

A MARKET-BASED APPROACH:
THE BEST WAY TO TRANSITION TO A NEW ENERGY
ECONOMY WHILE MEETING THE RESPONSIBILITY TO
ADDRESS GLOBAL CLIMATE CHANGE—
A NORTH DAKOTA PERSPECTIVE

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ABSTRACT

End our nation's addiction to Middle-Eastern oil. Win the clean energy race. Address the climate challenge. This article strives to make a persuasive case for how the implementation of a comprehensive federal energy and climate policy that utilizes a market-based price on greenhouse gas emissions is the best way to meet the above-stated goals at a minimal cost. There will be a particular emphasis on how such a policy relates to the unique politics, resource advantages, and challenges found in North Dakota.

Comprehensive federal energy and climate legislation that includes a market-based price on carbon can help North Dakota realize its enormous renewable energy potential, while creating a roadmap for important Industries like agriculture and coal to transition.

The U.S. House of Representatives passed comprehensive legislation in 2009 and several bills are pending in the Senate (not to mention regional initiatives such as the Midwest Governors Association's Greenhouse Gas Accord). Even if Congress were not to pass an energy and climate bill, regulation of greenhouse gas (GHG) emissions is all but inevitable with the United States Supreme Court having mandated the Environmental Protection Agency (EPA) regulate GHG emissions under the Clean Air Act.

This issue is clearly not going away. The question is: Will North Dakota's leaders find constructive ways to approach this issue that safeguard the state's interests while also helping to solve the global climate challenge?

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I. INTRODUCTION

End our nation’s addiction to Middle-Eastern oil. Win the clean energy race. Address the climate challenge. This article strives to make a persuasive case for how the implementation of a comprehensive federal energy and climate policy that utilizes a market-based price on greenhouse gas emissions is the best way to meet the above-stated goals at a minimal cost. There will be a particular emphasis on how such a policy relates to the unique politics, resource advantages, and challenges inherent in the climate and energy debate taking place in North Dakota.

The most commonly used market-based mechanism to regulate greenhouse gas emissions—and the one this article will focus on—is called “cap and trade.” Cap and trade is a policy and regulatory mechanism developed to control the greenhouse gas emissions responsible for anthropogenic climate change. Scientists tell us we must keep these emissions to a level that leads to no more than a 2 degrees Celsius, or 3.6 degrees Fahrenheit, rise in

global temperature by 2050.¹ Essentially, the policy tells emitters “here are the emissions limitations you have to meet. We do not care how you meet those emissions reduction targets. We just want to make sure you meet them.” This is different than early forms of environmental regulation where a federal agency with jurisdiction, like the Environmental Protection Agency (EPA), used a more rigid command-and-control regulatory approach that often dictated what technology would be used and offered little flexibility.

This is a very pertinent topic considering the United States House of Representatives passed a historic climate and energy bill that included a cap and trade provision in June of 2009, called the American Clean Energy and Security Act. The Act is sometimes referred to as Waxman-Markey, but this article will refer to it as ACES or “the House bill.”² In addition, a similar bill was passed by the Senate’s Environment and Public Works Committee in November of 2009.³ In May of 2010, Senators John Kerry (D-MA) and Joe Lieberman (I-CT) unveiled draft legislation called the American Power Act.⁴ The American Power Act (APA or Kerry-Lieberman) is a comprehensive energy and climate bill that includes a cap and trade program for the utility sector, as well as large manufacturers.⁵

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1. Intergovernmental Panel on Climate Change [IPCC], *Climate Change 2007: Synthesis Report*, at 23, IPCC Doc. 92-9169-122-4 (2008).

2. See generally Congressional Budget Office Cost Estimate, H.R. 2454, American Clean Energy and Security Act of 2009, available at <http://cbo.gov/ftpdocs/102xx/doc10262/hr2454.pdf> (last visited Apr. 16, 2010) (noting H.R. 2454 makes several changes in energy and environmental policies).

3. Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009), available at <http://www.govtrack.us/congress/bill/xpd?bill=s111-1733>.

4. Press Release, Sen. John Kerry, Kerry, Lieberman: American Power Act Bill Will Secure America’s Energy, Climate Future (May 12, 2010), available at <http://kerry.senate.gov/press/release/?id=5e1dc216-ce17-4cc2-92e1-8321efc8240c>.

5. American Power Act, S. 1733, 111th Cong. § 806(c) (2nd Sess. 2010), available at <http://Kerry.senate.gov/imo/media/doc/APAbill3.pdf>.

The APA was drafted with significant input from Senator Lindsey Graham (R-SC) until he dropped out of the negotiations in April 2010 due to a political skirmish over immigration.⁶

In his State of the Union address, President Barack Obama called on Congress to pass “a comprehensive clean energy and climate bill” in 2010.⁷ Furthermore, in 2007, the United States Supreme Court found that greenhouse gases could be covered under the Clean Air Act and instructed the EPA to begin the process of regulating greenhouse gases under the Act.⁸ The EPA followed through on that request releasing an endangerment finding in December of 2009. The Endangerment Finding concluded greenhouse gases are, indeed, detrimental to public health. This finding paves the way for EPA regulation of greenhouse gases if Congress does not act.⁹

Part II of this article will define cap and trade and explain how it works. There will also be discussion on the history of cap and trade. Cap and trade will be compared to other policy approaches that mitigate climate change. Finally, cap and trade will be put into its proper context.

Part III will focus on what cap and trade means for North Dakota and important sectors of North Dakota’s economy, like coal and agriculture. Part IV will outline non-traditional support for a cap and trade policy to mitigate greenhouse gas emissions. These non-traditional areas of support for cap and trade policy include: business and industry, faith groups, military, defense, intelligence, and veterans. The convergence of these non-traditional groups supporting cap and trade is an important reason for the legislative traction the issue has gained. Finally, Part V will summarize the supporting arguments for utilizing a cap and trade approach in the United States to mitigate climate change, while highlighting how North Dakota fits into the larger national and global context.

II. THE DEFINITION OF CAP AND TRADE AND HOW IT WORKS

Cap and trade is the most commonly suggested policy approach for addressing the greenhouse gas emissions responsible for climate change. It has been the preferred mechanism of previous legislative attempts in the

6. Matthew Daly, *Climate Bill on Hold After Lindsey Graham Threatens to Withdraw Support Over Immigration*, THE HUFFINGTON POST (April 24, 2010), available at http://www.huffingtonpost.com/2010/04/24/john-kerry-puts-climate-b_n_550828.html.

7. President Barack Obama, State of the Union Address (Jan. 27, 2010), available at <http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address>.

8. *Massachusetts v. Envtl. Prot. Agency*, 549 U.S. 497, 534 (2007).

9. U.S. ENVTL. PROT. AGENCY, ENDANGERMENT AND CAUSE OR CONTRIBUTE FINDINGS FOR GREENHOUSE GASES UNDER SECTION 202(A) OF THE CLEAN AIR ACT (Dec. 7, 2009), <http://www.epa.gov/climatechange/endangerment.html>.

United States¹⁰ and other nations,¹¹ as well as the European Union.¹² It is the approach supported by most industry groups and firms that accept the need to address climate change,¹³ as well as by most mainstream environmental groups.¹⁴ Cap and trade is a policy mechanism to reduce pollution that utilizes a free-market approach. After policy-makers determine which facilities or emissions are covered by the program, they set an overall emission target, a cap, for covered entities. This cap is the sum of all allowed emissions from all included facilities. Once the cap has been set, tradable emissions allowances, or rights to emit, are distributed, being either auctioned, freely allocated, or both.

Each allowance authorizes the release of a specified amount of emissions. In the case of a cap and trade program to address climate change, each allowance would authorize the release of a specified amount of greenhouse gas emissions, generally one ton of carbon dioxide equivalent (CO₂e).¹⁵ The total number of allowances is equivalent to the overall emissions cap so if a cap of one million tons of emissions is set, one million one-ton allowances will be issued. Covered entities must then submit allowances equivalent to the level of emissions they are responsible for at the end of the program's compliance periods.¹⁶

The "cap" is a steadily declining limit on emissions while the "trade" alludes to a market set up to trade pollution allowances allocated under the cap. Companies that need more allowances than the cap allows can buy credits from those who pollute less. Essentially, the buyer is paying a price

10. See, e.g., Lieberman-Warner Climate Security Act of 2007, S. 2191, 110th Cong. (2008), available at http://www.govtrack.us/congress/bill_xpd?bill=s110-2191.

11. Michael Perry, *Australian Carbon Trade to Boost Affordable Energy*, PLANET ARK, June 24, 2008, <http://www.planetark.com/dailynewsstory.cfm/newsid/48946/story.htm>.

12. Emission Trading System, http://ec.europa.eu/environment/climat/emission/index_en.htm.

13. See, e.g., Business for Innovative Climate and Energy Policy, <http://www.ceres.org/bicep>; United States Climate Action Partnership, <http://www.us-cap.org/>.

14. See, e.g., Clean Energy Works, <http://www.cleanenergyworks.us/>.

15. PEW CENTER ON GLOBAL CLIMATE CHANGE & PEW CENTER ON THE STATES, CLIMATE CHANGE 101: CAP AND TRADE 1 (Feb. 2008), <http://www.pewclimate.org/docUploads/Cap-Trade-101-02-2008.pdf>. "Carbon dioxide equivalent" is defined as:

[A] metric used to compare the amounts and effects of different greenhouse gases. It is determined by multiplying the emissions of a gas (by mass) by the gas' "global warming potential" (GWP), an index representing the combined effect of the length of time a given greenhouse gas remains in the atmosphere and its relative effectiveness in absorbing outgoing infrared radiation. CO₂ is the standard used to determine the GWPs of other gases. CO₂ has been assigned a 100-year GWP of 1 (i.e., the warming effect over a 100-year time frame relative to other gases). Another greenhouse gas, methane (CH₄), is 21 times more potent than carbon dioxide, and nitrous oxide (N₂O) is roughly 310 times more potent a GHG than CO₂.

Id. at 9.

16. *Id.* at 5-6.

to pollute, while the seller is being rewarded for its emissions reductions with the idea that companies that can reduce emissions most inexpensively will act, thereby achieving the pollution reduction at the lowest cost to society.¹⁷ This system recognizes that different firms face different costs for reducing emissions. For instance, if firm A can reduce emissions below the cap at a relatively low cost, the firm can do so and in turn sell its surplus allowances to another firm, firm B, which may face higher emission control costs. This creates a win-win scenario as firm A can use the revenue from selling surplus allowances to help absorb the extra costs incurred as the firm decreased its emissions. In the meantime, firm B wins because it can buy firm A's surplus allowances for less than it would have cost to control emissions at its facility.¹⁸

Cap and trade, being a market-based mechanism, stands in stark contrast to the more traditional command-and-control approach to environmental regulation. For starters, cap and trade provides an incentive for innovation that is absent in the command-and-control approach. In fact, command-and-control regulation can actually act as a disincentive to innovate because demonstrating the feasibility of low-emission technologies or an ability to exceed emissions targets may result in more stringent regulations in the future. Cap and trade encourages firms to reduce emissions at a cost lower than the allowance price; doing so means firms will reduce their compliance costs because fewer allowances need to be purchased, or they will have surplus allowances that can be sold to others. This financial incentive drives the private sector toward more substantial and meaningful innovation than might occur under a more prescriptive command-and-control regulatory scheme. Rather than mandating a specific technology, the flexibility afforded by emissions trading markets helps identify where emission reductions can be achieved most cost-effectively. This incentive to innovate is particularly important in the context of climate change, a challenge that will require new technology to achieve the deep emission cuts necessary.¹⁹

Cap and trade is often compared to other policy mechanisms, particularly a "carbon tax" and a "cap and dividend." A carbon tax is a tax levied on sources of pollution such as power plants. While a cap and trade approach guarantees its environmental objective, the cost is determined by

17. See generally W.D. Montgomery, *Markets in Licenses and Efficient Pollution Control Programs*, 5 J. OF ECON. THEORY 395 (Dec. 1972) (explaining how cap and trade programs were developed by economic theorists such as W. David Montgomery in the 1960's and early 1970's in their search for least cost air pollution abatement strategies).

18. *Id.*

19. *Id.*

the market. In the case of a carbon tax, there is cost certainty, but no guarantee of meeting the environmental objective. Supporters of a carbon tax argue it is a better approach because it is transparent, avoids the creation of new markets subject to speculation or manipulation, and minimizes the involvement of government.

Aside from the ability to guarantee meeting the pollution-reduction goals that are the primary reason for instituting a policy in the first place, cap and trade has several other advantages over a carbon tax. Because cap and trade relies on a market-based approach, it creates a self-adjusting price that is high in good economic times and low in downturns. This free market approach also gives firms more flexibility and allows them to make compliance decisions on a multi-year basis. In addition, a cap and trade program can be linked to other systems across the globe, providing more opportunities for cost efficiencies to be shared across borders.

In a *Grand Forks Herald* interview, Preston Chiaro, Chief Executive Officer of the Energy Group at Rio Tinto, which is one of the world's largest mining companies, and past Chair of the World Coal Institute, explained why he prefers a cap and trade approach to a carbon tax:

Cap and trade, as the name implies, would impose a cap on the total amount of emissions—the total amount that could be released over a certain time period. The benefit of a cap is that it provides environmental certainty. If science can tell us what amount of carbon dioxide the atmosphere can tolerate and not produce dangerous effects, then that cap can be established at that level. The trade part asks for market mechanisms to set a price on carbon. Everyone recognizes that carbon ultimately will have a price attached to it. Basically, that price can come about through a market mechanism, like this trade system; or it can come about through a tax. Some people claim taxes are simpler to understand and implement, but I would suggest that they haven't taken a look at the U.S. tax code recently. The beauty of a trade system is that it fits right in with commerce and capitalism, where the market determines a commodity's price. We're comfortable in that environment. We work in it every day, and we'd be just as comfortable working on a carbon trading system.²⁰

Considering the strong aversion to taxes in the American political system, many argue a carbon tax is politically unfeasible. "In theory, [a carbon

20. Tom Dennis, *Prairie Voices: Cleaning Coal*, GRAND FORKS HERALD, June 21, 2009, at D1.

tax is] terrific,” said John Kerry, as he worked to craft a Senate climate bill. “But show me one Republican who’s going to vote for a tax, let alone some Democrats. So the things you hear in theory just don’t translate into legislation.”²¹

A cap and dividend approach is similar to cap and trade, except it auctions off the allowances and distributes the revenues to taxpayers. Also known as cap and rebate, this approach, while popular among some smaller environmental groups, does not have much support from industry. The lack of support from industry, including agriculture, is a result of the lack of a market to trade credits and the resulting flexibility that brings.

