

Cap and Trade: The Cost to Utah

September 3, 2009



September 1, 2009

The Waxman-Markey American Clean Energy and Security Act of 2009 passed the US House of Representatives in June and will soon be debated in the U.S. Senate. A major component of this legislation is referred to as “cap and trade.” Under this concept a cap is placed on nearly all human emissions of carbon dioxide (CO₂), a greenhouse gas that also occurs naturally in the environment. Emitters that are unable to operate below the cap would be required to purchase allowances, or in others words “pay a tax” to remain in business. This tax would be applied to nearly all energy use and ultimately flow through to all goods and services produced within the United States.

While some efforts have been proposed to reimburse low income consumers for the resulting increase in power rates, no method exists to fully compensate consumers for increases in other aspects of their energy use, the higher costs of goods and services, and a net loss of jobs resulting from an economic slowdown.

We have invited representatives from the Utah industries who provide Utahns with their electricity, their food, and their gasoline to help citizens better understand how the Waxman-Markey legislation might affect them and their families. This report reflects the input of these industries and of various economic studies of the Waxman-Markey proposal by national think tanks and associations.

We hope this report provides a resource to help Utah citizens better understand what the Waxman-Markey legislation would require of them.

Sincerely,

Gary Herbert
Governor

Orrin G. Hatch
United States Senator

Cap and Trade: The Cost to Utah

COST OF ELECTRICITY

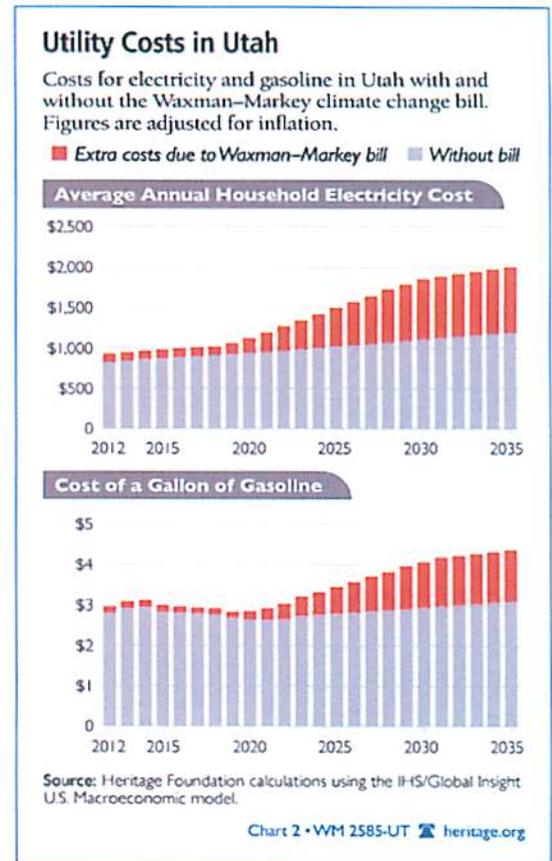
To provide Utah consumers with an idea of the impact that Waxman-Markey would have on their electric rates, Utah's major electricity providers have estimated the average percentage rate increase the current legislation could add to consumer power bills. Determining the exact economic impact is difficult since the details of the CO₂ allowance allocation method would be left to the administering federal agency. The assumptions shown below are based on purchasing CO₂ allowances at a price of \$25/ton (low) and \$50/ton (high). The actual cost of CO₂ allowances after implementation could be higher or lower.

Rate Increases Due to Cap-and-Trade Legislation Estimates

In Utah, 80 percent of the electrical generation is coal based compared to 50 percent nationally. Cap-and-trade legislation would hit Utah power providers hard and force the recovery of these costs through rate increases to customers.

