INTRODUCTION

Explaining Jerry Brown’s Newfound Energy (Policy)
By Bill Whalen

By tradition, a California governor’s second-term inaugural address is a good indicator of how the term-limited chief executive of America’s nation-state plans to ride off into the sunset. Pete Wilson’s second-term inaugural, delivered 20 years ago, included talk of shrinking government (lower taxes and less regulation) to spur economic growth. Gray Davis, kicking off his second (and decidedly abbreviated) term in 2003, struck a balanced tone between fiscal austerity and preserving the government safety net. Arnold Schwarzenegger, taking his second star-turn in 2007 (his first inaugural came a few weeks after his win in the October 2003 recall election), talked up a “post-partisan” agenda headlined by the previous year’s landmark climate-change legislation.

And Jerry Brown? Typical of a governor who’s as quizzical as he is a fixture on California’s political landscape (Brown, the state’s oldest and longest-serving chief executive, was first elected to a statewide office in 1970), there was a surprise plot twist. Brown’s biggest ticket item in January’s second-term kickoff – by that, the one passage that drew the most media attention – was a three-pronged approach to the state’s energy concerns.

Brown’s proposals, all to be achieved over the next 15 years, are:
1. Increase, from one-third to one-half, California electricity derived from renewable sources;
2. Reduce, by one-half, current petroleum use by California cars and trucks;
3. Double the efficiency of existing California buildings, making heating fuels cleaner.

There are four defining qualities as to what Brown proposed:
1. As the Governor correctly observed in his address, the ideas are “ambitious.” Realistic? That’s another question;
2. The pitch was long on vision, short on specifics (each was a quick one-liner in the speech; the Governor’s office didn’t offer any backup material to reporters);
3. They’re part of the annual give-and-take between a hyper-progressive state legislative and a governor less grounded in liberal solutions;
4. As the son of a previous California governor wedded to large-scale ideas, it’s keeping in the family tradition of how best to exercise the reins of government.

About those last two points: If you parse Brown’s inaugural address, you’ll notice that it contains some troubling news for Democratic lawmakers – i.e., the Governor doesn’t want to go on a spending spree; he does want to revisit pension benefits for state workers (a $72 billion retiree health liability).

How then to coax Democrats into accepting such an unsavory notion? Simple: in part, by dangling an inviting carrot. And that would be an energy policy under the guise of addressing climate change. Keep in mind California Democrats love to talk the merits of AB 32 and cap-and-trade (though some liberals fear that state-mandated carbon limits will hurt the poor). And it’s a party whose President has suggested that global warming is a greater long-term threat than terrorism.
As for the idea of the son following in the father’s footsteps, this has less to do with amateur psychology than the reality that the sand is running out on the younger Brown’s time in office. Consider what reporters would write about Brown were he to leave office tomorrow. They’d note the remarkable comeback (28 years between the first and second tenures in the Governor’s office), his austere campaigns in 2010 and 2014, his success in managing the Legislature and selling the public on higher taxes (2012’s Proposition 30) and water policy (2014’s Proposition 1, a $7.12 billion water bond).

What’s missing from the second-time-around agenda is something as large-scale and long-term impacting as the father’s feats (building freeways and water projects, implementing a higher-education master plan). Cutting petroleum in half? Presumably, Pat Brown would smile in approval.

In this edition of *Eureka*, we’ll look at Brown’s three energy proposals – their feasibility, and what they mean both for California and for the Governor’s legacy. That includes:

- Jeremy Carl, a Hoover research fellow and director of research for Hoover’s Shultz-Stephenson Task Force on Energy Policy, assessing the merits, land mines (and possible wiggle room) in cutting petroleum use.
- Rob Lapsley, president of the California Business Roundtable, asking if an added reliance on renewable resources is a case of “too much of a good thing?”
- Dian Grueneich, a former California PUC commissioner and Shultz-Stephenson senior research scholar, explaining how greater building efficiency can be reached if government uses its head – and taps into modern technology.
- Finally, Hoover research fellow and California observer Carson Bruno will look at the political implications should these ideas see the light of day.

And before all of that, we have this podcast offering an insight into and a summation of Brown’s energy agenda.

**Challenges and Realities of Jerry Brown’s Climate Change Agenda**
*Participants: Carson Bruno, Jeremy Carl and Bill Whalen*
*Recorded March 9, 2014*

We hope you enjoy the series – and that it gets you thinking about where California stands and where its leaders want to take us.

