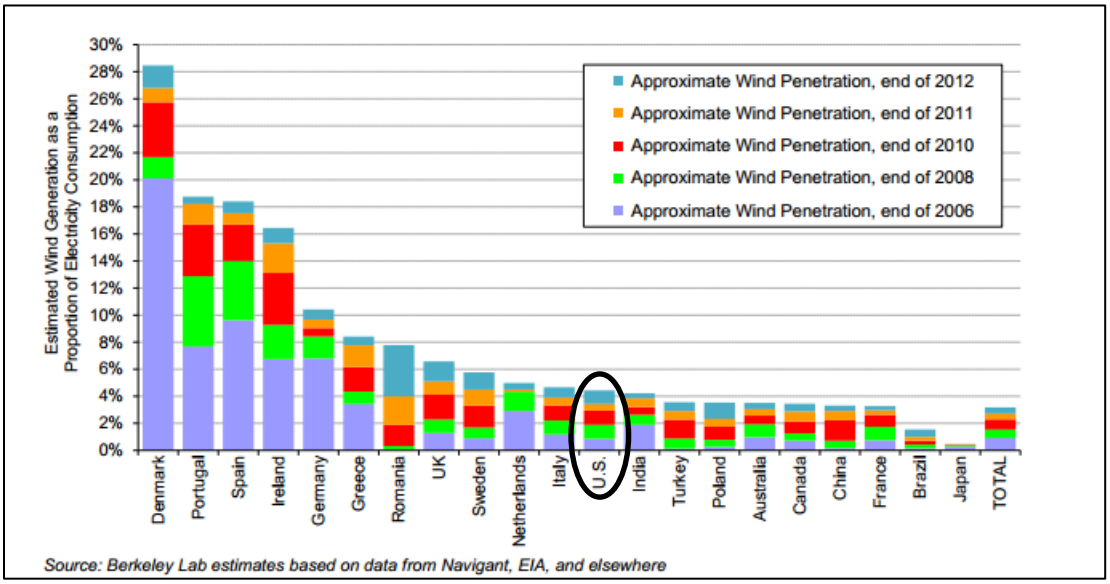
Testimony of Bill Ritter, Jr, 41st Governor of Colorado
U.S. Senate Committee on Environment and Public Works
January 16th, 2014

Chairman Boxer, Ranking Member Vitter and members of the Committee:

Thank you for the opportunity to speak to you today and to offer my perspective on how states are leading the U.S. in implementing clean energy. The Center for the New Energy Economy, which I founded in 2011, works directly with governors, legislators, regulators, and other decision makers. We provide technical assistance to help states create the policies and practices to facilitate America's transition to a clean-energy economy. Through this work, we have developed an insight into trends in state advanced energy policy which I would like to share with you today.

States lead, but the U.S. lags

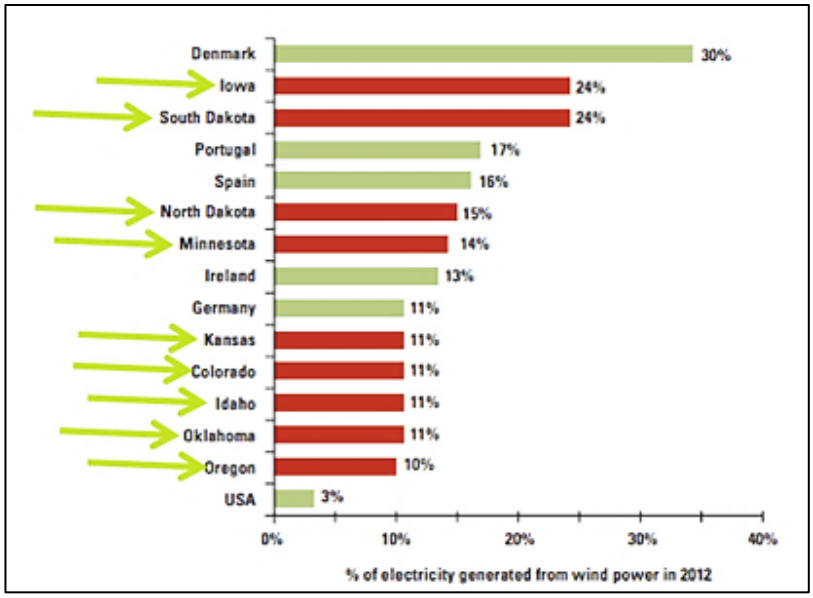
When viewed from an international context, the U.S. is seen as lagging the rest of the developed world in a committed approach to deploying clean energy technologies. The chart from Lawrence Berkeley National Laboratory shows year end 2012 percentages of energy generation from wind energy for developed countries.