In developing resources for new electrical demand, Utah power providers would largely avoid the financial impacts of cap-and-trade by relying heavily on renewable resources and efficiency. But for existing thermal resources that serve existing electrical demand, there is no cheap means of mitigating cap-and-trade. Abandoning existing thermal plants (as some may argue) in favor of renewables and efficiency creates a “double-

Provider	Low	High	whammy” in terms of rates: (1) the average cost of renewables and energy efficiency is higher than most existing resources being replaced, while (2) the remaining investment costs of the existing thermal units don't go away and still must be repaid through rates.
Rocky Mountain Power	16%	33%	
Deseret Power (wholesale rates only)	37%	92%	
UAMPS	5.5%	33%	
Utah Municipal Power Agency	11%	23%	



COST OF FOOD

Utah and American farmers and ranchers produce the safest, most wholesome and affordable food available in the world today. Producing abundant food and fiber for growing demand domestically and globally requires fuel and fertilizer for planting, cultivating, growing, harvesting, transporting and processing. It's important to note that food in our local grocery stores today travels in excess of 1,200 miles before consumers take it home. Agriculture is one of the most energy sensitive sectors of our nation's economy. Energy related expenses for Utah's farm and ranch families are now estimated between 40 – 50 percent of total production costs.

There are less than 1 million farming and ranching operations producing food for over one-half billion people – 300 million Americans and over 200 million globally. This thin green line provides America's food security.

Production Costs

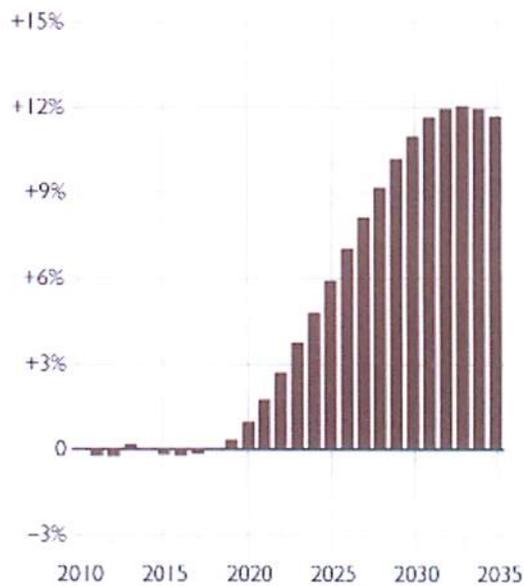
Waxman-Markey would increase production costs to farmers and ranchers, thus increasing the broad-based costs of agriculture commodities. This equates to higher food costs for consumers.

During 2007-08, escalating global oil prices led to diesel and gasoline prices exceeding \$4.00 per gallon. Increased cost of this single energy input lead to transportation cost increases, production cost increases, processing cost increases, and, inevitably, higher food costs.

This short-term fuel run-up increased retail food prices in 2008 by 3.5 – 4.5 percent nationally.

Farm Inventory Costs

Annual Percentage Change of Farm Inventory Costs Due to Waxman-Markey Climate Change Bill



Note: Figures are calculated using the implicit price deflator.

Source: Heritage estimates based on Global Insight Model and data from U.S. Bureau of Economic Analysis.

Chart 4 • Energy & Environment  heritage.org

Farm Energy

AVERAGE UTAH DAIRY FARM (500 Milking Cows)

Monthly electric bill \$1,200.00

Monthly natural gas bill \$750.00

Monthly diesel/gas bill \$4,000.00

TOTAL ANNUAL COST OF ENERGY (Pre-Waxman-Markey): \$71,400.00

AVERAGE UTAH WHEAT FARM (500-600 acres)

Monthly electric power bill for irrigation pumping: \$6,000.00

Monthly diesel/gas bill: \$9,000.00

TOTAL 5-MONTH COST OF ENERGY (Pre-Waxman-Markey): \$75,000.00

Waxman-Markey would force Utah's farm and ranch families to pass the higher food and clothing costs onto the American consumer.