**FEATURED COMMENTARY**

**Governor Brown’s Gasoline Consumption Reduction Plan Offers Less than Meets the Eye**

By Jeremy Carl

In one of the more memorable statements in his fourth inaugural address, Governor Brown pledged to ensure that California would cut the usage of petroleum in the state’s vehicles by up to 50 percent by 2030. While the Governor’s proposal got a lot of publicity, on closer examination, it figures to be far more sizzle than steak.

There are several obvious problems with the plan. First, Governor Brown will be long out of office by the time 2030 rolls around, and future Governors will be able to alter, amend, or ignore this goal should they so choose. Second, demographics will provide substantial headwinds. With California’s population expected to grow approximately 20 percent by 2030, gasoline use would need to drop by 20 percent just to keep even, much less drop by half. Third, the timeline may prove an insurmountable challenge. If the Governor is expecting California to achieve its reduction through new vehicle technologies, it should be noted that vehicles usually take several years to develop, so even if the auto market were do universally follow California’s lead, it would be close to 2020 before more fuel efficient vehicles began showing up in California showrooms.

**BRANDED GASOLINE COST BREAKDOWN**
*(AS OF WEEK OF AUGUST 11, 2014)*

Source: [California Energy Almanac](http://www.eurekaenergy.com)

**FACTS ON THE ISSUE**

- [CRUDE OIL](#) 63.4%
- [DISTRIB. & MKTNG](#) 8.9%
- [FEDERAL TAXES](#) 4.7%
- [STATE TAXES/ FEES](#) 11.9%
- [REFINERY](#) 11.1%

More importantly, the average American car is about 11 years old further exhibiting the lag time it would take to get existing vehicle stock off the road. This means, even if we charitably assume that everyone buys a more efficient vehicle as soon as it is available, the Governor’s plan is highly unrealistic.

For example, advanced powertrain vehicles such as plug-in hybrid electric vehicles (PHEVs) and electric vehicles (EVs) made up less than 3 percent of California light-duty vehicle
sales in 2014, despite aggressive state incentives that have made California sales almost 40 percent of national electric vehicle sales. Hybrid sales in California, fifteen years after the introduction of the Prius, and with dozens of other models available, are still less than 7 percent of California vehicle sales. While this is far from negligible, it is also far from transformative. The easy customers for these cars have already been reached. And when it comes to pure electrics, Silicon Valley’s Tesla buyers, who make up a significant portion of California EV sales, don’t exactly represent the typical car buyer. In a few years, it is possible that with new vehicles (Tesla Model III, Chevy Bolt concept, etc...) we might have available EVs that are vaguely appealing to the average consumer, but for the foreseeable future, there will be significant trade-offs between EVs and conventional powertrains (costs, distances, and power being just a few). Given the hollowing out of California’s middle class, expecting them to pay thousands extra – including gas savings – just to drive greener cars, is more wishful thinking than policy reality.

Perhaps the Governor is counting on the revived Low Carbon Fuel Standard (LCFS) for much of the reduction. This policy, which forces Californians to reduce the carbon content of their automotive fuel, will boost alternatives including electricity, natural gas, hydrogen, and biofuels. But none of these fuels are necessarily environmentally benign, and all of them, depending on the application, can have substantial cost penalties as compared to petroleum. While the AB 32 cap-and-trade induced motor fuel price increase, even if it was modest, was masked by oil prices in a global free-fall, Governor Brown would unlikely to be so lucky with LCFS-induced price increases.

A final reason for skepticism comes from the pledge’s fine print. Governor Brown did not announce a 50 percent reduction, but rather he announced an “up to” 50 percent reduction, giving Democrats substantial wiggle room to still declare victory even if 50 percent is not achieved. Unfortunately, the proposed 50 percent reduction on California’s gasoline use has all of the indicators of a politician looking to burnish his legacy, suggesting taxpayers should be skeptical.

Jeremy Carl is a Hoover Institution research fellow, focusing on energy and environmental policy. Jeremy also serves as the Director of Research for the Shultz-Stephenson Task Force on Energy Policy.
And moving forward, if California goes to a 50 percent renewable standard without solving the cost issue, we can expect our businesses to be at an even greater competitive disadvantage.

