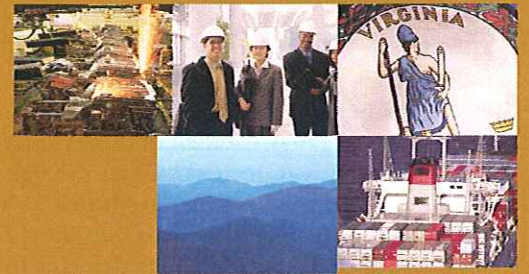


VIRGINIA CLIMATE CHANGE COUNCIL: PLANNING FOR CLIMATE CHANGE REGULATION IN VIRGINIA

WHITE PAPER

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Overview

Climate change legislation is a reaction to various reports of the International Panel on Climate Change (IPCC). Advocates have used the IPCC estimates, which are based on a computer model that predicts future climate change based upon historic data, as a mandate to take a leap forward in developing legislative remedies.

United States Senators Lieberman (I-CT) and Warner (R-VA) recently introduced Senate Bill 2191, America's Climate Security Act of 2007. Lieberman-Warner, as it is also known, would set limits (caps) on carbon dioxide emissions. Each applicable facility would be given allowances based on past emissions. Companies that emit less carbon dioxide than permitted by their allowances could sell (trade) their excess credits. Lieberman-Warner sets an aggressive and arguably arbitrary target requiring that emissions decline to 15 percent below 2005 levels by 2020.

Most scientists support the notion that the global climate has natural warming and cooling cycles that span thousands of years. But, cli-

mate change regulation proponents argue that the IPCC report is definitive proof of the human contribution to climate change, leaving the science "settled." As a result of this revelation, they are demanding that world economies immediately engage in geo-engineering policies that will "reverse" the warming trend caused by human greenhouse gas production.

There is also a growing debate about the need for adaptation, which is action taken or decisions made by individuals or businesses in response to actual or expected changes in ecological, social, or economic systems.

Opponents, however, point to the historically cyclical nature of climate change and argue that the human contribution to global warming is contextually negligible.

As the scientific debate and political remedies continue to rage, there is consensus that climate change is a global issue. Emissions in China can impact the environment in the United States. Emissions in New York can impact the environment in Virginia. As many people have said, there is no silver bullet solution. However, it is clear to the VMA that global environmental challenges require global solutions.

Despite such a logical conclusion, some states and localities have begun to enact regulations to address global climate change independently. If such a trend is allowed to continue, U.S. environmental policy will become a patchwork quilt of regulation. In an attempt to fill the void of federal regulation, states and localities may harm the economic backbone of their local economies while rendering American manufacturers uncompetitive in a global marketplace without a significant benefit to the global ecological environment.

It is scientifically impossible for one state to single-handedly reverse global climate change. Virginia accounts for .47% of global carbon dioxide emissions, less than half of 1%.

Virginia industry must advocate for policies grounded in science and fact that consider the necessary equilibrium of environmental protection, scientific rigor and economic development.

Statement of Principles: Climate Change Regulation

It is the position of the Virginia Manufacturers Association, adopted by the Board of Directors, June 19, 2008, and the Virginia Climate Change Council that they support environmental policies that recognize the Commonwealth's responsibility in maintaining efficient, lean, cost-effective and responsive state environmental agencies and efforts that result in state administration of federally-delegated programs. The Board affirms that international environmental goals must be addressed at the Federal level. The Board affirms that there is a role for public investment in environmental protection and technology. The Board affirms that there is an inextricable linkage between environmental management and the making and moving of energy, products and people. The Board acknowledges that economic prosperity, environmental protection, business consumption and human health are interdependent. Federal and State-administered EPA programs and policies should carefully balance these competing necessities through exemplary science; economic development involving detailed cost-benefit analysis and comparative risk assessments; flexible performance-based approaches in the legislative and regulatory processes; and innovations in public and private sector energy investments.

Now, therefore, be it resolved that it is the position of the Virginia Manufacturers Association and the Virginia Climate Change Council that Federal Greenhouse Gas (GHG) regulatory approaches must support the following principles in order to ensure the future prosperity of the Commonwealth and its manufacturing sector while at the same time preserving the environment and the health of its citizens.