Despite the fact that climate is a global issue, states are leading the U.S. forward. Today, 220 million Americans live in a state with a Renewable Portfolio Standard (RPS) and 240 million live in states with a plan to reduce greenhouse gas emissions[1,2]. When taken in

[1] Twenty nine states, Washington D.C. and two territories have Renewable Portfolio Standards. Database of State Incentives for Renewables and Efficiency.

aggregate, the population of states that have an RPS is equal to the fifth largest country in the world. For those states with commitments to reduce greenhouse gas emissions, the combined population would be the fourth largest country in the world. As a percentage of electricity generated, for example, U.S. States assume leadership internationally for wind generation (see right).



The American people and their state leaders recognize and acknowledge the wisdom in reducing pollution for myriad reasons including economic opportunity, public health, and reduced risk for the consumer as well as the critical issue of addressing global climate change.

The state perspective

In 2013 alone, there were over 3,200 advanced energy bills introduced across the country – a volume of legislation that illustrates how important clean energy is to state policymakers. Of the 3,200 introduced bills, nearly 600 were signed into law by the nation's Governors. My Center built and maintains a state legislative database called the Advanced Energy Legislation Tracker, which catalogues and tracks all advanced energy legislation introduced around the country[3].

One of the noteworthy legislative trends in 2013 was the degree to which states defended their RPS policies[4]. There were more than 120 RPS-related bills introduced around the country this session. Of those, 26 bills were attempts to dismantle or altogether eliminate RPS policies. None of these 26 legislative proposals were successful[5]. In fact, the end result of the 2013 session was that Colorado, Minnesota, Nevada and Maryland each increased

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[2] Twenty five states have Energy Efficiency Resource Standards. American Council for and Energy-Efficient Economy.

[3] Advanced Energy Legislation Tracker. Center for the New Energy Economy. www.aeltracker.org

[4] Center for the New Energy Economy. State Renewable Portfolio Standards Hold Steady or Expand in 2013 Session.

[5] The following states defended their RPS policies against rollback attempts in the 2013 session: California, Colorado, Connecticut, Hawaii, Kansas, Maryland, Minnesota, Missouri, Montana, North Carolina, Ohio, Oregon, Pennsylvania, Texas, Washington, West Virginia, Wisconsin.

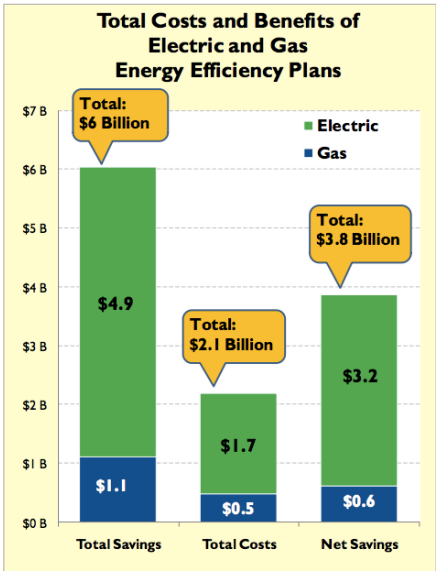
existing RPS policies. The fact that 26 attempts to rollback standards all failed this past year speaks to the benefits that these policies have brought to local and state economies. The bottom line is that the market for clean energy is larger than it was a year ago.

State Policy Highlights

In several states around the country, notable policy efforts are underway. In each of these instances, Governors and Legislatures are exercising impressive leadership in addressing the changing dynamics of the energy world. Here are a few examples:

New York – In September, Governor Cuomo announced the creation of a $1Bn fund to finance clean energy projects. While this fund represents the largest state finance effort, Governor Cuomo followed it up with an equally impressive commitment of $1Bn toward the NY Sun initiative. This program not only provides a streamlined process for consumers to install solar energy and seamlessly finance projects, it also streamlines the permitting and approval process for solar installations, greatly reducing costs for solar companies and, similarly, for their customers.