While states with larger populations and fewer emissions would see a significant increase in revenues from this approach, a small, energy-exporting state with a disproportionately large carbon footprint, like North Dakota, would endure a heavier burden. Like a carbon tax, this approach is thought to be difficult to pass through Congress because it does not have widespread support. Cap and trade proposals, including the bill that passed in the United States House of Representatives, actually incorporate some principles of the cap and dividend approach by auctioning off permits and returning rebates to taxpayers as the program matures and firms have time to adjust. By 2031, for instance, seventy percent of allowances in the House bill are auctioned.²²

But, perhaps the biggest advantage of a cap and trade approach is the fact it has been used effectively already. The European Union tested the waters for using a cap and trade approach to regulate greenhouse gas pollution by implementing their Emissions Trading Scheme (EU-ETS) in 2006. The program did not fully get underway until January of 2008. However, it seems to have made a difference even in the first year. A preliminary analysis suggests that EU-ETS decreased emissions by three percent in 2008, relative to 2007.²³ Between 2008 and 2012, overall allocations are ten percent below previous emission levels, virtually guaranteeing further reductions. Another enticing signal the program is working as designed is it

21. Darren Samuelsohn, *Carbon Pricing Method Sticks Out as Senate Bill’s Main Obstacle*, N.Y. TIMES, Feb. 24, 2010, available at <http://www.nytimes.com/cwire/2010/02/24/24/climatewire-carbon-pricing-sticks-out-as-senate-climate-17764.html?pagewanted=all>.

22. H.R. COMM. ON ENERGY AND FIN., SUMMARY—H.R. 2454, AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 4 (2009), available at http://energycommerce.house.gov/Press_111/20090602/hr2454_reported_summary.pdf.

23. See *Emissions from EU ETS Down 3% in 2008*, BLOOMBERG NEW ENERGY FINANCE LIMITED, Feb. 16, 2009, at 1, available at <http://www.newenergyfinance.com/Download/pressreleases/38/pdf/38.pdf> (describing how actual emissions were 5% lower and how the difference of 2% is explained by the economic crisis in the second half of 2008).

seems to be spurring innovation, as evidenced by the fact the continent is pulling ahead in clean technology patents.²⁴

Perhaps the most successful example of a cap and trade program is the 1990 Clean Air Act that succeeded in rapidly reducing acid rain-causing pollution in the United States. This program, signed into law by Republican President George H.W. Bush after passing Congress with strong bipartisan support, introduced a cap and trade program to reduce sulfur dioxide (SO₂), the major precursor of acid rain.²⁵ The program has yielded a compliance rate of over ninety-nine percent, as well as impressive environmental and economic results. In fact, the long-term reduction targets were achieved three years ahead of schedule, and these targets were achieved at a fraction of the predicted cost. The EPA's original estimate predicted the program would cost \$6 billion annually once it was fully implemented. The Office of Management and Budget has estimated actual costs to be between \$1.1 and \$1.8 billion, which is less than thirty percent of the forecast.²⁶

Unfortunately, it seems as though cap and trade has become shorthand for those who oppose federal action to regulate greenhouse gases. It is important to note not all climate bills are created equally. For instance, ACES has more consumer rate protections built into it than previous climate bills. The provisions to transition the coal industry and other carbon-intensive sectors to a low-carbon era are also more substantial in ACES than in prior legislation. In their knee-jerk opposition to cap and trade, opponents fail to recognize how policy proposals that include cap and trade are also seeking to meet other objectives such as reducing dependence on foreign oil and ensuring United States competitiveness in the energy economy of the twenty-first century. For instance, ACES has five titles, only one of which deals with a cap and trade program to reduce greenhouse gases. The other titles focus on other energy issues, including energy efficiency, renewable energy, improved transmission, transportation, and advanced coal technologies.

The tri-partisan legislation being crafted in the Senate will address natural gas, off-shore oil, and nuclear energy, in addition to the issues already mentioned.²⁷ In short, these bills are about more than putting a

24. ORG. FOR ECON. COOPERATION AND DEV., COMPENDIUM OF PATENT STATISTICS 20-21 (2008), available at <http://www.oecd.org/dataoecd/5/19/37569377.pdf>.

25. The Clean Air Act, 42 U.S.C. § 7651 (1990).

26. OFFICE OF MGMT. & BUDGET, INFORMING REGULATORY DECISIONS: 2003 REPORT TO CONGRESS ON THE COSTS AND BENEFITS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 89 (2003), available at http://www.whitehouse.gov/omb/inforeg/2003_cost-ben_final_rpt.pdf.

27. Samuelsohn, *supra* note 21.

price on carbon. They are comprehensive pieces of legislation designed to gradually and sensibly transition the United States to a low-carbon energy economy over the next forty years. This step-wise, comprehensive approach is predicted to add jobs and increase United States competitiveness in newly emerging sectors of the energy economy.²⁸ From here on out, this article will refer to cap and trade more in terms of comprehensive federal legislation designed to meet a wide array of this nation's energy and climate change objectives.

III. WHAT CAP AND TRADE MEANS FOR NORTH DAKOTA

Cap and trade is especially appealing to a state like North Dakota, with coal-fired power plants and the agriculture sector being major sources of emissions. The flexibility inherent in a cap and trade approach could ease the transition to a carbon-constrained world for coal-generators. The offset opportunities afforded to agriculture could create new sources of income and help alleviate cost increases for inputs. Furthermore, other approaches, particularly cap and dividend, would put the state at a disadvantage because coal-reliant generators would lose the flexibility to trade permits and would not get free allowances. Meanwhile, the dividends that go back to consumers would not add up to very much in a state with less than 650,000 people. As Michael Morris, the President and Chief Executive Officer of American Electric Power (AEP), put it, cap and dividend would take money from “mom in the Midwest and dividend it to Paris Hilton.”²⁹

A. AGRICULTURE

Agriculture, the largest sector of North Dakota's economy can benefit from a well-designed climate policy that includes cap and trade. Conversely, the sector could be impacted negatively by the risks to productivity due to the increasing threat of climate change. The agriculture sector in the United States was valued at about \$329 billion in 2007.³⁰ Due to the large area the United States encompasses and the diverse climates and soils, there is a wide variety of crops and livestock. Weather and climate factors such

28. Robert Pollin et al., *The Economic Benefits of Investing in Clean Energy*, PERI (Department of Economics and Political Economy Research Institute, University of Massachusetts, Amherst, Mass.), June 2009, at 46, available at http://www.americanprogress.org/issues/2009/06/pdf/peri_report.pdf.

29. Juliet Eilperin & Steven Mufson, *Senators to Propose Abandoning Cap-and-Trade*, WASH. POST, Feb. 27, 2010, at A6, available at http://www.washingtonpost.com/wp-dyn/content/article/2010/02/26/AR2010022606084_pf.html.

30. U.S. DEP'T OF AGRIC., ECONOMIC RESEARCH SERVICE, UNITED STATES AND STATE FARM INCOME DATA, VALUE ADDED TABLE 33 (2010), available at <http://www.ers.usda.gov/Data/farmincome/finfidmu.htm>.

as temperature, precipitation, CO₂ concentrations, and water availability directly impact agriculture crops and livestock. Weather and climate can also influence insects, weeds, and disease, which can affect agricultural production, according to an assessment by the United States Climate Change Science Program (CCSP).³¹

With regard to livestock, the CCSP report notes:

[H]igher temperatures will negatively affect livestock. Warmer winters will reduce mortality, but this will be more than offset by greater mortality in hotter summers. Hotter temperatures will also result in reduced productivity of livestock and dairy animals. Climate change is likely to lead to a northern migration of weeds. Many weeds respond more positively to increasing CO₂ than most cash crops, particularly C3 “invasive” weeds. But recent research also suggests that glyphosate, the most widely used herbicide in the United States, loses its efficacy on weeds grown at the increased CO₂ levels likely in the coming decades.³²

While mitigating some of these risks, a cap and trade policy can create extra revenue streams for the industry by expanding the market for a variety of bio-energy crops. Lease payments from wind developers, and even part ownership of turbines, are already providing some supplemental income for farmers and ranchers.³³ Should Congress pass comprehensive energy and climate legislation, the opportunities in bioenergy and wind are expected to increase.³⁴ Furthermore, a cap and trade system can provide additional income for agriculture producers who utilize carbon sequestering practices

31. RACHEL HAUSER ET. AL., U.S. DEP’T OF AGRIC., THE EFFECTS OF CLIMATE CHANGE ON U.S. ECOSYSTEMS 7 (2009), available at <http://www.usda.gov/img/content/EffectsofClimateChangeonUSEcosystem.pdf>.

32. *Id.* at 7-8.

33. *M-Power, LLC Secures Wind Rights to Proceed with North Dakota’s Largest Community-Owned Wind Energy Development*, NATIONAL WIND, Oct. 2007, <http://www.nationalwind.com/node/70/>.

34. PEW CENTER ON GLOBAL CLIMATE CHANGE, IN BRIEF: WHAT THE WAXMAN-MARKEY BILL DOES FOR AGRICULTURE 2 (July 2009), <http://www.pewclimate.org/federal/what-waxman-markey-does-for-agriculture>.

ACESA [ACES] is designed to increase the demand for biobased forms of energy and provides incentives to stimulate the growth of the bioenergy industry to meet this new demand. The Act’s combined efficiency and renewable electricity standard requires that 20% of electricity come from energy savings and renewable power, including biomass energy, by 2020. This measure will also incentivize wind power on agricultural lands. The bill includes liquid fossil fuels under the cap-and-trade program but exempts biofuels, providing a major new incentive to increase biofuel production and utilization as a compliance strategy. The bill also establishes a National Bioenergy Partnership to support the infrastructure needed to facilitate the deployment of sustainable biofuels and bioenergy technologies.

Id.

such as no-till farming or rotational grazing.³⁵ These extra revenue opportunities, called offsets, are a large part of the reason agriculture groups, such as the Farmers Union, support climate and energy legislation that includes cap and trade.³⁶

The National Farmers Union (NFU) has been deeply engaged in the climate policy discussion. NFU is supportive of cap and trade and has been actively lobbying on behalf of federal legislation.³⁷ The current President of the National Farmers Union is Roger Johnson, the Agriculture Commissioner for the State of North Dakota from 1996 to 2007.³⁸ In an op-ed published in the *Grand Forks Herald* in June of 2009, Johnson outlined the National Farmers Union's support of cap and trade policy:

America's farmers and ranchers stand ready, willing and able to help in the fight against climate change, and the National Farmers Union is committed to helping Congress adopt smart climate policy that addresses agriculture's unique role. A cap-and-trade program could give farmers and ranchers the chance to be part of the climate change solution by using soil carbon sequestration and methane from certain livestock projects. Environmental Protection Agency estimates that carbon sequestration by forests and agricultural lands offsets about 12 percent of annual greenhouse gas emissions, and they have the capacity to offset 20 percent of greenhouse gas emissions from all sectors of the economy.³⁹

A significant driver for supporting a cap and trade mechanism, according to Johnson, is the threat of regulation by the EPA.⁴⁰ NFU prefers a legislative approach to a regulatory approach and believes the flexibility of a cap and trade program holds the most potential for achieving actual greenhouse gas emissions reductions, while mitigating increased costs.⁴¹ "If Congress fails to pass climate change legislation, the Environmental

35. JAN LEWANDROWSKI ET AL., U.S. DEP'T OF AGRIC. ECON. RESEARCH DEV., ECONOMICS OF SEQUESTERING CARBON IN THE U.S. AGRICULTURAL SECTOR 2 (Apr. 2004), http://www.ers.usda.gov/publications/tb1909/tb1909_researchbrief.pdf.

36. National Farmers Union, *Climate Change Benefits Outweigh Costs* (Oct. 29, 2009), <http://nfu.org/news/2009/10/29/nfu-climate-change-benefits-outweigh-costs.html>.

37. *Id.*

38. *Id.*

39. Roger Johnson & Preston Chiaro, Op-Ed, *Farming, Coal Mining and Climate Change*, GRAND FORKS HERALD, June 25, 2009, at A5, available at https://secure.forumcomm.com/?publisher_ID=40&article_id=124159.

40. See National Farmers Union, *NFU Calls for Congress to Act on Climate Change* (Aug. 27, 2009), <http://nfu.org/news/2009/08/27/nfu-calls-for-congress-to-act-on-climate-change.html>; see also *Massachusetts v. Envtl. Prot. Agency*, 549 U.S. 497, 532-34 (2007) (giving EPA directive to regulate greenhouse gas emissions).

41. National Farmers Union, *supra* note 36.

Protection Agency (EPA) will move to regulate greenhouse gas emissions. This approach would only bring increased energy inputs without the opportunities of carbon offsets.”⁴²

The North Dakota Farmers Union (NDFU) has actively supported a cap and trade approach as well. NDFU has been out in front on this issue, as evidenced by the successful deployment of their voluntary carbon credit program, which was the first of its kind in the country and later became the model for the program that Farmers Union adopted nationally.⁴³ One author writes:

North Dakota Farmers Union members have long been concerned with the effects of climate change to agriculture and recognize the need to act. While multiple options exist for reducing GHG emissions, the flexibility of a cap and trade program holds the most promise in making actual reductions in GHG emissions while minimizing, to the extent possible, overall energy cost increases. A cap and trade program with an appropriately designed agricultural offset program would provide farmers and ranchers a means to contribute to overall GHG emission reductions through carbon sequestration and reduction of emissions from livestock operations, while at the same time providing income to producers. That income turns over in local communities.⁴⁴

While some in the agriculture community have expressed concerns about potential costs to agriculture resulting from cap and trade, studies suggest fears of increased costs may be without basis. Economist Bruce Babcock, at Iowa State University’s Center for Agricultural and Rural Development, predicts cap and trade policies like ACES will have relatively small negative impacts on agriculture. He warns that climate change impacts like increased droughts would have a much greater impact on the livelihoods of farmers than carbon prices.⁴⁵ A number of studies collaborate his findings.⁴⁶ United States Secretary of Agriculture, Tom Vilsack,

42. National Farmers Union, *Rural America Can Benefit From Climate Change Legislation* (July 22, 2009), <http://nfu.org/news/2009/07/22/nfu-rural-america-can-benefit-from-climate-change-legislation.html>.