Global Trade

Waxman-Markey would place American farmers and ranchers at a competitive disadvantage in international trade. American agriculture relies on foreign markets for nearly 30-percent of its income. Similarly, consumers globally rely on American farmers and ranchers to provide for their food and clothing needs. The United States exported \$115 billion worth of agriculture products in 2007.

Agriculture is an industry that relies on a level playing field to compete in global markets. Increased costs of fuel, fertilizer, and electricity for American farmers would put them at a disadvantage vis-à-vis farmers from other nations.

These increased input costs would unilaterally disarm American farmers and ranchers in relationship to China, India, and Mexico – countries who have said they will not participate in global greenhouse gas restrictions.

Agriculture Offsets/Carbon Credits

Late in the House negotiations over the Waxman-Markey bill, provisions were made for agricultural offsets. Agriculture nationally has the ability to play a role in carbon sequestration, however, regional and production sector differences make's Utah a deficit carbon market.

Utah, with nearly 75 percent of farm gate sales coming from animal agriculture, has limited opportunities for entering a carbon market. Simply put, Utah would not find major benefits from carbon sequestration offsets.

Cow Tax / EPA's "Endangerment Finding"

The 2007 Supreme Court decision that carbon dioxide is a pollutant may ultimately focus regulatory action on American agriculture. EPA's recent endangerment finding sets in motion the agency's intent to regulate greenhouse gases under authority of the Clean Air Act. Methane emitted during livestock digestive processes falls within the greenhouse gas definition.

The EPA's use of Title V of the Clean Air Act would require permitting of operations and associated mandatory fees. The EPA proposed limit of 100 tons CO₂ equivalent would impact small family livestock operations – 25 dairy cows, 50 beef cattle, 200 hogs and 200 sheep. For 2008-09, EPA has established a "presumptive minimum rate" of \$43.75 per ton of greenhouse gases.

The average dairy cow's digestive process emits the equivalent of about 4 tons CO₂, a beef cow about 2 tons, and a half-ton per sheep and hog. The "Cow Tax" has, therefore, been estimated at \$175 for a dairy animal, \$87.50 for a beef cow, \$21.87 for a hog and \$20.00 for a sheep. With more than 70-percent of Utah farm gate sales for attributed to animal agriculture, the cow tax would rob Utah's beef cattle sector of nearly \$68 million, dairy farmers of nearly \$15 million, hog producers of over \$16 million and sheep producers nearly \$5 million totaling almost \$104 million. More than half of the entire agriculture industry's 2007 net farm income would be taken from family farmers, ranchers, and the rural communities they support.

2007 Census of Agriculture Statistics:

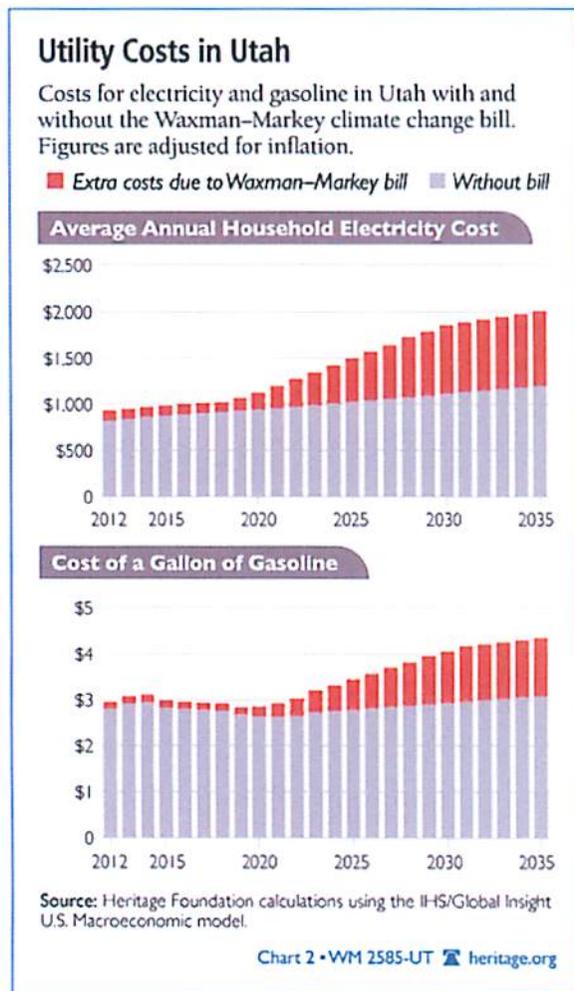
Species	Proposed Tax	Herd % Eligible	Head	Total Tax
Beef	87.50	92	773,255	67,659,813
Dairy	175.00	99	84,753	14,831,775
Hogs	21.87	99	54,120	16,492,604
Sheep	20.00	85	34,774	4,695,480
TOTAL TAX				\$103,679,672