Exemplary Science

We believe that an independent body of technically qualified professionals must evaluate and promote a non-partisan view of the science and economics of climate change regulation on the Virginia manufacturing sector, economy and environment.

- Reliance on any single scientific model used exclusively to predict world-wide global warming is insufficient to use as an absolute predictor of future climate change.
- The public must be better informed about carbon dioxide's role in plant photosynthesis and the food chain.

Economic Development

We believe that regulation must support economic growth and do no harm to U.S. economy.

We believe that the public must be informed about the individual impacts and costs of GHG regulations proposed nationally, regionally or locally.

We believe that a comparative analysis of the GHG emissions and the demand creating these emissions, including as a percentage of Gross State Product, from point, non-point and mobile sources is necessary to make good public policy decisions.

We believe that U.S. trading partners must be brought into any global climate change regulatory regulation. Further, unless all U.S. trading partners comply with the same GHG emissions regulations, there will be no net benefit to the global climate and U.S. manufacturing jobs will be at risk.

We believe that providing incentives to expand U.S. domestic manufacturing and investments in "Green Technologies and Jobs" will actually reduce global GHG emissions due to the superior efficiency, technology and environmental responsibility of U.S. manufacturing operations.

We believe that Federal and Virginia State Government must recognize that fossil fuels are an essential feedstock for certain industries and should be treated accordingly.

We believe that Federal and Virginia State Government must recognize that the expansion of nuclear power is an essential part of any realistic U.S. climate change agenda and should be treated accordingly.

We believe that Federal and Virginia State revenues derived from increased production of domestic energy, such as natural gas, could produce sufficient revenues to allow for greater investments in alternative energy production (e.g., offshore wind, ocean energy, etc.).

We believe that Federal and Virginia State Government must recognize that low cost coal fired electric power is a substantial contributor to competitiveness and job creation.

We believe that Federal and Virginia State Government should provide tax credits and incentives to support all facilities and workforce development and training programs in support of the expansion of nuclear power.

Regulatory Process

We support voluntary and non-government related methods for achieving measurable and impactful reductions from all GHG contributors.

We believe that energy efficiency reforms in the Uniform Building Code (UBC) could increase energy conservation and lower GHG emissions.

We believe that energy efficiency innovations in home appliances and HVAC equipment could increase energy conservation and lower GHG emissions.

We believe that passenger and freight rail expansion could increase energy conservation and lower GHG emissions.

We believe that replacing public transit resources with cost-effective GHG reducing technologies could lower GHG emissions.

We do not support the regulation of GHG emissions at the State level.

Private Energy Investment

We believe that domestic supplies of natural gas, specifically in the Outer Continental Shelf (OCS), must be responsibly developed in accordance with the U.S. Minerals Management Service Five-Year Plan.

We believe that Federal and Virginia State Government should support the rapid expansion of nuclear energy to provide 30% of the U.S. electricity production by 2030.

We believe that private industry should aggregate their own technical expertise and create innovative products and services to help all consumers conserve energy (e.g., Demand-Side Management Programs, Air Conditioning Cycling Devices, etc.).

We believe that industry should be encouraged to use flex fuels and alternative energy resources and new permitting regulations should be developed to facilitate the beneficial transition between sources.

We believe that new electric generation must be developed to serve Virginia and those capital projects will require innovative approaches to regulate and reward those that perform their publicly protected responsibility prudently, efficiently and through the transparency of the state regulatory system.

We believe that a diverse portfolio of energy sources should be encouraged through incentives in the private sector, not through mandatory regulation. Where government regulation has intervened in the market by placing artificial fuel purchase mandates on generators, prices have increased substantially for consumers, the net environmental benefit has not been quantified and unintended consequences have occurred which threaten our industry. Further, we reaffirm our belief that the price of electricity must be competitive as compared to southern states.

Public Energy Investment

We believe that the United States requires a "Manhattan Project" type of public energy investment challenge to meet the demands of energy independence, security, economic stability and environmental stewardship.