43. National Farmers Union Carbon Credit Program, <http://carboncredit.ndfu.org/>.

44. Robert Carlson, *Climate Change Policy: The Time Is Now*, <http://www.ndfu.org/newsroom/viewNews.asp?ID=187> (last visited Apr. 15, 2010).

45. Bruce Babcock, *Costs and Benefits to Agriculture from Climate Change Policy*, 15 IOWA AG REVIEW 1, 11 (2009).

46. DANIEL DE LA TORRE UGARTE ET AL., BIO-BASED ENERGY ANALYSIS GROUP, ANALYSIS OF THE IMPLICATIONS OF CLIMATE CHANGE AND ENERGY LEGISLATION TO THE AGRICULTURAL SECTOR 18 (2009), http://beag.ag.utk.edu/pp/UT_Climate_energy%20report_25x'25Nov30.pdf; BILL GOLDEN ET AL., A COMPARISON OF SELECT COST-BENEFIT STUDIES ON

testifying before the House Agriculture Committee during the lead-up to the House Climate bill, said “[t]he availability of carbon offsets from agriculture and forestry will help contribute to a comprehensive, cost-effective cap and trade program.”⁴⁷

Secretary Vilsack’s USDA has focused on the potential income these offsets could provide producers. Furthermore, the USDA said ACES would create a less than 1% decrease in net farm income in the short-term, a 3.5% decrease in the medium-term, and 7.2% decrease in the long-term. One writer notes:

The analysis assumes no technological change, no alteration of inputs in agriculture, and no increase in demand for bio-energy as a result of higher energy prices. Therefore, it overstates the impact of the climate legislation on agriculture costs in the short (2012-18), medium (2027-2033), and long-term (2042 to 2048). In USDA’s analysis, short-term costs remain low in part because of provisions in ACES that reduce the impacts of the bill on fertilizer costs.⁴⁸

Benefits from offsets are predicted make up for income losses.⁴⁹ Secretary Vilsack alluded to these income gains in his testimony before the Senate Agriculture Committee last summer. “HR 2454’s [ACES]’ creation of an offset market will create opportunities for the agricultural sector. In particular, our analysis indicates that annual net returns to farmers range from about \$1 billion per year in 2015-20 to almost \$15-20 billion in 2040-50, not accounting for the costs of implementing offset practices.”⁵⁰

THE IMPACTS OF H.R. 2454 ON THE AGRICULTURE SECTOR OF THE ECONOMY 10-11 (2009), http://www.farmland.org/documents/A-Comparison-of-Select-Cost-Benefit-Studies-HR2454-Impacts-On-Agriculture-Sector_000.pdf.

47. Public Hearing to Review Pending Climate Legislation Before the House Agriculture Committee, 111th Cong. 3 (2009) (statement of Thomas Vilsack, Secretary of Agriculture), available at <http://agriculture.house.gov/testimony/111/h061109fc/Vilsack.pdf>.

48. Office of the Chief Economist, U.S. Dep’t of Agric., *A Preliminary Analysis of the Effects of HR 2454 on U.S. Agriculture* 1 (July 22, 2009) (noting under subtitle B of title IV, “energy-intensive, trade exposed entities” (EITE) covers industrial sectors that have: 1) an energy or greenhouse gas intensity of at least 5% and a trade intensity of at least 15%; or 2) an energy or greenhouse gas intensity of at least 20%. Without these allocations, firms in EITE industries would incur energy-related costs foreign competitors would avoid; hence, putting them at significant market disadvantage. The bill sets a maximum amount of allowances that can be rebated to EITE industries at, 2% for 2012 and 2013, 15% in 2014, and then declining proportionate to the cap through 2025. Beginning in 2026, the amount of allowance rebates will begin to be phased-out and are expected to be eliminated by 2035. The phase-out may begin earlier or be delayed based on presidential determination.)

49. *Id.*

50. News Release, U.S. Dep’t of Agric., Vilsack to Discuss USDA Study in Testimony Before the Senate Agriculture Committee (Mar. 31, 2009), http://www.usda.gov/wps/portal/!ut/p/_s_7_0_A/7_0_10B?contentidonly=true&contentid=2009/07/0331.xml; see also U.S. Dep’t

For a sense of what ACES would mean for an individual farmer, the USDA modeled a typical Northern Plains wheat producer. By 2020, that farmer would see an increase of \$0.80 per acre in costs of production due to higher fuel prices. Based on a soil carbon sequestration rate of 0.4 tons per acre and a carbon price of \$16 per ton, a producer could mitigate those expenses by adopting no-till practices and earning \$6.40 per acre. Not only does this wheat farmer do better under the House-passed climate legislation than without it, but it is possible this farmer could do even better if technologies and markets progress in such a way that allow for the sale of wheat straw to make cellulosic ethanol.⁵¹

The following remarks from Roger Johnson provide a broader perspective of the cost issue:

To state it simply, the cost of no action must become a central part of the ongoing climate change debate. Models of climate change scenarios demonstrate increased frequency of heat stress, droughts and flooding events that will reduce crop yield and livestock productivity. Our members accept that they will face increased energy input costs as a result of a cap and trade program However, they do not agree with those who claim climate change legislation will be void of economic opportunities and incentives.⁵²

B. HUNTERS AND ANGLERS

Like farmers and ranchers, sportsmen in North Dakota face impacts from climate change, but also have an opportunity to benefit from climate policy. Prime fishing, hunting, and outdoor recreation habitat is at risk of being lost or diminished due to changes in the climate.⁵³ In North Dakota, some studies indicate that climate change could pose a threat to the prairie pothole region.⁵⁴ Between fifty and eighty percent of North America's annual duck production comes from the prairie potholes.⁵⁵ Scientists say

of Agric., 111th Cong., A Preliminary Analysis of the Effects of H.R. 2454 on U.S. Agriculture 1 (2009), available at <http://www.usda.gov/oce/newsroom/archives/releases/2009files/HR2454.pdf>.

51. Tony PirkI, *GRE Announces Biorefinery Plans*, JAMESTOWN SUN, Mar. 18, 2010, <http://www.jamestownsun.com/event/article/id/107158>.

52. National Farmers Union, *Rural America Can Benefit from Climate Change Legislation* (July 22, 2009), <http://nfu.org/news/2009/07/22/nfu-rural-america-can-benefit-from-climate-change-legislation.html>.

53. Hauser, *supra* note 31 (summarizing a number of studies from different regions of the country detailing climate change-related threats to wildlife and habitat).

54. W. C. Johnson et al., *Prairie Wetland Complexes as Landscape Functional Units in a Changing Climate*, 60 *BIOSCIENCE* 128–140 (2010), available at <http://www.fws.gov/home/feature/2010/pdf/PrairiePotholesBioScience.pdf>.

55. George A. Swanson et al., *Dynamics of a Prairie Pothole Wetland Complex: Implications for Wetland Management*, HYDROLOGICAL, CHEMICAL, AND BIOLOGICAL CHARACTERIS-

increased temperatures and persistent drought could significantly reduce the western portion of the prairie pothole region, which would include North Dakota. An eastward shift of habitat would be harmful to waterfowl because most of the wetlands in the eastern Dakotas and Minnesota have been drained. Climate change could destroy as much as ninety percent of the prairie pothole region.⁵⁶ Overall, the hunting industry adds \$129 million annually to the state's economy, twenty percent of which is hunting for waterfowl.⁵⁷ "If this [four to eight degree Fahrenheit rise in regional temperatures between 2050 and 2100] happens, we'll drop below seasonal thresholds to have a duck season, or the limit will be one or two ducks. Waterfowl hunting numbers are already dropping, and this is not good. You lose the hunters and you lose those duck stamp dollars that pay for restoration," said Carter Johnson, a distinguished professor of ecology at South Dakota State University who has studied climate change for forty years.⁵⁸

In 2009, the National Wildlife Federation issued a report highlighting ten iconic game species at risk due in part to climate change. Two of the species, the pintail duck and the sage grouse, inhabit North Dakota.⁵⁹ Sage grouse are the largest species of grouse in North America. They depend on sagebrush habitats in order to find enough food and cover to survive. Habitat loss and degradation have already greatly reduced sage grouse range and put North Dakota's sage grouse hunting season on hold in recent years. Climate change threatens much of the sage grouse's remaining habitat.⁶⁰

But, as noted earlier, there could be benefits for sportsmen and outdoor enthusiasts from the passage of comprehensive climate and energy legislation. Perhaps the most important benefit would be protecting wildlife and their habitat from the worst impacts of climate change. Another significant

TICS OF A PRAIRIE POTHOLE WETLAND COMPLEX UNDER HIGHLY VARIABLE CLIMATE CONDITIONS—THE COTTONWOOD LAKE AREA, EAST-CENTRAL NORTH DAKOTA 55 (TC Winter ed. 2003).

56. W. C. Johnson et al., *Vulnerability of Northern Prairie Wetlands to Climate Change*, 55 BIOSCIENCE 863, 863-872 (2005), available at http://www.ndclimatesolutions.org/downloads/RickVoldseth_Clim_Wetlands_Compatibility_Mode.pdf.

57. U.S. FISH AND WILDLIFE SERV., 2006 NATIONAL SURVEY OF FISHING, HUNTING, AND WILDLIFE-ASSOCIATED RECREATION 107 (2006), http://library.fws.gov/pubs/nat_survey2006_final.pdf.

58. Thom Gabrukiewicz, *Sportsmen Key in Global Warming Debate*, ARGUS LEADER, Feb. 17, 2010, available at <http://www.argusleader.com/article/20100217/OUTDOORS01/2170311/147/outdoors>.

59. Target Global Warming, 3 Iconic Species and Habitats at Risk, http://www.targetglobalwarming.org/files/Brochure2_ND_C_LowRes.pdf.

60. *Id.*

gain from such legislation is natural resource adaptation funding. Because CO₂ stays in the atmosphere for at least fifty years, the large amounts of CO₂ that have already accumulated in the atmosphere, in concert with future emissions, will mean the global temperature will rise by at least two degrees Fahrenheit by the end of this century.⁶¹ Therefore, mitigating greenhouse gas emissions will not change the fact that wildlife and the habitats that support them will have to adapt to some warming.

Adaption funding seeks to address this concern. ACES would provide adaptation funding to various federal, state, and tribal agencies responsible for managing land, water, and wildlife, and require them to write a national strategy and agency plans to respond to the changing climate. The legislation would guarantee an average of \$5.4 million per year for the next twenty years for the North Dakota Game and Fish Department to protect natural resources from climate change.⁶² Aside from protecting natural resources, adaptation funding would create jobs such as: restoring wetlands and streams, removing invasive species, building and restoring wildlife corridors, and protecting habitat and natural watersheds.⁶³

There is widespread support within the conservation community for comprehensive federal energy and climate legislation. In the fall of 2009, twenty national conservation organizations sent a letter to senators encouraging the senators to pass such legislation. Some of the national groups to sign the letter were the Association of Fish and Wildlife Agencies, Ducks Unlimited, National Wildlife Federation, Pheasants Forever, The Wildlife Society, Theodore Roosevelt Conservation Partnership, and Trout Unlimited. North Dakota conservation groups that signed include Audubon Dakota, Badlands Conservation Alliance, Central Mountains and Plains Section of the Wildlife Society, North Dakota Natural Resource Trust, and

61. SUBCOMM. ON GLOBAL CHANGE RESEARCH, 110TH CONG., REPORT ON GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES 24 (Subcomm. Print 2009), *available at* <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>; Gerald A. Meehl et. al., *Global Climate Projections*, CLIMATE CHANGE 2007: THE PHYSICAL BASIS 747 (Susan Solomon ed. 2007).

62. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009), *available at* <http://www.govtrack.us/data/us/bills.text/111/h/h2454pcs.pdf>; Target Global Warming, *supra* note 59.

63. *See* Target Global Warming, *supra* note 59.

These funds should be provided through the revenue generated by the clean energy and climate policies and be dedicated to the federal, state and tribal agencies that manage natural resources. This funding will protect our natural resource based economy, and create tens of thousands of new green jobs—restoring wetlands and streams, removing invasive species, building and restoring wildlife corridors, and protecting habitat and natural watersheds.

Id.

the North Dakota Wildlife Federation. Overall, over 600 groups across the country have signed the letter.⁶⁴ The letter states:

On behalf of the millions of organized sportsmen and women and conservation professionals from across the country, we urge you to work with your colleagues to ensure that the Senate passes comprehensive climate and energy legislation this year. In order to safeguard fish, wildlife, and their habitats which also provide for ecosystems services and quality of life for our citizens, we urge that legislation must include both reductions of greenhouse gas emissions and dedication of an adequate and appropriate amount of the total carbon allowance value for natural resources adaptation programs at the federal and state levels.⁶⁵

Sportsmen are a 34 million-member-strong segment of society adding their voices in the debate.⁶⁶ In 2006, hunting, fishing, and wildlife-related enthusiasts spent more than \$122 billion in the United States.⁶⁷ In North Dakota alone, hunting, fishing, and wildlife viewing account for an economic impact of \$269 million. Two hundred seventy-nine thousand people participate in wildlife recreation in the state, and the industry accounts for 5,021 jobs.⁶⁸ More importantly, perhaps, hunting and fishing are part of North Dakota's cultural identity.⁶⁹

C. COST OF IMPLEMENTING CAP AND TRADE

The cost of implementing a comprehensive federal energy and climate policy that includes cap and trade is, of course, an important consideration. An honest discussion is needed concerning the costs—which are manageable and pale in comparison to what we currently pay for insurance, health care, or defense.⁷⁰

Unfortunately, in North Dakota we do not always have candid discussions about the costs of implementing cap and trade. A case in point would be a recent news story in the *Bismarck Tribune* with the headline,

64. Letter from American Fisheries Society to Senate (Sept. 21, 2009), *available at* http://www.fisheries.org/afs/docs/policy_awcp.pdf.