2007 Total Gross Farm Gate Receipts	\$1,415,678,000
<u>2007 Total Agriculture Production Expenses</u>	<u>\$1,215,579,000</u>
2007 TOTAL NET FARM INCOME	\$200,099,000

EPA's "Cow Tax" would take more than 50 percent of the net farm income for Utah's farmers, ranchers and the rural communities they support.

COST OF GAS AND DIESEL

Waxman-Markey would cause significantly higher fuel prices for Utah families and businesses and create an uneven playing field for U.S. refiners. Citizens who use automobiles, trucks, planes, trains, heating oil and other non-transportation petroleum products would shoulder the lion's share of the burden.



Higher Prices

The bill would touch every family and business that uses oil products.

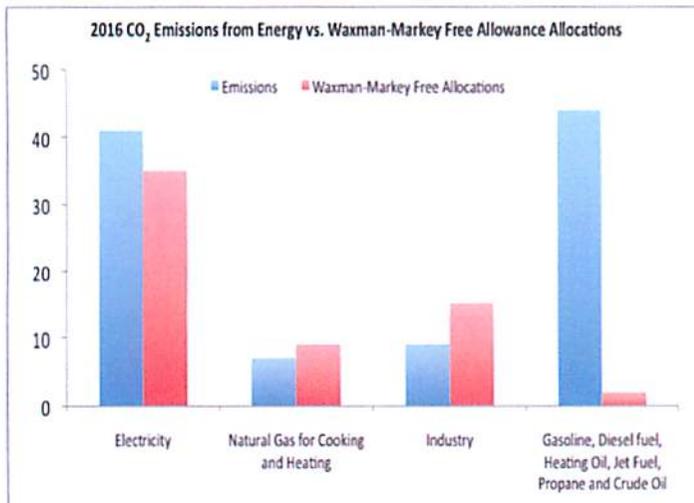
According to a Heritage Foundation Study, the bill would boost the price at the pump by 20 cents per gallon when the provisions first take effect in 2012. The targets get tougher each year, and by 2035 the increase would be an inflation-adjusted \$1.38 per gallon¹ on top of other price increases that may occur.

Less Energy Security

Last year, Americans consumed nearly 270 billion gallons of refined petroleum products. Waxman-Markey would risk American energy security by providing foreign refiners a new and distinct advantage and an incentive to export more products to the U.S. Foreign refiners already operate at a lower cost, and the cap and trade proposal would make that discrepancy larger. Our government's very heavy regulatory burden contributes to the competitive disadvantage faced by U.S. refiners.

Recently, the same amount of time it took a U.S. refiner to receive the necessary federal, state, and local permits for a refinery modernization, another refining company was able to build and bring to full operation a 600,000 barrel per day refinery in India. Although the domestic refining industry has added capacity over the last 10 years, such expansions pale in comparison to the growth in foreign refining capacity.