- We believe that Federal & Virginia State Government should redirect existing public Research & Development assets, incentives and resources to the development and deployment of energy-efficient, low-carbon generation, emissions and sequestration technologies.
- We believe that Federal and Virginia State Government should redirect existing public Research and Development assets, including cooperation with private industry, to secure Virginia's capability to produce affordable energy from domestic coal over the next 20 years.
- We believe that Federal and Virginia State Government should direct Research & Development assets, incentives and resources to the development, demonstration and deployment of advanced fuel cycle technologies, including reprocessing technologies and fast reactors, that will supply recycled fuel while reducing the amount of radioactive by-products requiring disposal in Federal repository within the next 20 years.

Now, therefore, be it resolved that it is the position of the Virginia Manufacturers Association and the Virginia Climate Change Council that the United States and its trading partners should establish an environmental compact detailing near, mid and long-term goals for energy efficiency and Greenhouse Gas reduction achievements while working collaboratively with all sectors of the economy to implement measurable and impactful voluntary programs and technologies, and simultaneously invest in public and private research and development institutions to produce next generation technologies that will result in affordable and environmentally responsible products and services which will support the continuation of the United States' and the Commonwealth's economic prosperity.

Virginia Total CO2 Emissions: Emissions by Sector as % of Total Emissions

Sector	US	VA	How Virginia Compares to the National Average
Commercial	3.94	4.26	+0.33
Electric Power	39.09	31.86	-7.23
Residential	6.26	6.51	+0.26
Industrial	17.48	14.88	-2.60
Transportation	33.24	42.48	+9.24

Source: USDOE-EIA, 2004 State Emissions by Sector

Virginia Industry CO2 Emissions: 1990—2004 (Million Metric Tons)

Sector	1990	1995	2000	2004	Percent Change
Residential	6.5	7.19	8.28	8.41	+29.38
Commercial	4.34	5.20	5.74	5.46	+25.81
Industrial	19.46	18.06	17.9	19.16	-1.54
Transportation	41.47	42.46	48.67	54.85	+32.26
Electric Power	23.25	30.65	43.16	41.1	+76.77
Total	95	103.58	123.74	128.97	+35.76

Source: USDOE-EIA, Emissions Detail by State, Virginia, February 2008

Lieberman-Warner Bill Costs: Virginia Loses 134,588 Jobs and 135% Increase to Electricity Prices

The Lieberman-Warner (L/W) bill (S. 2191) was analyzed by Science Applications International Corporation (SAIC) for the American Council for Capital Formation and the National Association of Manufacturers under low and high cost cases, with respect to a baseline that projects the future in the absence of the bill, to assign costs and economic impacts for the legislation.

This study uses the National Energy Modeling System (NEMS), the model employed by the U.S. Energy Information Administration (EIA) when asked by Congress and other federal agencies to analyze new energy and environmental policy initiatives.

The L/W bill would enforce a nationwide cap and trade program for the emissions of greenhouse gases (GHGs) and would reduce GHG emissions covered by the bill to 4,992 million metric tons of CO₂ (MMTCO₂) by 2020 and 1,732 MMTCO₂ by 2050.

A report on the L/W legislation's economic impact on Virginia is available at <http://www.accf.org/pdf/NAM/Virginia.pdf>.

Figure 2: Loss in Employment Relative to Baseline (Thousands of Jobs)

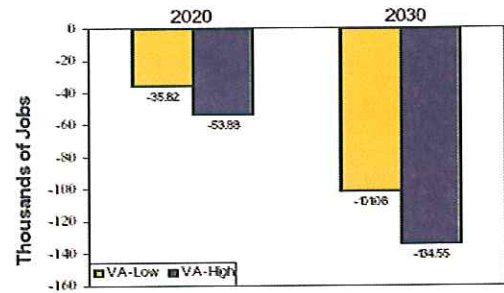


Table 1: Change in Energy Prices at Household Level (% change from baseline)

Sector	Year	VA	
		Low	High
Electricity (Residential)	2020	30%	39%
	2030	103%	135%
Gasoline (Retail)	2020	21%	70%
	2030	74%	145%
Natural Gas (Residential)	2020	23%	32%
	2030	91%	131%

Manufacturing Economic Impact on Virginia: Sector Drops \$3.8 Billion in GSP Since 2004—Job Announcements Down 44% Since 2005—Capital Investment Announcements Down 49% Since 2005