65. *Id.*

66. U.S. FISH AND WILDLIFE SERV., *supra* note 57, at 4-5.

67. *Id.* at 5.

68. *Id.* at 97.

69. *Id.*

70. Johnson & Chiaro, *supra* note 39.

“Beware cap-and-trade.”⁷¹ The one-sided story highlighted a report released by the libertarian North Dakota Policy Council and the American Council for Capital Formation (ACCF).⁷² This report focused on ACCF’s predictions for negative economic consequences from the ACES bill. The report was rather hyperbolic, going so far as to call the bill “anti-energy, anti-growth, and anti-jobs” and boldly claiming it would “destroy growth.” The *Bismarck Tribune* story neglected to mention that ACCF has received over \$1.6 million from Exxon Mobil since 1998, much less give readers a sense of the questionable assumptions the report used in its models to arrive at its conclusions.⁷³

Critics of the report note that international offsets—generally thought to be cheaper than domestic offsets—are limited to five percent even though ACES allows fifty percent of offsets used to come from international offsets.⁷⁴ The report is unabashedly sour on wind energy without much explanation. It assumes a mere 5 to 10 gigawatts annual deployment in the United States, despite the fact the still-maturing industry deployed 7.3 gigawatts in 2008 alone, without the incentive of a price on carbon.⁷⁵

To arrive at their dire conclusions, the ACCF report assumes an aggressively high price for carbon allowances: up to sixty dollars per ton in 2020, compared to other studies done on the bill. The Energy Information Administration (EIA), the United States government agency responsible for energy statistics, assumes an allowance price of thirty-two dollars in their assessment of ACES.⁷⁶ This is about double what the EPA⁷⁷ found in their

71. Brian Gehring, *Beware Cap-and-Trade*, BISMARCK TRIBUNE, Jan. 14, 2010, at A1, available at http://www.bismarcktribune.com/news/state-and-regional/article_60feaa10-00c8-11df-80b0-001cc4c002e0.html.

72. DR. MARGO THORNING & DR. PINAR CEBI WILBER, NORTH DAKOTA POLICY COUNCIL & AMERICAN COUNCIL FOR CAPITAL FORMATION, CAP & TRADE AND NORTH DAKOTA’S ECONOMIC FUTURE 2 (2009), http://www.policynd.org/images/uploads/ND_Cap_and_Trade.pdf.

73. Factsheet: American Council for Capital Formation Center for Policy Research, ACCF, <http://www.exxonsecrets.org/html/orgfactsheet.php?id=77>.

74. See Brad Johnson, NAM/ACCF Forecasts 20 Million New Jobs Under American Clean Energy and Security Act, The Wonk Room (Aug. 12, 2009), <http://wonkroom.thinkprogress.org/2009/08/12/nam-aces-jobs/> (noting, “[t]hese ‘input assumptions’ for the deployment of the ACES carbon cap-and-trade market include: . . . International offsets are limited to 5%. ACES allows 50% of offset use to come from international offsets.”).

75. U.S. ENERGY INFO. ADMIN., RENEWABLE ENERGY CONSUMPTION AND ELECTRICITY PRELIMINARY STATISTICS 2008 (July 2009), http://www.eia.doe.gov/cneaf/alternate/page/renew_energy_consump/rea_prereport.html.

76. See ENERGY INFO. ADMIN., ENERGY MARKET AND ECONOMIC IMPACTS OF H.R. 2454, THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 13 (Aug. 2009), available at [http://www.eia.doe.gov/oiaf/servicert/hr2454/pdf/sroiaf\(2009\)05.pdf](http://www.eia.doe.gov/oiaf/servicert/hr2454/pdf/sroiaf(2009)05.pdf) (describing how “GHG allowance prices are sensitive to the cost and availability of emissions offsets and low-and no-carbon generating technologies. Allowance prices in the ACESA Basic Case are projected at \$32 per metric ton in 2020 and \$65 per metric ton in 2030.”).

analysis and fifty percent higher than the Congressional Budget Office's projection.⁷⁸ Furthermore, it should be noted the Senate bill will likely have a price collar that limits the amount the carbon price can fluctuate.⁷⁹

Ironically, some in favor of ACES have noted the ACCF reports projections of strong economic growth, while ignoring key cost-containment provisions in the climate bill, and makes a strong case for the bill. Those in favor of ACES point out that the report's projected cost to the economy—\$8.9 trillion in economic growth by 2030 in the “high-cost scenario” versus \$9.5 trillion—still acknowledges solid economic growth while mitigating climate change.⁸⁰

Another example of the skewed conversation in North Dakota on the cost of climate policy is a report by the North Dakota Public Service Commission (PSC) summarizing a Carbon Cap and Trade Summit they held to discuss the impact federal climate legislation could have on North Dakota consumers and electric utilities.⁸¹ The PSC's Executive Summary of the event only highlighted utilities that took a negative position on federal caps on greenhouse gas emissions and neglected to note the statement in support of such an approach by Xcel Energy's Senior Consultant for Regulation and Finance, David Sederquist.⁸² The document also failed to acknowledge the presentation given by economist Andrew Keeler from Ohio State University, in which he suggested that a cap and trade

77. ENVTL. PROT. AGENCY, SUPPLEMENTAL ANALYSIS OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 H.R. 2454 IN THE 111TH CONGRESS 4 (Jan. 29, 2010), available at http://www.epa.gov/climatechange/economics/pdfsHR2454_SupplementalAnalysis.pdf.

78. CONG. BUDGET OFFICE, THE ESTIMATED COSTS TO HOUSEHOLDS FROM THE CAP-AND-TRADE PROVISIONS OF H.R. 2454 (June 19, 2009), available at <http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapTradeCosts.htm>.

79. Clean Skies, Sen. Kerry on the New Climate Bill (Feb. 23, 2010), <http://www.cleanskies.com/videos/sen-kerry-the-new-climate-bill>.

80. See Johnson, *supra* note 74 (noting, “[t]hese ‘input assumptions’ for the deployment of the ACES carbon cap-and-trade market include: . . . International offsets are limited to 5%. ACES allows 50% of offset use to come from international offsets.”) Johnson also states:

Similarly, NAM found the gross domestic product of the United States would increase by \$9 trillion by 2030 from current levels. To be more precise, the analysis estimates \$9.1 trillion in growth under its low-cost scenario, and \$8.9 trillion under its high-cost scenario, versus \$9.5 trillion in growth under its baseline scenario.

Id.

81. See generally N.D. PUB. SERV. COMM'N, CARBON CAP & TRADE SUMMIT, EXECUTIVE SUMMARY 2-5 (Apr. 17, 2009), <http://www.psc.state.nd.us/hottopics/Exec-Summary-Carbon-Cap-and-Trade-Summit-FinalVersion%20copy.pdf> (describing the negative attitude toward federal regulation of greenhouse gases held by many political and industry leaders in North Dakota, particularly with regards to utilizing a cap and trade approach).

82. See generally Xcel Energy, Position on Climate Policy, <http://www.xcelenergy.com/Minnesota/Company/Environment/ClimateAction/Pages/Policy.aspx> (failing to include statements in support of federal regulation, such as the one given by Mr. Sederquist, and failing to post any video or audio of the Summit).

mechanism was the preferred approach from an economic standpoint to deal with climate change.⁸³

Several utility company representatives from both the investor-owned-utilities (IOU's) and the Rural Electric Co-Ops (REC's) cited "specific examples" of what "costs their customers will likely face" if federal climate legislation would be enacted.⁸⁴ These "specific examples" merely factored in a twenty dollar per ton "tax" on carbon.⁸⁵ Their unrefined analysis failed to consider allowances from a cap and trade program that would be dedicated to alleviating the cost burden for low and moderate income consumers.⁸⁶ This, of course, is a misrepresentation and crude oversimplification of cap and trade, in general, and certainly of the ACES bill that passed in the House.⁸⁷

What is not always mentioned in the debate in North Dakota regarding the cost of cap and trade policy is that several studies of the ACES bill have concluded it would have a relatively modest cost while protecting low and moderate income consumers. For instance, the EIA analysis mentioned earlier predicts an increase of just eighty-three dollars per year in household costs, which is less than twenty-three cents per day.⁸⁸ The EPA study puts the cost slightly higher, at between \$88 and \$140 per household per year.⁸⁹ The non-partisan Congressional Budget Office estimated an average household cost of \$175 per year by 2020, which is about the cost of a postage stamp per day. Moreover, thanks to the protections built into the bill for low and moderate income consumers, families making under \$40,000 would only see energy cost increases of about \$3.30 per month with those making under \$20,000 actually projected to save \$40 per year.⁹⁰

Other analyses also show low income consumers are protected under ACES. According to the Center for Budget and Policy Priorities, a think-tank focused on the effects of fiscal policies on low and moderate income consumers:

83. Andy Keeler, Federal Cap and Trade: Background and Key Issues, Presentation to North Dakota Public Service Commission (2009).

84. N.D. PUB. SERV. COMM'N, *supra* note 81, at 2.

85. *Id.* at 4.

86. *Id.*

87. NAT'L WILDLIFE FED'N, CLIMATE ACTION TOOLBOX 6 (2009), <http://www.nwf.org/Wildlife/Policy/~media/PDFs/Wildlife/nwf-aces-toolbox-final-8-14-09.ashx>.

88. See ENERGY INFO. ADMIN., *supra* note 76, at 13 (noting "GHG allowance prices are sensitive to the cost and availability of emissions offsets and low-and no-carbon generating technologies. Allowance prices in the ACESA Basic Case are projected at \$32 per metric ton in 2020 and \$65 per metric ton in 2030.").

89. ENVTL. PROT. AGENCY, *supra* note 77, at 20.

90. *Id.*

The consumer refund mechanisms, in combination with the allocations to utility companies that the House bill makes, would succeed in providing meaningful relief to households with incomes below 150 percent of the poverty line and ensuring that, on average, households in the bottom quintile are not made worse-off by the legislation.⁹¹

Aside from the economic arguments, an ethical argument can be made regarding costs, as the Reverend Paul Schuster does in a letter to the editor published in several North Dakota papers: “[R]esponding to climate change is fundamentally a matter of conscience and morality, not just financial cost, especially when the well-being of hundreds of millions of human beings, their way of life, livelihoods and communities are at stake.”⁹² Schuster continues with the following analogy:

In a different historical context, defenders of slavery made a similar argument—that the success of the sugar industry was dependent on the use of slaves and that abolition would destroy the economy. The financial arguments of slave owners and traders looks preposterous today, just as our current obsession with the costs of confronting climate change will look unforgivably short-sighted to future generations.⁹³

D. THE THREAT TO THE COAL INDUSTRY—TECHNOLOGY NOT READY

The coal industry is an important part of North Dakota’s economy. Coal use is also responsible for eighty percent of all greenhouse gas emissions from electricity generation and nearly thirty percent of total GHG emissions in the United States.⁹⁴ Obviously, achieving reductions in domestic and global GHG emissions sufficient to address the threat of climate change will require reducing emissions from coal use. Some coal industry advocates in North Dakota, and around the country, argue that policies to

91. DOROTHY ROSENBAUM ET AL., HOW LOW-INCOME CONSUMERS FARE IN THE HOUSE CLIMATE BILL 6 (2009), available at <http://www.cbpp.org/cms/index.cfm?fa=view&id=2865>.

92. Paul Schuster, Letter to the Editor, *Limiting CO2 Worth the Cost*, BISMARCK TRIBUNE, June 24, 2009, at 10A, available at http://www.bismarcktribune.com/news/opinion/mailbag/article_45c7e410-888a-548b-95e2-7c855e119d9b.html.

93. *Id.*

94. U.S. ENV’T’L PROT. AGENCY, EXECUTIVE SUMMARY INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2008 26 (2010), available at http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010_ExecutiveSummary.pdf.

reduce emissions, such as cap and trade, amount to a tax on their industry.⁹⁵ In addition, they argue they need more time to commercialize low carbon technologies such as carbon capture and sequestration. However, there is a growing realization among companies with large coal assets that a price on carbon is inevitable and adjusting to this new reality sooner rather than later is the prudent thing to do.⁹⁶

Two compelling voices from industry in support of cap and trade, Preston Chiaro and Michael Morris, visited North Dakota last summer. Morris, Chairman, President, and Chief Executive Officer of AEP, one of the largest electric utilities in the United States⁹⁷ and the largest user of coal and emitter of carbon dioxide in the western hemisphere, said that AEP supports comprehensive federal energy and climate legislation that includes cap and trade largely because it will provide more certainty for consumers and companies.⁹⁸ Noting the investments his company has made in carbon capture technologies, Chiaro said, “We’re taking action not because of altruism, but for a very good business reason[.] . . . Because we want to protect one of our key commodities [coal].”⁹⁹

Companies with a significant interest in coal, such as AEP, have decided they would rather have a seat at the table and influence the makeup of legislation that would affect their industry.¹⁰⁰ There are a number of areas in the ACES bill, for example, where proactive coal industry interests have been able to advocate for policies that will ease the industry’s transition into a carbon-constrained world. Coal-friendly provisions in

95. See Partners for Affordable Energy, *ACES Would Hurt North Dakota Agricultural Interests* (Oct. 2009), <http://powerofcoal.com/?id=87&page=October+2009+Energy+Watch+Update#c>.

96. *Perspectives on Climate Stewardship, Interview with Preston Chiaro* (Prairie Public Radio Broadcast June 29, 2009), available at <http://www.prairiepublic.org/wp-content/uploads/preston-chiaro.mp3>.

97. Michael G. Morris—Biography, http://www.drteel.net/%7Emallard/doc/Michael_Morris.pdf.

98. *Ohio-Based AEP President Speaks at ND Conference*, MORNING JOURNAL, June 30, 2009, <http://culogin.morningjournalnews.com/page/content.detail/id/83897.html?isap=1&nav=-5020&showlayout=0>.