¹ David Kreutzer et al., "The Economic Consequences of Waxman-Markey: An Analysis of the American Clean Energy and Security Act of 2009," Heritage Foundation *Center for Data Analysis Report No. CDA09-04*, August 5, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/cda0904.cfm>.



Inequitable Allocation of Emissions Allowances

Waxman-Markey would allocate only two percent of allowances to fuel producers but would make them responsible for 44 percent of emission reductions, including emissions from refineries, consumer emissions from planes, trains, automobiles, etc. Other industries are treated better in an attempt to shield consumers from the bill's full effects. This

inequitable system of allocations would have a disproportionate adverse impact on consumers and producers of gasoline, diesel and other liquid fuels.

In summary

Waxman-Markey would greatly impede the U.S. refining industry's ability to operate and would drive more production of finished products overseas, increasing fuel prices for Utah families and businesses.

A consumer's willingness to change fuel suppliers over a penny per gallon retail price indicates that less expensive imported fuel from overseas may soon dominate the U.S. fuel supply. This would leave our nation even more vulnerable from an energy security standpoint.

UTAH JOBS

Speaker of the House Nancy Pelosi stated that Waxman-Markey was about four things: "jobs, jobs, jobs, and jobs." However, most analyses of the legislation predict a significant net loss of jobs and a measurable decrease in the U.S. Gross Domestic Product (GDP).

The two studies most often cited by Democrat congressional leaders and the Obama Administration when discussing the costs of cap and trade legislation were produced by the Environmental Protection Agency (EPA) and the Congressional Budget Office (CBO). The per-family costs estimated by these reports are summarized below:

- The EPA - \$140 annual cost per family²
- The CBO - \$175 annual cost per family³

These low estimates are the basis of claims by Secretary of Energy Stephen Chu that Waxman-Markey would cost Americans only the value of a postage stamp per day.

However, both the EPA and CBO studies calculate only the direct costs of implementing cap and trade's reduction goals during 2020 -- one of the lowest cost years under Waxman-Markey. They are not full economic studies of the overall impact on consumers. Furthermore, both the EPA and CBO studies assume that government revenue from the cap and trade program would all be returned to consumers, thus discounting consumer costs. In fact, the legislation actually returns many of these allocations back to industry and uses much of the revenue raised from the program for general government spending.⁴

The EPA report assumes that the U.S. would double nuclear power production in the next 25 years. However, the cap and trade legislation does nothing to remove the various regulatory barriers to increased nuclear power generation, and Democratic leaders in Congress have taken no concrete steps to increase nuclear power.

² Environmental Protection Agency, "EPA Analysis of the American Clean Energy and Security Act of 2009 H.R. 2454 in the 111th Congress," June 23, 2009, at http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis.pdf (July 25, 2009)

³ Congressional Budget Office, "The Estimated Costs to Households from H.R. 2454 American Clean Energy and Security Act of 2009," June 19, 2009, at <http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapAndTradeCosts.pdf> (July 9, 2009).

⁴ Nicolas Loris and Ben Lieberman, "Cap and Trade: A Handout for Corporations and a Huge Tax on Consumers," Heritage Foundation WebMemo No 2476, June 10, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2476.cfm>.

After removing false assumptions of the EPA and CBO report, economists at the Heritage Foundation adjusted EPA and CBO cost estimates to reflect their full impact:

Adjusted EPA - \$1,900 annual cost for family of four (by 2050)⁵

Adjusted CBO - \$1,870 annual cost for a family of four (by 2050)⁶

These upward cost adjustments are generally supported by the results of four independent studies on the economic cost and job losses that can be expected from the implementation of a cap and trade program.