These programs promise to vault New York into a leadership position in solar energy installations.



Massachusetts –Governor Patrick's administration has been a shining star on energy issues, fundamentally transforming Massachusetts into a national leader during his administration. Beginning with the landmark Green Communities Act of 2008, renewable energy installations have skyrocketed along with high performance building standards and most notably, a complete transformation of energy efficiency programs in the state. As the figure to the left demonstrates, the state's leading suite of energy efficiency policies has saved Massachusetts citizens nearly $4 Billion dollars and earned the state a number one ranking three years in a row from The American Council for and Energy Efficient Economy (ACEEE).

At the end of December, Governor Patrick announced a ground breaking grid modernization commitment for Massachusetts. All utilities will need to submit a grid modernization plan within six months and the Department of Public Utilities will begin to evaluate new utility business models that will align the state's public policy objectives with the utility's earnings on investment while planning for a greatly expanded electric vehicle infrastructure.

Nevada – In 2013, Governor Sandoval signed legislation to shut down the 800 MW Reid-Gardner coal plant, ending the state's commitment to burning coal for electricity. The

landmark legislation replaces the generation with a combination of renewable energy, natural gas and energy efficiency signaling a shift toward cleaner air, water and a strengthened economy for the state.

Arizona – The Arizona Corporation Commission (ACC) demonstrated a thoughtful approach to utility concerns with the state's growing and thriving solar. The utility claimed it was losing revenues from net metering (crediting of customers for power they feed into the grid from a solar installation on their home or business) in the state that were critical to paying for the utility's infrastructure. Arizona Public Service proposed a monthly fee of $75 on every solar customer to cover these infrastructure costs. The ACC recognized the need to quantify these costs and attribute them to the solar customers, but also were sensitive to the economic impact of crippling the growing solar industry in the state. As a compromise, the ACC proposed a 70¢/kW/month charge on solar customers ending a contentious and divisive debate over the future of solar in the state.

Ohio – Governor Kasich lead a successful revision to the state's oil and gas regulatory structure in 2012 putting in place a set of regulatory reforms in the state statutes that represent a responsible regulatory structure that will both allow the industry to thrive and grow while protecting the environment for future generations. In 2013, the legislature rejected efforts to undermine the state's energy efficiency and renewable energy requirements crediting the standards with saving consumers $300M each year. Two industry groups: Advanced Energy Economy Ohio and the Ohio Manufacturers Association lead the charge in opposition to undermining the state's efficiency standard raising concerns of the impact on consumers and the economy.

The Colorado Story

Colorado represents a state that has truly taken an "all of the above" strategy with an eye toward substantially reducing pollution while expanding economic opportunity in the state. Colorado is a natural gas producing state and we see natural gas as a critical component to reducing greenhouse gas pollution within the electric generation sector. We also see a critical role for both energy efficiency and renewable energy as a part of that effort.

As Governor, I signed 57 clean energy bills into law[6], including the following policies:

1. Reformed the Colorado Oil and Gas Commission to remove a statutory requirement that the industry have a majority of seats on the commission, expand the representation and put in place important regulatory measures to ensure best practices in siting and drilling for natural gas.

[6] A list of all clean energy bills signed into law by Governor Ritter http://cnee.colostate.edu/p/new-energy-legislation

2. Passed an EERS that makes energy efficiency the best financial investment a utility can make, sets goals for demand reductions and allows for bonuses for exceeding those goals.

3. Doubled the voter approved 10% RPS to 20% in 2007 and then tripled it to 30% in 2010. We did this while maintaining the critical price protections for consumers of no more than a 2% impact on rates.

4. Passed the "Clean Air, Clean Jobs Act" in 2010 which replaced nearly one gigawatt of Front Range coal generation with natural gas, efficiency and renewables while protecting ratepayers and decreasing harmful emissions of EPA Criteria Pollutants.