2013 AVERAGE RETAIL ELECTRICITY PRICE BY ULTIMATE CUSTOMER (Cents/kWh)

<table>
<thead>
<tr>
<th>Residential</th>
<th>Commercial</th>
<th>Industrial</th>
<th>Transportation</th>
</tr>
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<tbody>
<tr>
<td>16.19</td>
<td>14.22</td>
<td>10.96</td>
<td>8.54</td>
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</tbody>
</table>

Source: US Energy Information Administration, Form EIA-861

Equally concerning is the potential for system reliability problems. The California Independent System Operator (CAISO), the nonprofit entity in charge of keeping the lights on in California, has voiced serious concerns about moving beyond the current 33 percent requirement. That’s because it’s harder to maintain reliability with renewables; solar and wind resource intermittency can vary significantly from year to year, season to season, and even hour to hour. Therefore, intermittent renewable production must be supplemented by other backup resources that can ramp up as needed.

The Price of California’s Preoccupation with Renewables: Too Much of a Good Thing?
By Rob Lapsley

In his annual State of the State address, Governor Brown outlined ambitious goals for taking California’s climate change policies to the next level. Historically our state has held the position of groundbreaking leadership when it comes to aggressive environmental programs, so it comes as no surprise that Governor Brown wants to expand on this trend by enacting even more aggressive policies aimed at 2030 and 2050 climate change goals.

In particular, the Governor called for California to increase its reliance on renewable power to 50 percent. Not only is this an extremely ambitious goal, but experience shows that overreliance on renewable power leads to increased costs and reduced grid reliability (while offering uncertain or minimal environmental benefits).

Currently, California utilities are required to reach a 33 percent Renewable Portfolio Standard by 2020. Although costs for some renewable technologies are declining, particularly solar photovoltaics, generally the costs of renewables are still higher than conventional resources. So, utilities are now locked into expensive long-term renewables contracts – and now, these costs are phasing into ratepayer bills.

Already, the gap between California’s electricity rates and other states is significant. In 2012, the average retail electricity price for customers across all rate sectors (commercial, industrial and residential) was 37 percent higher in California than the national average (13.50 cents per kWh in California versus 9.84 cents nationally).
Electricity in Germany is now 40 percent more costly for consumers and 20 percent more expensive for industrial users than the European Union average. Over the decade—when Germany rapidly increased its reliance on renewables—Germany’s annual household bills increased by nearly two-thirds and over the past four years, prices for industrial customers have risen more than 30 percent. Businesses are citing energy costs as a major risk for German industry and the economy. And the German government has acknowledged that 6.9 million families are in energy poverty, which is defined as spending at least ten percent of household income on energy expenses.

So in Germany, an aggressive renewables goal has resulted in rising costs and rising emissions—presenting an ominous example for California.

We need to be clear about our policy goals in the state. Rather than setting arbitrary standards, California should be working with energy companies to identify the right strategies that will maximize emission reductions, while still keeping the price tag manageable. Only then will our “model” climate change programs be palatable enough for other jurisdictions to follow in our footsteps. And only with followers can California hope to make a global impact on the global climate change problem.

The reliability issue is further inflated by renewable “over-generation” during certain times of day. There is a growing gap between California’s electricity needs versus the increasing amounts of solar being produced during the early afternoon. The CAISO has already seen the need to curtail renewable generation in 2014 and has warned that significant amounts of renewable energy will have to be curtailed at certain times if we go above the 33 percent requirement. Unfortunately, “curtailment” doesn’t actually save ratepayers money, since utilities are under contract to buy the renewable power from generators. So on a bright sunny day with solar power production at full throttle, California will actually be paying to ship that power elsewhere, or paying the producers to turn it off. That means ratepayers bear the burden of more expensive power, but don’t actually get the increased environmental benefits you would expect.

In setting new goals, California should also consider whether similar programs have worked in other jurisdictions. Germany set an aggressive goal to reach 80 percent renewable energy by 2050. Germany now gets a quarter of its power from renewable sources. But instead of positively impacting the global effort to fight climate change, Germany’s carbon dioxide emissions actually rose 1.3 percent in 2012. This is because the country has had to use more coal to provide backup power to supplement its renewable production while phasing out its nuclear resources.

California’s 10.3 MMTCO₂e CO₂ emissions per capita in 2012 ranked 43/50 states.
California’s Clear, but Strenuous Path to Doubling Its Energy Savings by 2030
By Dian Grueneich

In January, Governor Jerry Brown announced a goal for Californians to double the planned level of savings from energy efficiency improvements in existing buildings by 2030 and develop cleaner heating fuels. Hitting these very high targets in just 15 years “will take great thought and imagination,” the Governor said, and “require enormous innovation, research and investment.”