Four Economic Studies on Waxman-Markey

Below are some basic findings of four independent studies by national groups on the economic costs of Waxman-Markey, specifically:

The Brookings Institution on Waxman-Markey⁷

Personal Consumption Loss: \$1-2 trillion in present value

2050, GDP Loss: 2.5 percent in 2050

Net Job Losses: 1.7 million annually

The National Black Chamber of Commerce on Waxman-Markey⁸

By 2030, GDP Loss: \$350 billion annually

By 2050, GDP Loss: \$730 billion annually

Net Job Losses: 2.3 - 2.7 million annually

⁵ July 20, 2009 Cap and Trade: A Comparison of Cost Estimates by Nicolas Loris, Heritage Foundation

⁶ David Kreutzer, Karen Campbell, and Nicolas Loris, "CBO Grossly Underestimates Cost of Cap and Trade," Heritage Foundation WebMemo No. 2503, June 24, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2503.cfm>.

⁷ Warwick McKibbin et al., "Consequences of Cap and Trade," Brookings Institution, June 8, 2009, at http://www.brookings.edu/~media/Files/events/2009/0608_climate_change_economy/20090608_climate_change_economy.pdf (July 9, 2009)

⁸ David Montgomery et al., "Impact on the Economy of the American Clean Energy and Security Act of 2009 (H.R.2454)," prepared for the National Black Chamber of Commerce by CRA International, May 2009, at http://www.nationalbcc.org/images/stories/documents/CRA_Waxman-Markey_percent205-20-09_v8.pdf (July 9, 2009)

The Heritage Foundation on Waxman-Markey⁹

Average GDP Loss: \$393 billion annually
2035 GDP Loss: \$662 billion
Net Job Losses: 1.1 million annually (2012-35)
Net Job Losses: 2.5 million annually (2035-50)

NAM / American Council for Capital Formation Analysis¹⁰

Average GDP Loss: \$172 billion annually
Net Job Losses: 2.4 million annually (by 2030)

⁹ David Kreutzer, Karen Campbell, and Nicolas Loris, "CBO Grossly Underestimates Cost of Cap and Trade," Heritage Foundation WebMemo No. 2503, June 24, 2009, at <http://www.heritage.org/Research/EnergyandEnvironment/wm2503.cfm>

¹⁰ ACCF/NAM Study Economic Impact of the Waxman-Markey American Clean Energy and Security Act Science Applications International Corporation (SAIC) August 12, 2009

Impact on Utah Gross State Product (GSP) and Utah Jobs

Utahns should know the direct impact that Waxman-Markey could have on their families and their state. Two studies have been completed which focus on the state-by-state impact of cap and trade.

Heritage Foundation on Utah Impact¹¹

Utah GSP Loss: \$4.07 billion in 2035

Utah Job Losses: 14,875 – 23,962 annually

The Waxman–Markey Effect

For the state of Utah, over the 2012–2035 timeframe, on average the Waxman–Markey bill would:

- Lower gross state product by **\$2,417 million**,
- Reduce personal income by **\$806 million**,
- Destroy **11,170 jobs**,
- Raise electricity prices by **\$415.26 per household**,
- Raise gasoline prices by **\$0.61 per gallon**.

Source: Heritage Foundation calculations based on the IHS/Global Insight U.S. Macroeconomic and Energy models.

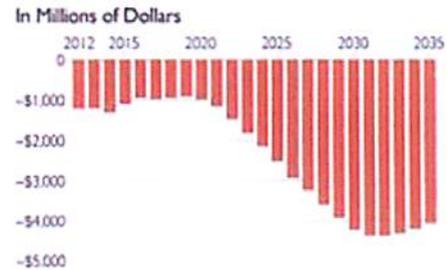
Table 1 • WM 2585-UT  heritage.org



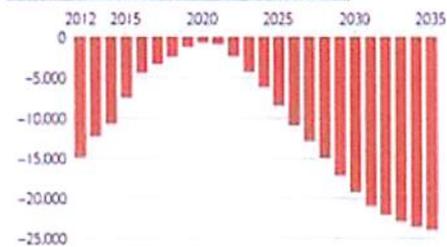
Economic Indicators in Utah

Changes in Utah's economy due to the Waxman-Markey climate change bill. Figures are adjusted for inflation.

