an emphasis on workforce training and retraining. The STEM education-related programs should be fully implemented. In particular, Dow recommends policy leaders work to achieve the following:
- Annually recruit 10,000 science and mathematics teachers by awarding 4-year scholarships.
- Strengthen the skills of 250,000 through training and education programs at summer institutes, in master's programs, and in Advanced Placement (AP) and International Baccalaureate (IB) training programs.
- Enlarge the pipeline of students who are prepared to enter college by increasing the number of students who pass AP and IB science and mathematics courses.
- Increase the number and proportion of U.S. citizens who earn bachelor's degrees in the sciences, engineering and mathematics by providing 25,000 4-year competitive undergraduate scholarships.
- Provide 5000 new portable 3-year competitively awarded graduate fellowships each year for outstanding U.S. citizens in science, mathematics, and engineering programs pursuing degrees at U.S. universities.
- Provide tax credits to employers who help their eligible employees pursue continuing education.
- Continue to improve visa processing for international students and scholars to provide less complex procedures.
- Provide a 1-year automatic visa extension to international students who receive doctorates or the equivalent in science, technology, engineering, and mathematics.
- Institute a new skill-based, preferential immigration option.
- Provide international students and with access to information and research equipment in U.S. industrial, academic, and national laboratories.

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## WHAT DOW AND OTHERS ARE DOING

In recent years, a number of leading U.S. corporations have committed to support and fund programs to strengthen STEM education. Successful partnerships have also been formed between private corporations and non-profit organizations.

Examples of existing corporate support for STEM:

### **The Dow Chemical Company**

Dow has a longstanding commitment to STEM education, which has been a key area of focus of Dow's charitable contributions connected to the Contributing to Community Success 2015 Sustainability Goal. Through sponsorship of national organizations such as the National Science Teachers Association, National Science Resource Center, the Smithsonian, The Keystone Center and the Chemical Educational Foundation, the Company is engaged in improving STEM education in the U.S. Regionally, Dow has leveraged these partnerships to have impact at the state level as well.

### **Mickelson ExxonMobil Teachers Academy**

A partnership between the Phil and Amy Mickelson Foundation and ExxonMobil, the Academy works with the National Science Teachers Association and Math Solutions to encourage teacher networking and development in standards-based instruction.

### **Microsoft Corporation**

Microsoft supports a wide range of programs globally to create technology solutions through monetary grants, software and curriculum donations, and employee volunteer hours.

### **Sally Ride Science**

This is a science education company that is dedicated to supporting boys' and girls' interest in science and math. Some partners of Sally Ride programs include companies dependent on tomorrow's scientists – ExxonMobil, Northrop Grumman, Boeing, Lockheed Martin and IBM. [WWW.DOWEDUCATION.COM](http://WWW.DOWEDUCATION.COM)



# Corporate Governance

## OVERVIEW

The development and maintenance of strong relationships between various stakeholders and a corporation is important to manufacturers and requires a governance structure that supports and appropriately manages these relationships. The large number of employees, the importance of sustainability, and the large infrastructure costs associated with manufacturing in particular are just some examples of topics of interest to shareholders that mandate that the manufacturer have a structure in place to communicate with shareholders and provide assurances on the governance of the corporation. In the U.S., these relationships develop as a function of investor relations activities and in the context of rules set out by the Securities and Exchange Commission (SEC) and relevant stock exchanges, which govern, among other things, disclosure, information reporting, communications, annual meeting agenda items and voting procedures. The results of this comprehensive interaction and dialogue have been positive. Unfortunately, a number of recent proposals, both legislative and regulatory, seek to increase the regulations that govern this dialogue. These proposals could have a negative impact on the ability of U.S. manufacturers to operate successfully.

The current regulatory regime, which balances the strong needs of shareholders and companies, has created an environment conducive to economic growth in this country. For example, interactions with Dow shareholders have led to important governance changes, including the way our directors are elected and what information we provide on our website, among other improvements. Rules that only take into account one of the legs of this governance stool could stymie a company's growth unnecessarily. Several topics are under particular scrutiny, including:

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## EXECUTIVE COMPENSATION

Executive compensation policies and goals for performance-based compensation should be the responsibility of the Board of Directors, through the Board's compensation committee. Corporate Boards are in the best position to ensure the alignment of compensation policies and goals with long-term strategy, and the Board can create incentives to innovate and produce long-term value for shareholders without excessive risk.