Following the governor’s announcement, the California Energy Commission – the state’s primary energy policy and planning agency – listed seven steps to meet the Governor’s goal:

1. Government Leadership: focus on publicly-owned buildings’ push code compliance
2. Simpler Access to Useful Information: utilize building benchmarking and other energy assessments to inform targeted efficiency improvements
3. Innovative Business Solutions: enable pervasive delivery of dependable savings
4. Financing: increase affordable, innovative financing that aligns with savings timeframes
5. Utility Procurement: treat efficiency as an energy resource for which utilities contract similar to large-scale generation
6. Technical Innovation: develop and commercialize technology advances in lighting, cooling, space and water heating, and plug-loads
7. Workforce Training: support training in energy efficiency assessment, installation, and sales

California has been an international leader on energy efficiency since 1974. When California first began its energy efficiency efforts (to avoid a forecasted need to build new power plants every 50 miles along the state’s coast), many were skeptical because no one had ever tried systematically reducing energy use. Forty years later, California’s success is recognized. The state ranks first in efficiency codes for buildings and gas mileage standards for cars. Unlike other states, Californians consume the same amount of electricity per person as they did 30 years ago, despite larger homes and the explosion of personal computers, giant televisions, and numerous other electronics. On average, every California resident in 2014 used about 1,900 kWh less than they would have without the state’s efficiency programs, according to the U.S. Energy Information Administration.

For a California family of four, that equates to cutting 2014 electric bills by more than $1,000.

TOP LEED CERTIFIED STATES
(AS OF 2014)

<table>
<thead>
<tr>
<th>RANK</th>
<th>STATE</th>
<th>CERTIFIED PROJECTS</th>
<th>PER-CAPITA SQ. FT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Illinois</td>
<td>174</td>
<td>3.31</td>
</tr>
<tr>
<td>2</td>
<td>Colorado</td>
<td>102</td>
<td>3.15</td>
</tr>
<tr>
<td>3</td>
<td>Maryland</td>
<td>132</td>
<td>2.70</td>
</tr>
<tr>
<td>4</td>
<td>Virginia</td>
<td>150</td>
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</tr>
<tr>
<td>5</td>
<td>Massachusetts</td>
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</tr>
<tr>
<td>6</td>
<td>Hawaii</td>
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</tr>
<tr>
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<tr>
<td>10 (tied)</td>
<td>Arizona</td>
<td>82</td>
<td>1.74</td>
</tr>
<tr>
<td>10 (tied)</td>
<td>New York</td>
<td>250</td>
<td>1.74</td>
</tr>
</tbody>
</table>

Source: US Green Building Council

But how will California get to the next level? How, without hurting California’s economy or quality of life, can the state power its workplaces and heat its homes while doubling energy efficiency?

Achieving even California’s existing goals for energy efficiency (shown in orange on the chart) poses dramatic challenges. The Governor’s new goal (adding the blue wedge to the orange) is unprecedented and the scope of effort – public and private – required is enormous. Business as usual, even with expanded resources, will not succeed.
The good news is that advances in information technology, data analytics, communications, sensors and controls, and increased understanding of customer behavior, can deliver the forecasted savings. The features that enable a typical smartphone – digital communications, low-power computing, LEDs, sensors and software – are finding their way into home appliances, heating and air-conditioning systems, and the electric grid. Researchers are using advanced data analytics from California’s multi-billion dollar investment in smart meters to understand patterns of energy use – pinpointing waste – in unprecedented detail. This knowledge will help customers identify new low-cost savings, help utilities and others plan and implement programs, and help contractors quickly diagnose and fix problems that previously would have lingered.

However, much of energy efficiency is driven by mandatory requirements and customer-funded programs set by state regulators. Government actions overseeing these efforts must be streamlined and coordinated, with clear communication to the public about the benefits and necessity for possibly wide-ranging new mandates. Key rules governing customer-funded efficiency programs must be updated – far more quickly than historically done – to embrace new technologies and deep savings approaches. Statewide public-private collaboratives must be developed and adequately funded.

As of 2014, 13% of the State of California’s total owned/leased building portfolio was LEED certified (by square footage).