Change in Gross State Product



Change in Non-Farm Employment



Source: Heritage Foundation calculations using the IHS/Global Insight U.S. Macroeconomic model.

Chart 1 • WM 2585-UT  heritage.org

NAM/ACCF on Utah Impact¹²

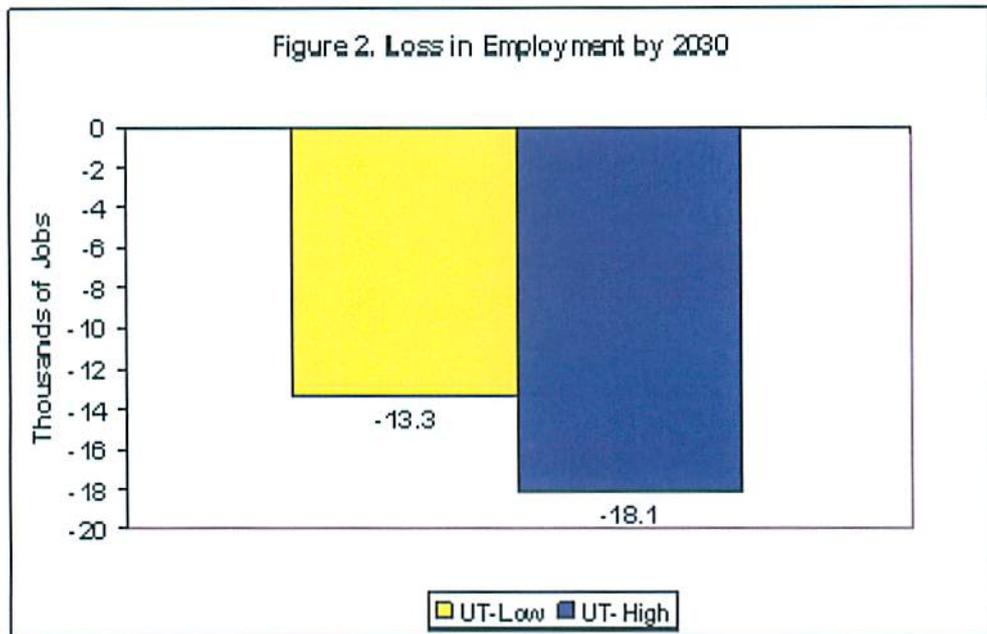
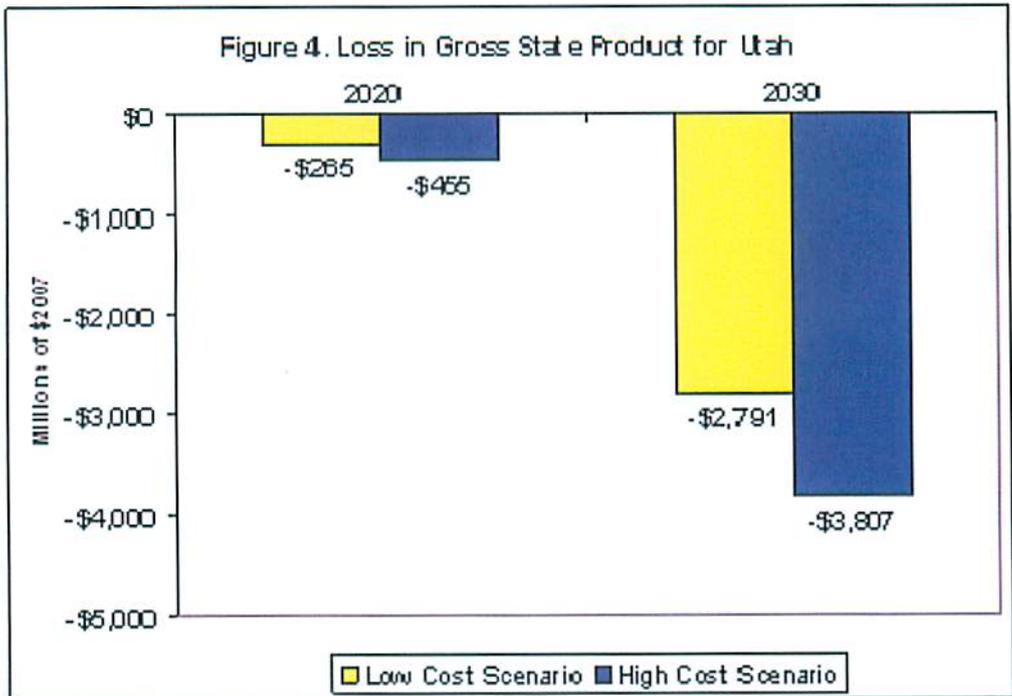
Utah GSP Loss: \$265 - \$455 million annually (by 2020)