99. Brian Duggan, *Conference to Look at Renewable Energy*, BISMARCK TRIBUNE, June 19, 2009, http://www.bismarcktribune.com/news/local/article_01f069ce-387f-5a9b-975a-a6a12ef4f9a8.html.

100. See Michael G. Morris, American Electric Power, *AEP’s Position on Climate Legislation is Clear: A Message from AEP Chairman, President & CEO Michael G. Morris* (Am. Electric Power), Sept. 14, 2009, at 1, <http://www.aepsustainability.com/ourissues/climate/views/docs/MikeMorrisWaxman-MarkeyStatement.pdf> (noting “American Electric Power supports the American Clean Energy and Security Act. No legislation is perfect—particularly one that seeks to overhaul the way our nation uses energy—but we believe this climate bill will work and it represents the best of the available options.”). Duke Energy, Alstrom, and General Electric are members of USCAP and supported ACES. United States Climate Action Partnership—About Our Members, <http://www.us-cap.org/about-us/about-our-members/> (last visited Apr. 15, 2010).

ACES include a clear regulatory path for CCS, an important factor for investors in this technology. Besides putting a price on carbon to incentivize advanced coal technologies like CCS, ACES includes specific provisions to spur development of this technology. ACES authorizes the formation of a Carbon Storage Research Corporation (CSRC) funded by a small surcharge on fossil fuel-generated electricity sales. The CSRC would collect one billion dollars per year for ten years to provide financial support to at least five commercial scale CCS projects. More significantly, a cumulative four percent of the allowances in the bill are allocated for the purpose of subsidizing the cost of deploying CCS through 2050.¹⁰¹ At an event in Bismarck, North Dakota, Carmen Miller of the Pew Environment Group said:

Jobs in the clean energy sector are growing at a rate faster than any other jobs in the sector and that clean energy economy absolutely anticipates a future for coal that will include those clean coal technologies jobs. Those jobs will only increase and this legislation provides a path for coal and a future for coal.¹⁰²

Those who see climate policy as a threat to the coal industry often argue the technology to decarbonize coal is not ready and, therefore, policy should wait until those technologies become commercially viable.¹⁰³ This argument ignores the role the market signal created by a climate policy would play in spurring investments in advanced coal technologies. Plus, it is ill-advised to neglect the subsidies alluded to earlier for CCS and other low-carbon coal technologies that are part of ACES and will likely be part of any bill voted on by the Senate. Climate legislation will provide a steady and guaranteed source of funding for these important transition technologies.

101. See PEW CTR. ON GLOBAL CLIMATE CHANGE, IN BRIEF: WHAT THE WAXMAN-MARKEY BILL DOES FOR COAL 2 (2009), <http://www.pewclimate.org/federal/what-waxman-markey-does-for-coal>.

102. Amanda Tetlak, Economic Impacts of Cap and Trade, KFVR TV, Jan. 13, 2010, http://www.kfyr.com/News_Stories.asp?news=36996.

103. See Keith Johnson, Clean Coal: Not Ready for Prime Time Yet, WALL ST. J. BLOGS, Apr. 27, 2009, <http://blogs.wsj.com/environmentalcapital/2009/04/27/clean-coal-not-ready-for-prime-time-yet/tab/article/>.

The segment looked at Duke's efforts to clean up coal plants by introducing expensive new technology that can capture and store greenhouse-gas emissions. There aren't currently any commercial coal plants in the U.S. (or anywhere else) using the technology, which makes coal production a lot more expensive. But so-called "clean coal" technology is seen as vital in the fight against climate change since coal supplies 50% of U.S. electricity—and about 80% in countries such as China.

By providing a funding mechanism for CCS deployment and a market signal for investment in these technologies, a comprehensive federal climate bill creates a clear long-term roadmap which is currently missing in United States energy policy. Thanks in part to the current regulatory uncertainty, investments in new coal plants have come to a near standstill in the United States while Congress mulls cap and trade legislation. Moves last year by Bismarck-based utility MDU and others to scrap the proposed Big Stone II coal plant, and North American Coal Corporation's decision to delay their plans for a coal-to-liquids facility in the southwestern part of the state clearly demonstrate this point.¹⁰⁴ The Sierra Club's database of proposed coal plants shows over 120 that have been cancelled or put on hold indefinitely in the past several years.¹⁰⁵ "Unless we get some resolution to that [regulatory] uncertainty, I think the likelihood of more [coal plants] being built is minimal," said Preston Chiaro.¹⁰⁶

With the right policies and incentives in place, a number of different low-carbon coal technologies could become commercially viable. Underground coal gasification¹⁰⁷ and Integrated Gasification Combined Cycle (IGCC) plants with CCS¹⁰⁸ are two such technologies. In the case of IGCC with CCS, the different components of the process have been demonstrated

104. See Scott DiSavino, *MDU, Others Will Not Build SD Big Stone 2 Coal Plant*, REUTERS, Nov. 3, 2009, <http://www.reuters.com/article/idUSN0349229220091103>. DiSavino reported:

MDU Resources Group Inc (MDU.N) said late Monday it would not build the planned 500-to-600-megawatt Big Stone II coal-fired power project near Milbank, South Dakota. MDU said in a release the project required additional participants to move forward but none have committed. In September, Otter Tail Corp (OTTR.O), Big Stone II's lead developer, withdrew from the project due to the economic downturn and the high level of uncertainty associated with proposed federal climate legislation.

Id. See also James Macpherson, *North Dakota Coal-to-Fuel Plant in 'Holding Pattern' as Developers Wait for Energy Policy*, SCIENCE NEWS, Jan. 8, 2010, <http://blog.taragana.com/science/2010/01/08/north-dakota-coal-to-fuel-plant-in-holding-pattern-as-developers-wait-for-energy-policy-3005> (noting "[d]evelopers of a coal-to-liquid fuel factory proposed for western North Dakota say a decision on whether to build the \$4 billion plant depends on a change in political climate. And backers are asking for a second extension of state aid to study the project.").

105. SIERRA CLUB, STOPPING THE COAL RUSH, <http://www.sierraclub.org/environmental-law/coal/plantlist.asp>.

106. Preston Chiaro, Chief Executive, Rio Tinto Energy & Minerals, Address at the International Climate Stewardship Solutions Conference (June 29-30, 2009) (presentation outline available at http://www.drtel.net/%7Emallard/doc/Future_of_Coal_in_a_Carbon-Constrained_World_June_2009.pdf).

107. See generally DAVID W. CAMP, UNDERGROUND COAL GASIFICATION: POTENTIAL LOW-COST PATH TO CARBON CAPTURE AND SEQUESTRATION 2 (Nov. 2, 2009), <http://www.gpsid.net/vertical/Sites/%7B1510F0B9-E3E3-419B-AE3B-582B8097D492%7D/uploads/%7B84DBC2-114A-4C84-AC23-368646F2F4AA%7D.PDF> (describing the low-carbon coal technology of underground coal gasification).

108. See generally, Chiaro, *supra* note 106 (providing a technological overview of this technology along with a comprehensive and experience analysis of the policy context).

commercially, but have yet to be integrated.¹⁰⁹ Duke Energy and Nuon are embarking on an IGCC with CCS project, and China is also moving ahead with this technology.¹¹⁰ Even in the case of existing plants, there has been some momentum. Last December, AEP announced their CO₂ capture and storage demonstration project—at their existing Mountaineer coal-fired power plant in West Virginia—has produced exceptional results.¹¹¹ In fact, AEP predicts that it will be able to install carbon capture technology on seventy-five percent of its fleet by 2025 and retire the remaining twenty-five percent of its older, less efficient plants.¹¹²

While in Copenhagen for the United Nations Climate Conference, Dennis Welch, the top environmental official at AEP, was asked by a North Dakota reporter why his company seems to have greater confidence for CCS technology than industry leaders in North Dakota. “I guess that’s where we differ. We [call this Mountaineer plant] a validation project, not a science project,” said Welch.¹¹³

Still, there has been some critically important work done in North Dakota to advance low-carbon coal technology that should be recognized. Great River Energy (GRE), for instance, has developed a proprietary coal

109. *Id.*

110. Edwardsport Integrated Gasification Combined Cycle (IGCC) Station, Duke Energy, <http://www.duke-energy.com/about-us/igcc.asp>.

111. *See* Corporate Citizenship, American Electric Power, <http://www.aep.com/environmental/climatechange/carboncapture/> (last visited Feb. 26, 2010). American Electric Power’s website states:

AEP is at the leading edge of research into the application of emerging carbon capture and storage (CCS) technology to address carbon dioxide (CO₂) emissions. Coal is going to be part of our energy future. Our challenge is to develop and deploy advanced clean coal technologies that allow us to continue to use this abundant, domestic resource. In 2009, AEP began capturing and sequestering CO₂ from one of its coal-fueled power plants in West Virginia as the first phase of AEP’s commitment to advancing the deployment of carbon capture and storage technology.

Id. *See also* Rebecca Smith, *Big Utility Turns Bullish on Carbon Capture*, WALL ST. J., Dec. 9, 2009, at A6, available at <http://online.wsj.com/article/SB126032092489782773.html>. Smith reports:

The head of American Electric Power Co., the biggest emitter of carbon dioxide in the U.S., said advances in technology would allow the company to eliminate the emissions from its coal-fired power plants by 2025. Mike Morris, chief executive of Ohio-based AEP, said his company’s early experience with a carbon capture and storage project at its Mountaineer power plant in West Virginia had exceeded expectations. As a result, he believes AEP will be able to retire 25% of its coal-burning power plants and install advanced carbon-capture equipment on the remaining 75%.

Id.

112. *See* Smith, *supra* note 111, at A6.

113. *See* Audio interview: Reports for North Dakota from the Climate Summit in Copenhagen, held by Prairie Public Radio (Dec. 2009), available at http://www.prairiepublic.org/wp-content/uploads/aep_intvw.mp3. Welch predicted full commercial scale-up of their current CO₂ capture operation at the 234 MW facility by 2015, and perhaps as early as 2014. *Id.*

drying technology at its coal creek station facility in Underwood, North Dakota, that operates with power plant waste heat, reducing CO₂ and mercury emissions.¹¹⁴ GRE's Spiritwood Coal plant, near Jamestown, North Dakota, will co-fire coal with biomass and be the most efficient coal-fired power plant in the region.¹¹⁵ The plant also hopes to supply steam for use by an adjacent barley malting plant to displace natural gas. Basin Electric's Dakota Gasification plant near Beulah, North Dakota, already captures nearly three million tons of CO₂ every year from lignite coal, making it one of the largest examples of CCS in the world.¹¹⁶ The captured CO₂ is then sent through a pipeline to Saskatchewan, Canada, and injected deep underground into an oil field. This forces otherwise unrecoverable oil to the surface, resulting in a seventy percent lower carbon footprint than imported oil.¹¹⁷ Last summer, United States Energy Secretary Steven Chu traveled to Bismarck to announce that Basin Electric would receive one hundred million dollars in federal stimulus dollars for its plans to use ammonia-based technology to capture carbon dioxide at its Antelope Valley Station near Beulah.¹¹⁸

While there are still hurdles to commercialize advanced coal technologies for broader deployment, there are also reasons to be optimistic. For example, the technology exists today to gasify North Dakota lignite coal, capture the CO₂ for enhanced oil recovery (EOR), produce synthetic natural gas (SNG) for use in power generation and other purposes, and use the SNG made available in the pipeline distribution system to back up much larger amounts of wind energy on the grid with combined cycle generation.

114. See Lignite Drying at Great River Energy's Coal Creek Station, <http://mydocs.epri.com/docs/public/00000000001013060.pdf> (last visited Feb. 27, 2010) (noting "[a] new process, called the Lignite Fuel Enhancement System (LFES), uses waste heat from the power plant condenser to drive a bubbling fluidized bed-coal dryer. The dryer removes nearly a quarter of the coal's moisture before the coal is fed into the power plant boiler.")

115. Sandra Broekema, Presentation at the Future of Coal and Biomass in a Carbon-Constrained World Conference (Nov. 2, 2009), available at <http://www.gpsid.net/vertical/Sites/%7B1510F0B9-E3E3-419B-AE3B-582B8097D492%7D/uploads/%7B288D2993-D71B-49DE-9C02-632B167E6554%7D.PDF>.

116. DAKOTA GASIFICATION COMPANY, CO₂ CAPTURE AND STORAGE, THE GREATEST CO₂ STORY EVER TOLD, available at http://www.dakotagas.com/CO2_Capture_and_Storage/index.html.

117. Masaki Iijima & Toru Takashina, *A View of Oil Resources and the Mitigation of CO₂ Emissions*, Vol. 41 No. 4 MITSUBISHI HEAVY INDUSTRIES, LTD. TECHNICAL REVIEW (Aug. 2004), at 6, <http://www.mhi.co.jp/technology/review/pdf/e414/e414192.pdf> (noting "[t]he source of CO₂ is the off-gas of the coal gasification plant in North Dakota. The CO₂ is fed to the Wayburn oil field in Saskatchewan . . . via pipelines and is injected into [the] oil reservoir as part of the EOR method. In this project, 5,000 t/d of CO₂ was first injected into oil reservoir during the fall of 2001, and it was confirmed that, in summer 2002, the production of oil was increased by 5400 bbl/d.")

118. *Bismarck Co-Op to Get up to \$100M to Reduce CO₂*, KXNET.COM, July 1, 2009, <http://www.kxnet.com/custom404.asp?404>; <http://www.kxnet.com/t/basin-electric/398792.asp>.

Dr. Robert Williams, of Princeton, shared with North Dakotans his idea for repowering existing coal plants with gasification systems that would make “both low-carbon electricity and synfuels (synthetic diesel and/or gasoline) from coal and biomass, while capturing and storing CO₂ underground.”¹¹⁹ So, while there are technical challenges and progress still to be made, there are also a number of exciting opportunities.