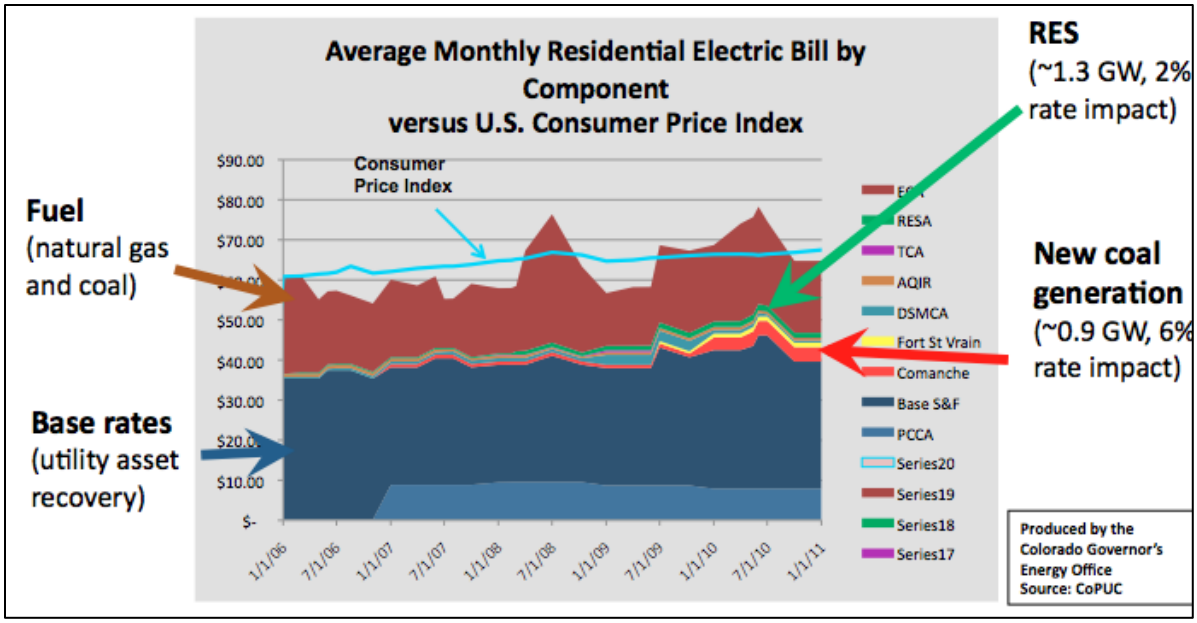
In 2007, I issued a Climate Action Plan through executive order that set a goal to reduce statewide greenhouse gas emissions to 20% below 2005 levels by 2020. We asked utilities to achieve these reductions within their generation fleets. At the time, this was perceived by some as a long stretch. Public Service Company of Colorado (PSCO - the Colorado subsidiary of Xcel Energy) recently announced that, due primarily to the policies noted above, they project a reduction in emissions by 2020 of 35% below 2005 levels from their Colorado fleet – greatly exceeding our climate action goal.

In their 2011 Electric Resource Plan, PSCO Energy stated: *"we have proposed to acquire an additional 200 MW of wind from the Limon II facility to capture the energy savings benefits from that facility"* – this request to the Colorado Public Utilities Commission was not made because of any RPS requirement, but rather on the grounds of economic and resource benefits.

Again in October of last year, Xcel Energy proposed to the PUC to procure 170 MW of solar and 450 MW of wind power strictly on economics, not for compliance with the RPS. The CEO of Public Service Company of Colorado, David Eves, told the Denver Business Journal "This is the first time that we've seen, purely on a price basis, that the solar projects made the cut – without considering carbon costs or the need to comply with a renewable energy standard – strictly on an economic basis."

Perhaps most importantly, Colorado has been able to accomplish this all of this without raising rates for consumers. Looking at consumer bills from 2006 to 2011 (chart below), consumer rates did not increase relative to the Consumer Price Index. This chart also illustrates the exposure to fluctuations in coal and natural gas contracts in consumer rates which represents financial risk to the Colorado ratepayer.

Colorado electricity rates were 19% below the national average when I took office and 21% below the national average when I left office. During that same time, the installed renewable energy capacity increased from 200MW to nearly 2,000 MW and is now going to more than 2,700 MW.



The job creation benefits of these policies are significant. In addition to the thousands of jobs created in the energy efficiency, renewable and natural gas sectors from these policies, we were able to attract one of the world's leading wind turbine manufacturers, Vestas, to locate their North American manufacturing headquarters to Colorado. Today, if a Vestas turbine is being installed anywhere in America, the blades, nacelles and towers are manufactured in Colorado, employing thousands of Colorado workers.