Utah GSP Loss: \$2.8 and \$3.8 billion annually (by 2030)

Utah Net Job Losses: 13,306 - 18,122 annually

¹¹ Heritage Foundation August 19, 2009, Impact of the Waxman–Markey Climate Change Legislation on Utah David W. Kreuzer, Ph.D., Karen A. Campbell, Ph.D., William W. Beach, Ben Lieberman, and Nicolas D. Loris

¹² Analysis of The Waxman-Markey Bill “The American Clean Energy and Security Act of 2009” (H.R. 2454) Using The National Energy Modeling System (NEMS/ACCF-NAM 2)



NAM/ACCF on Utah Impact

According to the NAM/ACCF study, the estimated job losses would be caused primarily by a reduction of industrial output, the cost of emissions cuts, and stronger competition from foreign manufacturers benefiting from comparatively lower energy costs.

CLIMATE REDUCTIONS FROM WAXMAN-MARKEY: THE PROMISED BENEFIT

Utahns deserve to know the benefits they can expect in return for the economic pain that Waxman-Markey would have them bear. In the case of cap-and-trade proposals, the goal is to reduce the global temperature. Taxpayers may be disappointed to discover, however, that the expected climate reductions from a full and successful implementation of Waxman-Markey would be immeasurably small.

Dr. Martin Feldstein, a Harvard professor of economics and the former chairman of the Council of Economic Advisors made his own cost-benefit analysis of Waxman-Markey and concluded that:

“The proposed legislation would have a trivially small effect on global warming while imposing substantial costs on all American households.”

Heritage Foundation on Climate Benefit of Waxman-Markey

The Heritage Foundation concluded that Waxman-Markey would reduce the global temperature by only 0.05°C by 2050, and if the Waxman-Markey target emissions were frozen for the rest of the century, world temperatures would be reduced by 0.2 °C by 2100.

By 2050: a 0.05°C reduction

By 2100: a 0.2°C reduction

Rasmussen Analysis of Climate Benefit from Waxman-Markey¹³

Another study, *A Rational Look at Climate Change Concerns* by Kimball Rasmussen of Deseret Power made a careful analysis of the climate reduction benefits of Waxman-Markey using the assumptions and data of the United Nation’s Intergovernmental Panel on Climate Change. According to this analysis, the climate reduction we could expect from Waxman-Markey over a hundred years would be only 0.07°C.

By 2100: a 0.07°C reduction

When cornered on this question, proponents of Waxman-Markey admit that the United States cannot impact the climate by acting alone. However, they point to the need for

¹³ A RATIONAL LOOK AT CLIMATE CHANGE CONCERNS AND THE IMPLICATIONS FOR U.S. POWER CONSUMERS By Kimball Rasmussen, President and CEO, Deseret Power, November 2008, Edition 4.1

DESERET POWER

Utah Farm Bureau

Utah Petroleum Association

Office of Senator Orrin Hatch