A Board-directed, pay-for-performance approach is superior to the various "say on pay" proposals being considered by the Congress and the SEC, whereby a firm's shareholders would be permitted to vote on the remuneration of executives. Advocates of that approach contend that corporate directors, when permitted to exercise decisions about their own compensation as a part of their general management power, are prone to overpay themselves, either directly or indirectly, regardless of their and the company's performance. While such concerns may be legitimate in some extreme circumstances, Dow believes the issue is best addressed through corporate best practices, which require a substantial majority of a Board's directors to be independent and further establish a Board compensation committee composed solely of independent directors. The annual election of the entire Board of Directors along with a majority voting policy provides further safeguards.

There is widespread concern that mandating say on pay advisory votes would lead to pressure on companies to conform their compensation programs to broader generic standards rather than tailoring these programs to the specific business and objectives of the company. By providing non-specific input in the form of any advisory vote, possibly based on voting guidelines developed by third parties and based on broad, non-company specific standards, say on pay proposals would effectively limit Board and compensation committees' ability to calibrate and tailor the appropriate form and amount of compensation to reward long-term, strategic decisions and company results.

At Dow, over 80 percent of the Named Executive Officer's pay, as defined by the SEC, is linked to Company financial, operational, and personal goals. An independent Compensation Committee establishes and monitors a thorough and transparent performance-based compensation program, and shareholders have clear and direct means of providing input on concerns on all matters. Finally, Dow benchmarks its executive compensation programs against a peer group of 20 leading companies and makes changes where warranted.

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## PROXY ACCESS

The existing regulatory environment gives corporations the necessary flexibility to implement governance best practices and be responsive to shareholder concerns. By and large, corporations already have in place shareholder proposal review processes that are responsive to shareholder concerns and act as an effective means of implementing, where appropriate, shareholder initiated reforms such as majority voting, elimination of classified boards and transparency of political contributions. The existing rules have fostered significant changes in the way companies are governed as a direct result of shareholder initiated proposals.

For example, Dow has moved to majority voting, elimination of super majority requirements, a de-classified board, and publication of a political contribution process as a direct result of shareholder interaction. We believe changes enacted in this manner are productive for both the corporations and the shareholders – they allow a means for introducing the issue, a premise for engaging in dialogue, and the flexibility to negotiate a solution that is satisfactory to all parties without imposing a "one size fits all" approach.

By contrast, a regulatory regime similar to that pending in various legislation and SEC proposed rules would introduce a rigid model involving subjective standards, which are difficult to define and implement. Such a change would create an environment that actually constrains the dialogue between companies and stockholders – a dialogue that has historically contributed to the evolution and implementation of meaningful governance practices.

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## LEADERSHIP STRUCTURE

A company's legal structure describes the rights and responsibilities among different parties in the corporation, such as shareholders, directors, officers, managers and other employees, and helps determine the rules and procedures for making corporate governance decisions. The corporate leadership structures are best driven by the needs of the company at any point in time reflecting these relationships and other considerations. One size fits all mandates that prohibit, for example, a corporation's CEO from serving as the Chair of the Board of Directors should be rejected.

Dow's leadership structure has varied over time and included combined roles with the election of an independent presiding director, separation of roles, and other transition arrangements for succession planning. Dow's governing documents do not mandate a particular structure, and this has given the Board the flexibility it needs to establish the most appropriate structure for the Company at any given time. This flexibility is important to maintaining effective risk oversight. Through this mechanism, Dow's governance structure also ensures that independent Directors oversee such critical items as the Company's financial statements, executive compensation, the selection and evaluation of directors and the development and implementation of the Company's corporate governance programs.

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## RECOMMENDATIONS

- Congress and federal regulators should refrain from actions that directly infringe upon corporations' authority over executive compensation. Executive compensation policies and goals for performance-based compensation should be the responsibility of the Board of Directors, through the Board's compensation committee.
- Congress and federal regulators should refrain from mandating new proxy access schemes. Existing shareholder systems are superior to the invariably rigid regulatory regimes that seek to further govern shareholder access to company proxy statements.
- Government-mandated corporate structures are inconsistent with this nation's fundamental principles of a free market. Corporate leadership structures are the purview of the private, not public, sector. Such leadership structures are best driven by the needs of the company at any point in time.