Last year, a new initiative at Stanford University started to focus on getting energy efficiency to the next level by targeting three areas – intelligent energy, behavioral strategies to drive demand and deliver savings, and financing. Research continues into changes needed in current policy rules and updated government oversight roles to support this next generation of efficiency, as well as mechanisms for reporting performance. The answers will entail innovations from places beyond a single institution, thus the new initiative is working in collaboration with researchers, policymakers, and experts from around the world. Energy efficiency is doable, as California has already proven, but it will require a wide range of efficient action from public, semi-public, and private agencies.

The Politics of Governor Brown’s Climate Change Proposals
By Carson Bruno

Aiming to fulfill Governor Brown’s State of the State proposals, Senate President Pro Tem, Kevin de León, introduced a portfolio of climate change legislation in early February. Unlike Brown, however, who spent 23 percent of his address proposing the climate change agenda and defending further action on moral grounds, de León framed his actions as a way to “make sure California keeps leading in building the new economy of tomorrow.” While legislative Democrats have historically used environmental moralism to argue in favor of combating global warming, de León’s seemingly whip-lash-like messaging is all about politics.

According to the January 2015 Golden State Poll, just 26 percent of likely California voters named dealing with global warming as their top policy priority for Sacramento to focus on in 2015. The only issue to do worse is Governor Brown’s other legacy-building ploy: the high-speed rail project (at 16 percent).

Even key Democratic voter groups don’t consider the issue a top priority. Millennials rank it 11th (out of 21 items); Latinos put combating climate change at 18th, while likely female voters consider it the 19th ranked top priority. And low-income families only rank high-speed rail below combating climate change. With Republicans immediately skeptical of more big government action and well-financed interest groups ready to put the brakes on more environmental mandates, legislative Democrats can’t rely on voters’ support for an aggressive climate change agenda.

As such, de León is turning the climate change battle into a panacea for sluggish economic growth and job creation, areas which 72 percent and 66 percent of likely voters consider top priorities for Sacramento (1st and 3rd, respectively). More importantly, across every single demographic category, at least one of these issues are in the top 5 top priorities – Independent likely voters being the only subset not to rank both among the top 5 issues.

In a way, Democrats are victims of their own success. With Sacramento effectively under one-party (Democratic) rule, Democrats receive the credit for all the good and bad that happens in California. If the caucus is seen as pushing climate change actions at the expense of the economy, there could be voter backlash in 2016. True, the next cycle will be a Presidential election year, which should help Democrats in terms of voter turnout, but Democrats won’t find state Republicans sleeping at the wheel like they did in 2012.

Assembly Democrats will clearly target Republicans David Hadley (AD 66) and Catharine Baker (AD 16), who hold, respectively, D+3 Los Angeles suburban and D+8 San Francisco Bay Area suburban seats. Both won in 2014 thanks to contrasting their pragmatic, pro-growth, pro-common sense agenda against unaccountable Democratic one-party rule. State Democrats pushing climate change over economic growth would only bolster their re-elections. Democrats could also target AD 60 (R+0.3) and AD 35 (R+3), but a heavy environmental Sacramento agenda isn’t necessarily a winner in a seat that the Republican Eric Linder (AD 60) first won in 2012 despite President Obama also carrying it or a district (AD 35) that the President didn’t even win. Moreover, Assembly Republicans likely plan to retake AD 44. This swingy Ventura County seat prefers moderates to ideologues, putting incumbent Democrat Jacqui Irwin in a political bind if her caucus pushes aggressive environmental actions.
In the Senate, Democrats realistically have no pick-up opportunities among the up-for-election odd-numbered districts. But Republicans will likely target SD 5 (D+2) and SD 27 (D+4). Democrat Cathleen Galgiani won SD 5, a North San Joaquin Valley district, by just 1 point in 2012, even as President Obama was easily winning the district. Sacramento’s progressive environmental agenda is a difficult sell in the Central Valley. Meanwhile, in 2012, Democrat Fran Pavley – who is termed-out in 2016 – managed to hold onto Senate District 27 by only 7 points. During the 2012 campaign, Pavley – the principal author of California’s landmark environmental law, AB 32 – was forced to tone down her environmentalist positions, suggesting the district might be wary of supporting further aggressive climate change actions.

Given the current electoral reality in California, Democrats have to stumble for Republicans to make strong advances. It is clear that de León, and likely many other Democrats, realize the political perils of aggressively pushing climate change action as the expense of economic growth. The only remaining question (and one that won’t be answered until November 8, 2016) is whether Democrats succeed in re-framing the environmental agenda into an economic one.