As policy makers, we do our best with the information available to create sound public policy. One can never be certain whether those policies achieved their objective until time bears out the results. The Colorado experience points to a tremendous success from both an economic and environmental perspective over just an eight-year period.
Stories like these are being developed in states across the country, ensuring that the U.S. will continue its foothold in the global clean energy economy. The Federal Government can assist states in scaling policies and advancing technologies and give the U.S. a more enviable presence in the global energy market place.

Future state policy opportunities

In 2014, I see three major policy opportunities for states to continue to lead the country in deploying clean energy.

Implementing the Clean Air Act, Section 111(d)

Section 111(d) of the Clean Air Act requires states to develop plans for *existing* sources of non-criteria pollutants for EPA approval (i.e., a pollutant for which there is no national ambient air quality standard, such as CO_2).[7] These are referred to as "111(d) plans" and

[7] EPA, Region 7, Section 111(d) Plans.

are similar to State Implementations Plans (SIPs) for criteria pollutants. Arguably one of the biggest near term opportunities for states to realize clean energy policy goals is to find a pathway for those policies in 111(d) plans submitted to EPA.

In practice, this would include establishing the right boundaries for compliance. Current thinking in the literature offers three possible compliance paths for states under the pending EPA rule. Those options are: 1) a performance based standard by plant with no flexibility on boundaries, or commonly referred to as "inside the fence line" compliance; 2) a performance based standard with flexibility on boundaries, or commonly referred to as an "outside the fence line" compliance approach[8]; and 3) a state-wide budget approach in which each state manages reductions among utilities within the state geographic boundary.[9]

It is my belief that, "outside the fence line" will enable the greatest innovation and the greatest potential for new clean energy markets. Furthermore, this compliance path could set the stage for states to adopt Integrated Resource Planning in managing clean and conventional resources together rather than in separate resource portfolios as they are managed today.

Which clean technologies will see an incremental market as part of 111(d) planning? What legislative changes should states be considering in the 2014 legislative session to allow them to consider the broadest options? To the extent that states may need to pass new legislation for compliance with the 111(d) rules, waiting until the 2015 session may impose too much risk if not enacted given that the final plans will be due to EPA in June of 2016. EPA is expecting to issue a draft rule next June, which is well into and past most state legislative sessions in 2014.

States would be well served to begin planning now, performing the necessary resource and portfolio analysis which will be necessary for taking the most appropriate action in compliance with Section 111(d).

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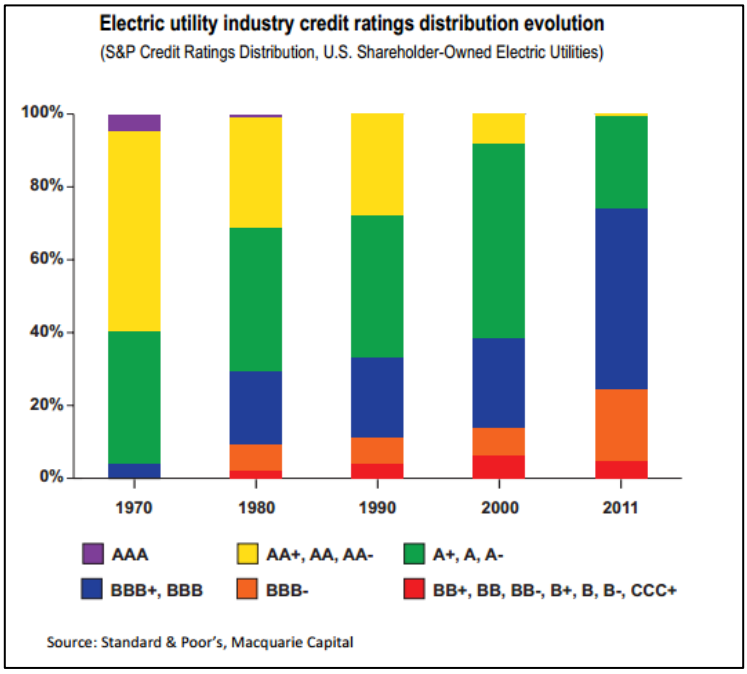
[8] It may be the case that "outside the fence line" compliance includes emissions reductions within a utility fleet of plants in order to achieve compliance rather than just the out of compliance plants. This option may include both emissions controls within a fleet to bring the average down and/or include non-central plant options such as EE, RE, DR, EVs, etc.