An important point that is neglected by those who argue the technology for CCS is not yet commercially viable is that it is not urgently needed to meet near-term reduction targets. First, the downturn in the economy has stabilized demand growth, buying some additional time.¹²⁰ Second, and more importantly, the modest seventeen percent by 2020 emissions reduction target President Obama committed the United States to, in Copenhagen, could be met with energy efficiency and cogeneration while lowering the nation’s energy bill by seven hundred billion dollars.¹²¹ And that is not to mention the role renewable energy, agriculture offsets, and efforts to address deforestation will play in meeting that target.

Ironically enough, those in the coal industry making the argument that commercially-ready CCS technology is a long way off are actually reinforcing the message of those, such as Greenpeace, who say coal with CCS will never be ready.¹²² In so doing, they risk eroding support amongst policy-makers and the general public for policies and incentives needed to commercialize the technologies that will likely determine coal’s future relevance.

119. See Robert Williams, *Strategy Already Exists to Address CO₂ Emissions*, GRAND FORKS HERALD, Nov. 1, 2009, at D3, available at <http://www.gpsid.net/vertical/Sites/%7B1510F0B9-E3E3-419B-AE3B-582B8097D492%7D/uploads/%7B09B65AC8-44E2-44F3-949F-3D51A40629E7%7D.PDF> (noting “[t]his strategy would not only address the climate challenge but also reduce our dependence on oil imports, enhancing our nation’s energy security. And it would take long-term economic advantage of coal and biomass, two of North Dakota and our nation’s most important energy resources.”)

120. See Peter Behr, *Recession Slows Electricity Demand and Renewable Energy Growth*, NERC Finds, N.Y. TIMES, Oct. 29, 2009, <http://www.nytimes.com/cwire/2009/10/29/29/climatewire-recession-slows-electricity-demand-and-renew-37906.html>. Behr notes:

Peak power demand forecasts for 2009 have dropped by 4 percent from 2008 estimates, FERC said. The economy’s slump accounts for 80 percent of the reduced demand. The rest comes from a significant increase in energy efficiency gains and demand response programs, notably agreements by commercial customers to curtail power use when emergency shortages threaten. Canada’s Ontario province has achieved the greatest results on this front.

Id.

121. MCKINSEY & CO., UNLOCKING ENERGY EFFICIENCY IN THE U.S. ECONOMY, http://www.mckinsey.com/clientservice/electricpowernaturalgas/downloads/US_energy_efficiency_full_report.pdf (last visited Feb. 28, 2010).

122. This is Reality, <http://www.thisisreality.org/#/?p=canary> (last visited Feb. 27, 2010).

One might argue the biggest threat to coal is not a price on carbon but resistance to change among some in the industry. Keep in mind other low-carbon technologies on the horizon are likely to eventually achieve cost-parity with coal. The cost of solar energy continues to steadily decline,¹²³ and emerging storage technologies will effectively make wind and solar baseload sources of electricity, solving their intermittency dilemma. Companies such as Google are making big investments in enhanced or deep-well geothermal, another baseload renewable. And steps are being taken to ensure a prevalence of offshore wind development is occurring in the Great Lakes and the east coast.¹²⁴ In the likelihood of those things occurring, if carbon capture technologies and the pipeline system to manage the CO₂ are not deployed by then, North Dakota could find it very difficult to compete in coal-based energy. Those in the coal industry who do not support putting a price on carbon have to ask themselves how they expect to commercialize and deploy carbon capture technologies in the timely manner necessary to remain competitive without the market signal a carbon price provides.

IV. NON-TRADITIONAL SUPPORT

Support for federal action to address climate change, and policies such as cap and trade, can be found among a wide range of interests. Many of these interests are not normally considered when discussing environmental policy. Locally, a working example of non-traditional support for federal action on climate change and clean energy would be the North Dakota Climate Solutions Partnership (NDCSP). NDCSP is an alliance of conservation, faith-based, business, environmental, and agricultural groups working to build state and federal support for solutions to global climate change. NDCSP members include the Environmental Law and Policy Center, Ducks Unlimited, Prairie Climate Stewardship Network, North Dakota Farmers Union, National Wildlife Federation, Pew Environment Group, and the Foundation for Agricultural and Rural Resources Management and Sustainability (FARRMS).¹²⁵

123. Solar Energy in 20 Years, <http://www.biofuelswatch.com/solar-energy-in-20-years/> (last visited May 3, 2010). The cost of producing solar panels, for instance, has decreased five percent per year between 1991 and 2005. *Id.* See also PV Costs to Decrease 40% by 2010, <http://www.renewableenergyworld.com/rea/news/article/2007/05/pv-costs-to-decrease-40-by-2010-48624> (last visited May 3, 2010).

124. See Video: Salazar Announces Plan For Offshore Wind, (Feb. 19, 2010), <http://www.cleanskies.com/videos/salazar-announces-plan-offshore-wind> (noting “Salazar said he would do his part to boost wind development by streamlining the permit process for offshore alternative energy.”).

125. North Dakota Climate Solutions Partnership, www.ndclimatesolutions.org (last visited Feb. 26, 2010).

In June 2009, the International Climate Stewardship Solutions Conference, in Bismarck, North Dakota, was a microcosm of the widespread support for action to address climate change. The conference brought together a wide array of guests to present real world examples of economic development, combined with climate stewardship, and included senior business and government officials from six countries, plus the United States. Featured guests represented everything from traditional fossil fuel interests to renewable energy, agriculture, science, academia, and the faith community.¹²⁶

Among the highlights of the media coverage of the conference¹²⁷ was an op-ed that ran in the *Grand Forks Herald*, co-written by Roger Johnson,¹²⁸ President of the National Farmers Union, and Preston Chiaro,¹²⁹ Chief Executive Officer of the Energy Group at Rio Tinto and past Chair of the World Coal Institute.¹³⁰ It may have been the first op-ed in the United States from two high-level representatives from both the coal and agriculture sectors calling for federal cap and trade legislation.

A. BUSINESS AND INDUSTRY

Support for cap and trade can now be found among some of the nation's largest electric utilities, including giants like Duke Energy, AEP, and Pacific Gas and Electric.¹³¹ In fact, the Edison Electric Institute, the industry's trade group, has been actively involved in federal climate policy negotiations and generally supportive of cap and trade.¹³² Closer to home, Great River Energy, a large utility co-operative that sells its electricity to customers in Minnesota but operates generation plants in North Dakota, has joined other utilities in support of a federal cap and trade program. According to Great River Energy's Chief Executive Officer, David Saggau,

126. International Climate Stewardship Solutions Conference, <http://www.climatestewardshipsolutions.org/default.htm> (last visited Feb. 26, 2010).

127. International Climate Stewardship Solutions Conference, Media Coverage of the Conference, http://www.climatestewardshipsolutions.org/media_7.html (last visited Feb. 26, 2010).

128. Roger Johnson—Biography, http://www.drteel.net/%7Emallard/doc/Roger_Johnson.pdf (last visited Feb. 26, 2010).

129. Preston Chiaro—Biography, http://www.drteel.net/%7Emallard/doc/Preston_Chiaro.pdf (last visited Feb. 26, 2010).

130. Johnson & Chiaro, *supra* note 39, at A5.

131. See Morris, *supra* note 100, at 1 (noting “American Electric Power supports the American Clean Energy and Security Act. No legislation is perfect—particularly one that seeks to overhaul the way our nation uses energy—but we believe this climate bill will work and it represents the best of the available options.”). Duke Energy and Pacific Gas and Electric are members of USCAP and supported ACES. United States Climate Action Partnership—About Our Members, *supra* note 100.

132. See Letter from Thomas R. Kuhn, President, Edison Electric Institute, to Harry Reid, United States Senator (July 6, 2009), available at <http://www.smartclimatepolicy.org/record/090708KuhnSenateClimate.pdf>.

“Great River Energy supports a national cap-and-trade program for carbon emissions. We support a program that is phased in over a reasonable period with flexible, interim benchmarks to ensure the availability of carbon capture and sequestration technology.”¹³³

Another utility that does business in North Dakota and supports a cap and trade policy is Xcel Energy. Xcel’s position on climate policy is outlined on their website:

At Xcel Energy, we believe climate policy should be designed to maximize environmental benefit and minimize consumer costs. We favor a federal policy as a more effective way to achieve large-scale greenhouse gas reductions, rather than individual state or regional policies. And a flexible, well-designed federal policy is the best option to reduce emissions, manage costs and achieve technological transformation. We believe to significantly reduce greenhouse gas emissions, we need to develop advanced, clean-energy technologies. Although other policy designs may be effective, Congress is focused on creating a national cap and trade program for greenhouse gases. A properly designed cap-and-trade program should provide for the kind of flexibility and innovation that encourages technological development.¹³⁴

One of the most significant and unique non-traditional actors supporting cap and trade is the United States Climate Action Partnership (USCAP). USCAP consists of large companies and leading environmental organizations that have come together to encourage the federal government “to quickly enact strong national legislation to require significant reductions of greenhouse gas emissions.”¹³⁵ Eileen Claussen, President of the Pew Center On Global Climate Change, described the formation of USCAP as a tipping point: “[T]he reason I say this is a tipping point is because this unique, nonpartisan collaboration has sent a clear message to lawmakers—and that message is this: America needs national policies to address the climate problem, and we need them ASAP.”¹³⁶

133. David Saggau, *CEO Great River Energy on a Portfolio of Approaches to Reduce Carbon Output*, in PRAIRIE PUBLIC BROADCASTING, PERSPECTIVES ON CLIMATE CHANGE 13 (2008), available at <http://www.prairiestewardship.org/Resources/PPR%20Essays.pdf>.

134. Xcel Energy, Position on Climate Change, <http://www.xcelenergy.com/Minnesota/Company/Environment/ClimateAction/Pages/Policy.aspx> (last visited Feb. 26, 2010).

135. United States Climate Action Partnership, <http://www.us-cap.org/> (last visited Feb. 26, 2010).

136. Eileen Claussen, President, Pew Center on Global Climate Change, Can Technology Transform the Climate Debate? (May 16, 2007) (transcript available at http://www.pewclimate.org/press_room/speech_transcripts/clauseen516_3.cfm).

USCAP has thirty-one members from a variety of industries. Membership includes mining company Rio Tinto; utilities providers Duke Energy and PG&E; agriculture and construction equipment company Deere & Company; automobile manufacturers, Ford, General Motors, and Chrysler; and environmental organizations, Pew Center on Global Climate Change, Natural Resources Defense Council, and Environmental Defense Fund.¹³⁷ Participating firms in USCAP have total revenues of \$1.7 trillion and a collective workforce of more than two million in every American state.¹³⁸ USCAP states:

We believe the strongest way to achieve our emission reduction goals is a federal cap-and-trade program coupled with cost containment measures and complementary policies for technology research, development and deployment, clean coal technology deployment, lower-carbon transportation technologies and systems, and improved energy efficiency in buildings, industry and appliances This allows the economy-wide emission reduction target to be achieved at the lowest possible cost.¹³⁹

One of the primary things companies that support cap and trade have in common is they want certainty, or put another way, a clear roadmap going forward. Without a firm target for reducing carbon emissions written into law, companies will be timid about making large investments in pollution control equipment or new power plants and other infrastructure. Uncertainty impedes investment. In addition to regulatory certainty, many companies, especially those that do business across a large number of states, want regulatory consistency.¹⁴⁰ These companies are weary of having to work with a patchwork of state and regional regulations.¹⁴¹ States representing several regions have already come together to form regional greenhouse gas accords tasked with creating a market price for carbon. These efforts include the Midwest Governors Association, which includes most of North Dakota's export market for electricity, the Regional Greenhouse Gas Initiative in the Northeast, and the Western Governor's Associations. Additionally, California has created their own market-based plan to reduce

137. United States Climate Action Partnership—About Our Members, *supra* note 100.

138. *Id.*

139. UNITED STATES CLIMATE ACTION PARTNERSHIP, SUMMARY OVERVIEW: USCAP BLUEPRINT FOR LEGISLATIVE ACTION 2 (2009), http://www.us-cap.org/pdf/USCAP_Blueprint_Overview.pdf.

140. *See generally* Pew Center on Global Climate Change, A Look at Emissions Targets, http://www.pewclimate.org/what_s_being_done/targets#state (illustrating the variety of state emissions goals) (last visited Feb. 26, 2010).

141. *Id.*

emissions. “States covered by greenhouse gas accords equal 50 percent of population and more than 50 percent of GDP,” according to the Pew Center on Global Climate Change.¹⁴²

Many companies today realize that being viewed as against addressing climate change or curtailing pollution can lead to a negative perception of their brand among a public that has become increasingly conscious about the environment.¹⁴³ Companies that are large emitters may be looking back to the class-action lawsuits against tobacco companies in the 1990s and realizing they need to take steps to avoid a similar fate.¹⁴⁴ Recently, the Securities and Exchange Commission issued a ruling stating companies should warn investors of any serious risks that climate change might pose to their bottom line.¹⁴⁵ Then there is the simple matter that many companies would rather have a seat at the table during negotiations as opposed to shouting from outside the tent.¹⁴⁶ Finally, by being an early actor, companies can gain a competitive advantage in the marketplace.¹⁴⁷

142. N.D. ALLIANCE FOR RENEWABLE ENERGY, INC., NDARE CARBON 4 (2009), <http://www.ndare.org/ndare%20PDFs/NDARE-CARBON%20Final.pdf>.

143. See THE CLIMATE GROUP, CONSUMERS, BRANDS AND CLIMATE CHANGE 2 (2008), http://www.theclimategroup.org/_assets/files/Consumers_Brands_and_Climate_Change_2008.pdf. The Climate Group notes:

The majority of consumers are receptive to businesses engaging them on combating climate change. 67% in the UK, 68% in the U.S. and 56% in China say they admire companies that are tackling climate change (up from 56% in the UK and 63% in the U.S. last year). The vocal minority who are suspicious has declined from 29% to 18% in the UK but increased from 16% to 20% in the U.S., where the issue is more polarizing

This year’s research again reveals strong consumer demand for innovative solutions that will help people reduce their impact on the climate. But this demand continues to be ahead of supply—so there remains a receptive and largely untapped market. *Id.* at 5, 7.