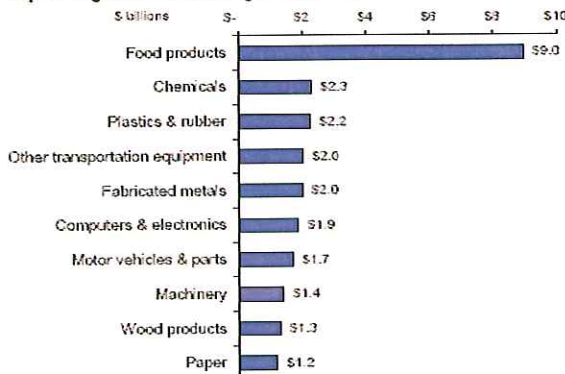
Facts About Virginia Manufacturing

Manufacturing Employment and Wages	
Employees, July 2007	287,400
Manufacturing businesses, 2005	6,120
Average annual manufacturing wages*, 2007	\$45,473
Average annual state wages*, 2007	\$44,041

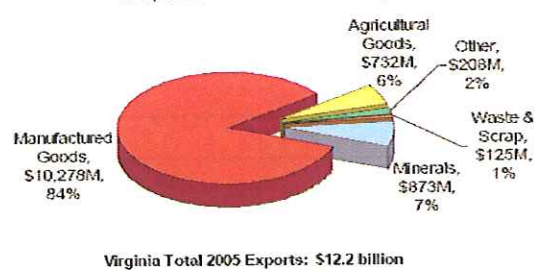
*Wages do not include benefits as data is not available by state

Manufacturing Share of Virginia, 2006	
Manufacturing Growth in Virginia (2001-2006)	-7.8%
Virginia GDP, \$ billions	\$369.7
Manufacturing share of Virginia, \$ billions	\$34.2
Manufacturing share of Virginia GDP, %	9.3%

Top 10 Virginia Manufacturing Sectors 2004



Bulk of VA Exports are Manufactured Goods 2005¹, \$ millions, as a percent of total merchandise exports



Sources: U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, U.S. Census Bureau and Commerce Department
¹/ Service exports data are not available by state.



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Resources/Contacts

Virginia Manufacturers Association
www.vamanufacturers.com

VMA Energy Resources Committee; VMA Environmental Affairs Committee
www.vamanufacturers.com

VMA Environmental Resource Center
www.vamanufacturers.com/eac/index.php

NAM Climate Change Toolkit
www.nam.org/

Virginia Governor's Commission on Climate Change Materials
www.deq.virginia.gov/info/climatechange.html

International Panel on Climate Change Report
www.deq.virginia.gov/info/climatechange.html

For specific information on VMA energy or environmental programs and services, please join the VMA Energy Resources Committee, VMA Environmental Affairs Committee or Virginia Climate Change Council.

Lieberman-Warner Bill Costs: U.S. Loses 4 Million Jobs and Increases Household Costs \$6K

Figure 2: Loss in Employment Relative to Baseline (Millions of Jobs)

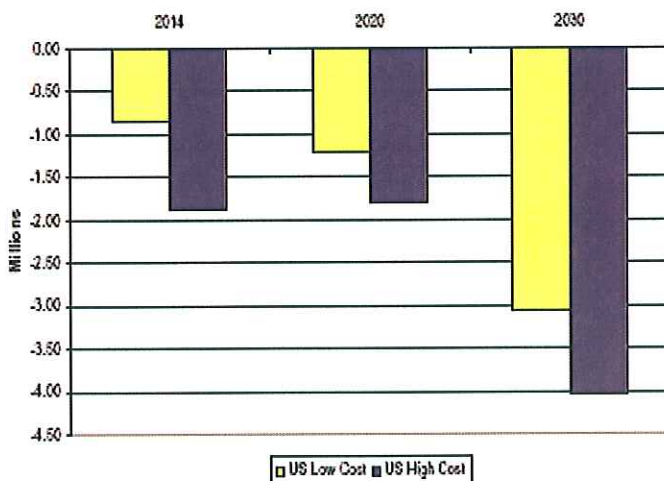


Figure 3: Household Impact Relative to Baseline (Annual Dollars Lost per Household)