[9] M.J. Bradley & Associates. Structuring Power Plant Emissions Standards Under Section 111(d) of the Clean Air Act -- Standards for Existing Plants.

21st Century Utility Business Models

Utilities recognize the challenge before them and the increasing role of technology. At the heart of this challenge is the current application of a 20th Century regulatory model for a 21st Century economy.

Traditional, volume-based rate setting as a means of recovering embedded costs of depreciated assets is still common. When volume-based regulation was put in place, however, large-scale generation made sense and utility load was growing. Today, load is declining, productivity is increasing, consumers are asking for new products and services, and we are experiencing a growing trend toward distributed power sources.



Put another way, public objectives are not in line with the current utility revenue model. As a result, utilities have seen their credit ratings slip considerably over the last four decades (above).

Ultimately, we will need a 21st century utility revenue model that aligns with the expectations, desires and capabilities of a 21st century market. States are just beginning to move in this direction, most recently with great leadership from the Commonwealth of Massachusetts. This will become an increasingly pressing issue for states, utilities and utility regulators.

Access to Financing

In late 2011, investment in the clean tech sector surpassed $1 trillion dollars making clear the industry has taken root in the global economy.[10] Yet a tremendous amount of investment capital still remains on the sidelines waiting for consistent public policies that support clean energy. The current patchwork of state energy policy, financing programs, and regulatory structures combine for a complex market for institutional investors seeking opportunities. The underlying fabric that allows for scalable investment in the renewable energy sector is heavily dependent on access to reliable capital.

[10] Bloomberg New Energy Finance. Global Trends in Renewable Energy Investment in 2011.

In order to take full advantage of America's full renewable energy potential, we must usher in a new era of collaboration between state energy policy makers, the finance community and program implementers. In the 2013 legislative session alone, there were over 650 bills introduced to enable financing (including tax credits) for advanced energy of which nearly 100 became law. States are trying to unlock financing for clean energy.
For large scale investments for renewable generation, large capital markets such as Real Estate Investment Trusts (REITs) and Master Limited Partnerships (MLPs) are closed to renewable energy. As a result, renewable developers rely on tax equity markets which are much more limited in scope and scale. Access to these capital markets could further drive down the costs of renewable energy onto the grid.

For the large distributed market for renewable and efficiency retrofits, the Federal government can play an important role in providing credit enhancements through subordinated debt or loan loss reserves. Furthermore, the investment pool needs standardization of program design. By reducing credit risk for private capital and serving as a facilitator of consistent program design to attract private capital, costs can be reduced for citizens and businesses throughout the nation.

Closing Remarks

States continue to lead in the pursuit of a new energy economy for the nation – and in many ways that makes sense within our federalist system of government. But there are important roles for the Federal Government to ensure American leadership in the burgeoning global new energy economy.

A recent report from Pike Research estimated this global market at $1.2 trillion dollars in 2011 and growing at a terrific pace. We can be leaders in developing, implementing and marketing advanced energy technology to the world or we can buy the technology from others. In many ways, this is the choice before you.

I urge you to choose leadership.

Biography

Bill Ritter, Jr. is director of the Center for the New Energy Economy (CNEE) at Colorado State University. The Center launched on February 1, 2011, with Ritter as the founding director. The Center employs an assistant director, three senior policy advisors, an executive assistant and a part-time student research team.

The Center works directly with governors, legislators, regulators, planners, policymakers, and other decision makers. It provides technical assistance to help officials create the policies and practices to facilitate America's transition to a clean-energy economy.

Ritter is a member of the board of the directors of the Energy Foundation and a senior fellow and member of the board of directors of the Advanced Energy Economy Institute.

Ritter was elected as Colorado's 41st governor in 2006, and built consensus to tackle some of our state's biggest challenges. During his four-year term, Ritter established Colorado as a national and international leader in clean energy, by building a new energy economy. As a result of that work, Colorado created thousands of new jobs and established hundreds of new companies. Ritter enacted an aggressive business-development and job-creation agenda, focused on knowledge-based industries of the future: energy, aerospace, biosciences, information technology, and tourism.

Ritter earned his bachelor's degree in political science from Colorado State University (1978) and his law degree from the University of Colorado (1981). With his wife Jeannie, he operated a food distribution and nutrition center in Zambia. He then served as Denver's district attorney from 1993 to January 2005.

The Ritters have four children: August, Abe, Sam, and Tally.