144. John Schwartz, *Courts as Battlefields in Climate Fights*, N.Y. TIMES, Jan. 26, 2010, at A1, available at <http://www.nytimes.com/2010/01/27/business/energy-environment/27lawsuits.html>. Schwartz states:

If the climate-change cases even get to the discovery stage, and if the energy industry possesses embarrassing e-mail messages and memorandums similar to those that proved devastating to tobacco companies, Mr. Tierney said, “it’s a hammer” that could drive industries to the negotiating table.

The cases generally rely on the common-law doctrine of nuisance, the same concept that allows neighbors to sue one another over noises, odors and the like that interfere with the use or enjoyment of property. In the context of climate change, such cases were once derided as frivolous long shots that would be shot down quickly. Scott H. Segal, a lawyer for energy companies, joked in a 2004 article in *Grist* magazine that the cases brought “new meaning to the term ‘nuisance lawsuit.’”

Id.

145. John M. Border, *S.E.C. Adds Climate Risk to Disclosure List*, N.Y. TIMES, Jan. 27, 2010, at B1, available at <http://www.nytimes.com/2010/01/28/business/28sec.html>.

146. Claussen, *supra* note 136.

147. Robert B. McKinstry, Jr. & Thomas D. Peterson, *The Implications of the New “Old” Federalism in Climate-Change Legislation: How to Function in a Global Marketplace When States Take the Lead*, 20 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 61, 105 (2007).

The practical, bottom line concerns mentioned above have led to a mainstreaming of support for cap and trade in the business community. Moreover, many of these companies have experience dealing with other cap and trade programs, like the European Cap on Greenhouse Gases,¹⁴⁸ or the United States Sulfur Dioxide Cap and Trade program signed into law by President H.W. Bush, in 1990.¹⁴⁹

B. FAITH COMMUNITY

There is a growing movement among people of faith in the United States to act as better stewards of creation. This movement is often referred to as “creation care” or “climate stewardship.” People of Christian faith are drawn to care for the planet for a number of reasons. Cody J. Schuler, a Methodist pastor in Fargo, notes that in Genesis chapter two, “God creates the first human out of the ‘dust of the ground’ and places this new creature in a garden, itself growing up out of the same ground. The human’s purpose is ‘working and keeping the earth.’”¹⁵⁰ This biblical association with stewardship and caring for creation leads some Christians to view protecting the planet as an integral part of their faith journey.

Another motivation for people of faith is that some of the worst effects from climate change will occur in poor and undeveloped countries like Bangladesh and nations in sub-Saharan Africa.¹⁵¹ People in these regions of the world have done next to nothing to cause climate change, but will bear some of the worst consequences, while lacking the necessary wealth and resources to adapt. This ethical dilemma speaks directly to a sense of social justice and compassion for the poor and vulnerable that is a core value of most faith traditions. The Reverend Paul Schuster explores this ethical dilemma further by stating, “[a]s we determine our response to climate change, we must ask ourselves: Have we been in service of a higher good, both to humanity and creation? Have we loved our neighbors as ourselves?”

148. EUROPA, Emission Trading System (EU ETS), http://ec.europa.eu/environment/climat/emission/index_en.htm (last visited Feb. 27, 2010).

149. The Clean Air Act, 42 U.S.C. § 7651 (1990).

150. Cody J. Schuler, *Methodist Minister Talks About the Link Between Spirituality and Climate Stewardship*, PRAIRIE PUBLIC BROADCASTING, PERSPECTIVES ON CLIMATE CHANGE 8 (2008), available at <http://www.prairiestewardship.org/Resources/PPR%20Essays.pdf>.

151. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE [IPCC], CONTRIBUTION OF WORKING GROUP II TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE: SUMMARY FOR POLICYMAKERS 12 (2008), available at <http://www.ipcc-wg2.gov/AR4/website/spm.pdf> (noting this finds the impacts of future climate change will be mixed across regions of the world, with more than a billion people at risk of increased water stress and hundreds of millions at risk of sea level rise).

Have our actions alleviated, rather than contributed to, the suffering of others?"¹⁵²

While Christianity is certainly not the only religion in the world to embrace a climate stewardship ethic,¹⁵³ it will be the primary focus of this article because the vast majority of North Dakotans identify as Christian.¹⁵⁴ A number of Christian denominations have formal statements and resolutions that address climate change: the Episcopal Church,¹⁵⁵ the Evangelical Lutheran Churches in America,¹⁵⁶ United Church of Christ,¹⁵⁷ Presbyterian Church USA,¹⁵⁸ the United Methodist Church,¹⁵⁹ and the United States Conference of Catholic Bishops.¹⁶⁰

152. Schuster, *supra* note 92, at 10A.

153. The Forum on Religion and Ecology at Yale, More Statements on World Religions, <http://fore.research.yale.edu/climate-change/statements-from-world-religions/more-statements-from-world-religions> (last visited Feb. 26, 2010).

154. See BARRY A. KOSMIN & ARIELA KEYSAR, TRINITY COLLEGE, AMERICAN RELIGIOUS IDENTIFICATION SURVEY 21 (2008), http://www.americanreligionsurvey-aris.org/reports/ARIS_Report_2008.pdf (listing North Dakota's 2008 religious statistics as: 28% Catholic, 62% other Christian, 0% other religion, 7% none, and 4% do not know/refused).

155. The Archives of the Episcopal Church, Acts of Convention: Resolution 2006-B002, Acknowledge and Reduce Global Warming, http://www.episcopalarchives.org/cgi-bin/acts/acts_resolution-complete.pl?resolution=2006-B002.

156. Evangelical Lutheran Church in America, Environment—Caring for Creation: Vision, Hope, and Justice, <http://www.elca.org/What-We-Believe/Social-Issues/Social-Statements/Environment.aspx> (explaining “[t]his social statement was adopted by a more than two-thirds majority vote as a social statement of the Evangelical Lutheran Church in America by the third Churchwide Assembly on August 28, 1993, at Kansas City, Missouri.”).

157. United Church of Christ Statement on Global Climate Change, Resolution “Global Warming,” <http://www.webofcreation.org/ncc/statements/ucc.html>. In a Statement on Global Climate Change, The United Church of Christ asserts it:

[R]ecognizes the dangers of global warming and our biblical mandate as stewards of God's creation to be diligent in our efforts to decrease the emission of greenhouse gases; affirms the greater responsibility of industrial nations and especially the United States to reduce greenhouse gas emissions; encourages local churches, Conferences and national agencies to engage in efforts to educate and advocate for ratification of the Kyoto Climate Change Treaty and to address their own lifestyles (institutional and personal) to assure the minimum production of wastes that threaten the environment[.]

Id.

158. THE OFFICE OF THE GEN. ASSEMBLY, THE PRESBYTERIAN CHURCH, RESTORING CREATION FOR ECOLOGY AND JUSTICE 6 (1990), <http://drummond.gatech.edu/creation/rcej3.pdf>. The Presbyterian Church wrote:

Creation cries out in this time of ecological crisis.

- Abuse of nature and injustice to people place the future in grave jeopardy.
- Population triples in this century.
- Biological systems suffer diminished capacity to renew themselves.
- Finite minerals are mined and pumped as if inexhaustible.
- Peasants are forced onto marginal lands, and soil erodes.
- The rich-poor gap grows wider.
- Wastes and poisons exceed nature's capacity to absorb them.
- Greenhouse gases pose threat of global warming.

Therefore, God calls the Presbyterian Church (U.S.A.) to

Pope Benedict XVI has continued the Catholic Church's engagement on climate change, including a reaction to the United Nations' climate negotiations in Copenhagen, Denmark, in which he criticized the "economic and political resistance" to creating a binding international climate deal.¹⁶¹ In addition, there is a growing movement among Evangelicals to care for the climate. In fact, over 280 Evangelical leaders have signed a statement called the "Evangelical Call to Action on Climate Change."¹⁶² A line from that statement reads, "Love of God, love of neighbor, and the demands of stewardship are more than enough reason for evangelical Christians to respond to the climate change problem with moral passion and concrete action."¹⁶³

While it should be noted a formal statement in support of climate stewardship does not always equate to support for cap and trade policy among religious groups, the growing number of faith groups embracing the creation care movement certainly adds a diverse and powerful perspective to the climate policy debate.¹⁶⁴ This can manifest itself in unique ways. Take, for

-
- respond to the cry of creation, human and nonhuman;
 - engage in the effort to make the 1990s the "turnaround decade," not only for reasons of prudence or survival, but because the endangered planet is God's creation; and
 - draw upon all the resources of biblical faith and the Reformed tradition for empowerment and guidance in this adventure.

Id.

159. The United Methodist Church, *Global Warming and Energy*, http://www.umc-gbcs.org/site/apps/nlnet/content3.aspx?c=frLJK2PKLqF&b=2837503&content_id={48C3F6D9-86AA-4B37-9EE0-02BFCBF574B8}¬oc=1.

160. United States Conference of Catholic Bishops, *Global Climate Change: A Plea for Dialogue, Prudence, and the Common Good*, <http://www.usccb.org/sdwp/international/globalclimate.shtml>. The United States Conference of Catholic Bishops proclaims:

As people of faith, we are convinced that "the earth is the Lord's and all it holds" (Ps 24:1). Our Creator has given us the gift of creation: the air we breathe, the water that sustains life, the fruits of the land that nourish us, and the entire web of life without which human life cannot flourish. All of this God created and found "very good." We believe our response to global climate change should be a sign of our respect for God's creation.

Id.

161. David Willey, *Pope Benedict XVI Lambasts Copenhagen Failure*, BBC, Jan. 11, 2010, <http://news.bbc.co.uk/2/hi/8452447.stm>.

162. Christians and Climate, <http://christiansandclimate.org/home> (last visited Feb. 27, 2010).

163. Christians and Climate, *Climate Change: An Evangelical Call to Action*, <http://christiansandclimate.org/learn/call-to-action/> (last visited Feb. 27, 2010).

164. See Lester Feder, *Creation Care*, CENTER FOR AMERICAN PROGRESS, Nov. 13, 2008, http://www.americanprogress.org/issues/2008/11/creation_care.html. Feder describes Lauren Kras as:

[O]ne of a growing number of young leaders building the movement known as "creation care" among younger Christians. This faith-based environmentalism was marginal—and quite controversial—in the evangelical community when Kras started

instance, the partnership between the conservative Christian Coalition and the National Wildlife Federation in advocating for a comprehensive federal climate bill which was influential in conservative Senator Lindsey Graham's decision to work for months with Senators Kerry and Lieberman to draft such a bill.¹⁶⁵

A good local example of this growing movement would be the Faith Leadership Dialogue on Creation Care and Climate Stewardship that took place at St. John's Lutheran Church in Jamestown, North Dakota, in November of 2009. The event was organized by the Prairie Climate Stewardship Network and was North Dakota's first ever ecumenical faith leadership dialogue on creation care and climate change. The dialogue featured leaders from the Evangelical Lutheran Church of America (ELCA), United Methodist Church, the Presbyterian Church—USA, United Church of Christ, and the Catholic Church. The event attracted over 100 guests from around the state. While it should be emphasized the event did not advocate for any specific policy approach, such as cap and trade, the religious leaders present did underscore the need for action among people of faith to address climate change—from a personal to a collective level.¹⁶⁶

C. NATIONAL SECURITY

Climate change continues to gain more momentum as a national security issue. Scientists warn that as the climate changes, the potential for conflict over scarce natural resources will increase. As many as eight hundred million more people will face water or cropland scarcity in the next fifteen years, according to the CIA's National Intelligence Council.¹⁶⁷ And, with

at Messiah in 2004. But now roughly half of the colleges affiliated with the Council for Christian Colleges and Universities have some kind of initiative, according to CCCU media relations manager Mike Plunkett. This fall, Kras and a dozen other campus creation care leaders helped launch renewingcreation.org's "Renewal: A Student Creation Care Network" to build ties between student activists.

Id.

165. *Christian Coalition Joins Hunting Group in Climate Change Fight*, REUTERS, Oct. 23, 2009, <http://blogs.reuters.com/faithworld/2009/10/23/christian-coalition-joins-hunting-group-in-climate-change-fight/>.

166. Prairie Climate Stewardship Network, North Dakota Religious Leaders to Address Creation Care and Climate Stewardship, Nov. 4, 2009, available at <http://www.prairiestewardship.org> (last visited Feb. 27, 2010).

167. See NAT'L INTELLIGENCE COUNCIL, GLOBAL TRENDS 2025: A TRANSFORMED WORLD 51 (2008), http://www.dni.gov/nic/PDF_2025/2025_Global_Trends_Final_Report.pdf. The National Intelligence Council reports:

Experts currently consider 21 countries with a combined population of about 600 million to be either cropland or freshwater scarce. Owing to continuing population growth, 36 countries, home to about 1.4 billion people, are projected to fall into this category by 2025. Among the new entrants will be Burundi, Colombia, Ethiopia, Eritrea, Malawi, Pakistan, and Syria. Lack of access to stable supplies of water is

over twenty percent of the world's population living in coastal zones, sea-level rises and other impacts from climate change could displace more than four hundred million people, forcing unprecedented mass migration.¹⁶⁸

Climate change acts as a threat multiplier for instability in some of the most volatile regions of the world by amplifying existing problems such as social tensions, poverty, deforestation, and weak political institutions. This will likely result in the United States' resources being drawn upon more frequently to help provide stability, placing added pressure on energy resources, borders, military, and agriculture production.¹⁶⁹

Recently, the Department of Defense released the Quadrennial Defense Review (QDR), declaring climate change will play a "significant role in

reaching unprecedented proportions in many areas of the world . . . and is likely to grow worse owing to rapid urbanization and population growth. Demand for water for agricultural purposes and hydroelectric power generation also will expand. Use of water for irrigation is far greater than for household consumption. In developing countries, agriculture currently consumes over 70 percent of the world's water. The construction of hydroelectric power stations on major rivers may improve flood control, but it might also cause considerable anxiety to downstream users of the river who expect continued access to water.

Id.

168. See ROSINA BIRBAUM ET AL., CONFRONTING CLIMATE CHANGE: AVOIDING THE UNMANAGEABLE AND MANAGING THE UNAVOIDABLE 93 (2009), http://www.globalproblems-globalsolutions-files.org/unf_website/PDF/climate%20change_avoid_unmanagable_manage_unavoidable.pdf. The report notes:

In the coming decades and centuries, climate change will be associated with changes in local and regional environments that are geologically and historically unprecedented and in some cases will exceed local, regional, and national coping capacities. Such events are likely to lead to displacement and migration of large numbers of people. Some regions will become uninhabitable as a result of sea level rise, while other regions will become unproductive or unable to support existing populations. For example, four sovereign states, Tuvalu, the Republic of the Marshall Islands, the Republic of Maldives, and Kiribati, are comprised entirely of low-lying atolls, with a mean height above sea level of two meters. Among the first impacts to these countries will be an increased storm and flood risk, and salinization of their shallow aquifers; later, these countries, home to over 400,000 people, are likely to become permanently inundated Over the longer term, increases in sea level of a meter (m) or more are very likely to force the phased relocation of much larger numbers of people.

Id.

169. See THE PEW CTR. ON GLOBAL CLIMATE CHANGE, NATIONAL SECURITY IMPLICATIONS OF GLOBAL CLIMATE CHANGE 1 (2009), <http://www.pewclimate.org/federal/memo/national-security-implications>. The Pew Center on Global Climate Change states:

America faces a shifting strategic landscape in which rising demand for natural resources (e.g., fossil energy, water, food) increasingly drives national priorities and shapes international relationships. Since climate change affects the distribution and availability of critical natural resources, it can act as a "threat multiplier" by causing mass migrations and exacerbating conditions that can lead to social unrest and armed conflict. Today, drought, thirst, and hunger are exacerbating the conflicts and humanitarian disasters in Darfur and Somalia, and climate change portends more situations like these.

Id.

shaping the future security environment.”¹⁷⁰ The QDR is the Defense Department’s definitive statement of strategy, threats, and long-term planning. This is the first time the QDR has directly addressed the national security threat from climate change in its planning. The statement says the effects of climate change are already being felt in the United States and warned that “climate change could have significant geopolitical impacts around the world, contributing to poverty . . . and further weakening fragile governments.”¹⁷¹

The increased attention to climate change has led more mainstream national security leaders and experts to speak out on the issue. “Leading military and security experts agree that if left unchecked, global warming could increase instability and lead to conflict in already fragile regions of the world. We ignore these facts at the peril of our national security and at great risk to those in uniform who serve this nation,” said former Senator John Warner who, during his five terms in the Senate, served on the Senate Armed Services Committee and is a veteran of two wars.¹⁷²

In testimony before the United States Senate Committee on Foreign Relations, retired United States General and former North Dakotan, Charles Wald, spoke about the connection between energy, the environment, and national security. “There are many steps we can take as a nation to enhance our security. Some of those steps include reconsidering our energy choices and our carbon emissions. Some initiatives will include engaging with other nations, working together to bring about changes that will improve our environment.”¹⁷³

In 2007, a blue-ribbon panel of generals and admirals issued findings of an intensive year-long study on the impact of climate change on United States national security.¹⁷⁴ They concluded that climate change constitutes “a serious national security threat.”¹⁷⁵ To mitigate the worst security consequences of climate change, the study’s authors—the Military Advisory Board of the non-partisan defense research and analysis organization

170. U.S. DEP’T OF DEF., THE QUADRENNIAL DEFENSE REVIEW REPORT 84 (2010), www.defense.gov/QDR/QDR%20as%20of%2029JAN10%201600.pdf#page=107.

171. *Id.* at 85.

172. Press Release, The Pew Charitable Trusts, Former Senator John Warner and the Pew Environment Group to Highlight Link Between National Security, Energy and Climate (July 14, 2009), *available at* <http://www.pewtrusts.org/newsroomdetail.aspx?id=54116>.

173. The Pew Charitable Trusts, The Pew Project on National Security, Energy and Climate, <http://www.pewclimatesecurity.org/media/about/The%20Pew%20Project%20on%20National%20Security,%20Energy%20and%20Climate.pdf> (last visited Apr. 14, 2010).

174. THE CNA CORP., NATIONAL SECURITY AND THE THREAT OF CLIMATE CHANGE 7 (2007), <http://securityandclimate.cna.org/report/National%20Security%20and%20the%20Threat%20of%20Climate%20Change.pdf>.

175. *Id.*

CNA—recommended reducing global greenhouse gas emissions.¹⁷⁶ One of the study authors, Admiral Dennis McGinn, visited North Dakota in September of 2009 and spoke to community leaders in Fargo and Grand Forks.¹⁷⁷

Veterans, particularly those from the Iraq and Afghanistan wars, have also spoken about the national security threats posed by climate change and over-reliance on foreign oil. Last fall, a group of veterans crossed the country to speak about these issues and made several stops in North Dakota.¹⁷⁸ That same group embarked on another tour of the country in early 2010 that also included stops in North Dakota. During their press conference in Bismarck, the veterans shared their perspectives on oil and climate change.

Matt Victoriano, a former Marine Corps sniper remarked, “When we fill up our cars, we’re sending money, a portion of that money, to countries and people that want us and our way of life dead[.]”¹⁷⁹ Patrick Bellon, a United States Army Cavalry Scout, talked about the implications climate change would have on the United States military during the tour’s stop at the VFW in Fargo. “Many people are under the mistaken impression that anyone who takes up arms against the United States must be a religious radical. No, the sad truth is that some are just that desperate to support their

176. *See id.* The CNA Corporation wrote:

Managing the security impacts of climate change requires two approaches: mitigating the effects we can control and adapting to those we cannot. The U.S. should become a more constructive partner with the international community to help build and execute a plan to prevent destabilizing effects from climate change, including setting targets for long term reductions in greenhouse gas emissions.

Id.

177. Press Release, University of North Dakota, UND to Host a National Security Symposium Focusing on Climate Change Impacts (Sept. 21, 2009), *available at* <http://www2.und.edu/our/news/story.php?id=2801>.

178. *See* Ambreen Ali, *Veterans Group Pushes Climate Bill*, CONGRESS.ORG, Feb. 1, 2010, http://www.congress.org/news/2010/01/28/veterans_group_pushes_climate_bill?all=1. Ali explains:

As part of a bus tour through 16 states, Operation Free will hold town halls and campus meetings and interview with local media to argue that climate change is a threat to national security.

....

Hundreds of veterans . . . have participated since the buses took off last summer. The group is currently on its third and biggest tour, which kicked off in Washington, D.C., last week.

After 11 stops in Virginia and Missouri, the bus will make its way through Colorado. By the end of February, they plan to get through Arizona, Washington, North Dakota and Ohio.

Id.

179. Rebecca Beitsch, *Vets Group Pushes for Energy Change*, BISMARCK TRIBUNE, Feb. 23, 2010, at B1, *available at* http://www.bismarcktribune.com/news/local/article_b5582092-2043-11df-9b01-001cc4c002e0.html.

families. Desperate people do desperate things and tens of millions of new displaced and hungry people presents a serious tactical issue for the United States military.”¹⁸⁰

V. CONCLUSION

There is widespread support for action to address our energy and climate challenges, as indicated in the previous section and in polls of the American people.¹⁸¹ Comprehensive federal climate and energy legislation can help meet our nation’s energy and climate challenges by harnessing the power of the marketplace to set the price on carbon and promote innovation. This will jumpstart the new energy economy, accelerate the move toward energy independence, and enable a global climate deal.

North Dakota will have an important role to play in this transition. North Dakota’s Senators are among a dozen or so “fence-sitters” on climate

180. Patrick Bellon, Operation Free Veterans Luncheon and Press Conference at the Fargo Veterans of Foreign Wars Lodge (Feb. 5, 2010).

181. See Jonathan Martin, *Poll Shows Support for Energy Bill*, POLITICO, Sept. 3, 2009, available at <http://www.politico.com/news/stories/0909/26698.html>. Martin states the poll of likely 2010 voters in sixteen states, including North Dakota and many of the states home to senators considered swing voters on a climate bill, found:

63 percent of those sampled said they supported the energy bill [ACES] while only 30 percent said they opposed the measure.

Further, 60 percent of respondents said they would be more likely to vote for their senator if he or she supported the bill while just 26 percent said they’d be less inclined to re-elect their senator for backing the “American Clean Energy and Security Act.”

Id. See also Jennifer Agiesta & Steven Mufson, *On Energy, Obama Finds Broad Support*, WASH. POST, Aug. 28, 2009, at A9, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/08/27/AR2009082703823.html>. A *Washington Post*/ABC News poll found “[n]early six in 10 of those polled support the proposed changes to U.S. energy policy being developed by Congress and the administration.” *Id.* Cap and trade was supported by a 52 to 43% majority. *Id.* See also Zogby Poll: *Majority Favors Clean Energy Bill and Wants Senate to Take Action*, ZOGBY INTERNATIONAL, Aug. 11, 2009, available at <http://www.zogby.com/news/ReadNews.cfm?ID=1730>. The *Zogby International* article notes:

A majority of likely voters—71%—favors the American Clean Energy and Security Act recently passed by the House of Representatives, and two-thirds (67%) believe Congress is either doing the right amount (22%) or should be doing more (45%) to address global warming. Just 28% believe that Congress is doing too much.

.....

Favorable views for the bill were high among all age and income groups and even among Republicans, with 45% having a favorable view of the bill. Seventy-three percent of Independents and 89% of Democrats also took a favorable view of the American Clean Energy and Security Act.

.....

When presented with arguments for and against [ACES], including concerns about the impact of the legislation on energy prices, a majority (54%) believe the Senate should now take action, with two-fifths (41%) preferring that the Senate wait.

Id.

policy¹⁸² and are instrumental in passing federal climate legislation. Recognizing that a global deal on climate change depends upon passage of climate legislation in the United States, it becomes clear how the elected representatives of a tiny fraction of the American public—640,000 citizens, in the case of North Dakota—could well decide this issue, with profound implications for over six billion people globally.¹⁸³

The importance of North Dakota on the world stage with regard to this issue was demonstrated at the previously mentioned international climate conference held in Bismarck last June, which managed to land speakers from seven countries, including top-level ambassadors and businessmen—not to mention coverage on BBC's *The World* radio program.¹⁸⁴ One of the conference organizers was The Climate Group, an international non-governmental organization founded by former British Prime Minister Tony Blair. Another similar conference, held last November in Fargo, featured speakers from five countries, along with high-level energy experts and executives from the United States.¹⁸⁵

North Dakota is highly dependent on lignite coal production, electric power generation for export to neighboring states, and a fossil energy-dependent agricultural sector that is world ranked in several key commodities.¹⁸⁶ Yet, the state has all the makings of tomorrow's low-carbon energy economy with a first-in-class wind resource,¹⁸⁷ the potential to dominate a future perennial grass bioeconomy, among other cellulosic feedstocks,¹⁸⁸ and commercial experience with the largest-scale CO₂ capture and storage and CO₂ enhanced oil recovery operation from coal in the world today.¹⁸⁹ Comprehensive federal energy and climate legislation that includes a

182. Darren Samuelsohn, *On Road to 60, Senate Swells with Fence Sitters*, E&E DAILY, Oct. 20, 2009, <http://www.eenews.net/public/EEDaily/2009/10/20/1>.

183. Jason Margolis, *On the Road to a Climate Deal: Bismarck, North Dakota*, THE WORLD, Aug. 11, 2009, <http://www.theworld.org/2009/08/11/international-climate-conference-in-north-dakota>.

184. International Climate Stewardship Solutions, <http://www.climatestewardshipsolutions.org/> (last visited Apr. 14, 2010).

185. The Future of Coal and Biomass in a Carbon-Constrained World, Nov. 2, 2009, http://www.gpisd.net/index.asp?Type=B_BASIC&SEC={F1C71216-3EF3-4C40-865F-31D80EE2602B}.

186. U.S. Energy Information Administration, State Energy Profiles - North Dakota, Apr. 1, 2010, available at <http://www.cbo.gov/ftpdocs/103xx/doc10327/06-19-CapTradeCosts.htm>.

187. American Wind Energy Association, http://www.awea.org/faq/wwt_potential.html#How%20much%20energy (last visited Apr. 14, 2010).

188. David Tilman et al., *Carbon-Negative Biofuels from Low-Input High-Diversity Grassland Biomass*, SCIENCEMAG, Dec. 8, 2006, <http://www.sciencemag.org/cgi/content/abstract/314/5805/1598>.

189. Dakota Gasification Company, http://www.dakotagas.com/About_Us/index.html/ (last visited Apr. 14, 2010).

market-based price on carbon can help the state realize this enormous potential, while creating a roadmap for important industries like agriculture and coal to transition.

Significant movements toward comprehensive federal energy and climate policy have already occurred, including the effort by Senators Joe Lieberman and John Kerry. While it is uncertain if or when their bill their bill will be considered on the Senate floor, or what form their bill will take, as of the writing of this article, their stated goal is to draft a bill that can garner the widespread support needed to gain a filibuster-proof sixty votes in the Senate. Congressional action to address climate change is preferred over EPA action. Congress can take action using a free-market approach that eases the transition to less polluting energy technology. Congressional action creates regulatory consistency and can also include incentives for farmers, clean energy technology, and natural resources, as well as price protections for low and moderate income consumers. Even if Congress were not to pass an energy and climate bill in 2010, regulation of greenhouse gas emissions is all but inevitable with the United States Supreme Court having mandated the EPA regulate GHG emissions under the Clean Air Act. One could also point to the numerous regional initiatives to regulate greenhouse gases as more evidence that a price on carbon is not very far away.

This issue is clearly not going away. The question is: Will North Dakota's leaders find constructive ways to approach this issue that safeguards the state's interests while also helping to solve the global climate challenge? There are many unknowns when discussing energy and climate change. However, one can be assured that the way we produce and consume energy will not be the same in the future as it is today. For our state and nation to prosper in the emerging low-carbon paradigm, we must fully deploy our market place—the engine of American prosperity and the best tool we have to compete with the rest of the world, wean ourselves from foreign oil, and insure ourselves against the most devastating consequences of an increasingly unstable climate.