

# **JACK FAUCETT ASSOCIATES**

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**Testimony on March 18, 2013 of Michael F. Lawrence Before the**

**SENATE COMMITTEE ON**

**ENVIRONMENT AND NATURAL RESOURCES**

**Oregon State Capitol**

**900 Court Street NE, Room 347, Salem, Oregon 9730**

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"Good afternoon Chairman Dingfelder, Vice Chairman Olson, Members of the Committee.

My name is Michael Lawrence, and I am the President of Jack Faucett Associates (JFA), an economics and policy consulting firm with 50 years of experience in energy, environmental and transportation issues. I appreciate this chance to talk about the Clean Fuels Program, and it's an honor to speak before the committee today. JFA led the study of the economic impacts of the Program which was commissioned by the Department of Environmental Quality. We worked with the Advisory Committee and DEQ staff and brought to the research our experience working on and studying a wide range energy issues. We have done work for industry groups, the US Department of Energy, and state and federal departments of transportation, and non-profit organizations. We have been working on public policy issues here in Oregon for over two decades. We sought to take an even-handed and careful approach to this analysis, as we have done for clients on all sides of several policy debates.

Our analysis of the economic impacts of this legislation relied on methods and data used frequently all across the United States in the study of policies in the transportation sector. We actually did not one but eight different analyses of how the Clean Fuels Program might affect the Oregon economy. We did so because this program is, by definition, a market-oriented approach which allows producers and suppliers of automotive fuels to select the most cost-effective path to compliance. They select this approach from a wide range of options: conventional ethanol and biodiesel made from corn and soybeans, advanced and cellulosic biofuels from a variety of feedstocks, natural gas, and electricity. To reflect this wide range of

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possible routes to compliance, we modeled eight different scenarios to bracket the full range of likely approaches the fuel supply industry might take to comply with this law.

Our study found that the Clean Fuels Program has the potential to drive economic development. By driving investment in new infrastructure within the state of Oregon, the rule is projected to create growth in a range of sectors across the state's economy. These sectors include construction, which benefits from new capital investment within the state. Also because households spend less on fuel, more household consumption is directed to wholesale and retail trade, health care, real estate and banking, to name a few. Many of these sectors – especially construction, health care and retail trade – are particularly employment-intensive. The share of spending in a sector that is converted to employment is especially high in these sectors, and is especially low when spending the same money importing petroleum. Savings at the pump, which are largely attributed to expanded use of electricity and natural gas as well as biofuels, are also projected to drive significant retail spending increases. This is consistent with the frequently-cited relationship between fuel prices and the overall health of the economy.

The potential gains to the economy are significant: By the end of the 10-year program, the Clean Fuels Program has the potential to create nearly 30,000 additional years of employment, across many sectors of the economy. It has the potential to produce up to 1.6 billion dollars in savings at the pump, and over 2 billion dollars in gross state product. Importantly, we found no sectors that encountered job loss.

How positive the impact will be, however, depends on the approach the industry takes to compliance. The strongest factor in driving positive economic changes is the extent to which the industry invests in the production and delivery of new clean fuels within the state of Oregon. The more Oregon's fuel-supply sector develops new infrastructure within the state – regardless of whether that infrastructure supports biofuel production, natural gas production or electric-charging capacity – the greater the positive economic effects will be for the state. If, however, suppliers simply import alternative fuels to replace imported petroleum, there will be very little impact on the economy.

Other studies are being used to argue a contrary view – that the Clean Fuels Program would, in fact, have a very negative effect on the Oregon economy. These studies limit their focus to biofuels, rely on worst-case-scenario assumptions about what fuels will be available, and sometimes assume draconian and unrealistic government actions to force compliance. These studies don't actually address programs like the Clean Fuels Program; rather, they address biofuels mandates. Mandates, such as a required volume of fuel in the market by a given year, are much more narrow and restrictive than the Clean Fuels Program, which is a flexible

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standard that allows the market to pick its own path to compliance. To the extent that any one fuel stock demonstrates supply limitations or too high a price at the pump, manufacturers and consumers have the flexibility to rely on a wide range of other alternatives. The competing studies are not specific to either Oregon's economy or this law. By contrast, our study's multi-scenario approach is specific to Oregon, including the consumer protection provisions, and reflects the flexibility that both industry and consumers will have when responding to supply and price considerations.

I'd like to specifically address concerns about the price of fuel at the pump. At the time we did the study, US Department of Energy projections indicated that future ethanol and biodiesel prices were expected to be effectively equivalent to the prices for gasoline and diesel, on a per-energy-unit basis. Updated versions of those same projections for 2013 using the latest research and experience in biofuel production, now expect that the price of biofuels will actually be between 20 and 30 percent lower than petroleum fuels at the pump. If, despite those projections, biofuels prices were to rise well above gas and diesel prices, electricity and natural gas remain available as avenues to compliance. Both electricity and natural gas are significantly less expensive per mile driven than are petroleum fuels. In fact, our research found that the utilization of these fuels produced significant savings to consumers – even despite additional costs for new infrastructure, new vehicle technologies, and limited supplies of those new vehicles. We have all seen the introduction of 100+ MPGe electric vehicles. These savings translated to lower costs of living, greater available income to spend in other ways, and increased employment as result of that added spending.

If, however, prices of alternative fuels were to become onerously higher than the prices of conventional fuels, the Oregon law already has built-in "off ramps" that allow for relief from the law's requirements. In combination with the wide variety of options for compliance, these consumer protection provisions in the Clean Fuels Program effectively insulate against a significant cost burden to the fuel-buying public.

Second, let me address concerns about limited supplies of particular fuels. On a national scale EPA set a target 36 billion gallons of biofuels in the federal renewable fuel standard. This level is expected to be realized through technological advances in biofuels production. However, even if technological advances are slower than anticipated, there will be sufficient supplies for Oregon. This is because Oregon represents only approximately one percent of the nation's market for auto fuels. So while biofuel supply challenges on a national program level are possible, it is unlikely that such a problem will occur in Oregon. In addition, flexibility to respond to what fuels are actually available is the very nature of a Clean Fuels Program. A wide

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range of biofuels – domestic and imported, conventional and advanced – can be supplemented with electricity and natural gas, supplies of which are both plentiful.

That said, we did consider supply limitations in our analysis. We assumed limited supplies of biofuels, and particularly limited supplies of advanced feedstocks, in all of our scenarios. Also, we developed some alternative scenarios with very low reliance on biofuels and greater reliance on abundant supplies of natural gas and electricity. These alternative scenarios, in fact, produced the most beneficial projections of positive impact to Oregon's economy.

In summary:

- Our study is the only study that is specific to Oregon's Clean Fuels Program.
- The positive economic benefits vary depending on how the market responds to the program, but in no scenario did we find negative economic impacts in any sector of the economy.
- The program drives economic-development, because it encourages investment and long-term employment in the state.
- The wide range of fuel options allow producers and consumers to reject expensive or unavailable fuels while still meeting the program's goals
- Projections are that prices at the pump will either be roughly the same as petroleum or significantly below petroleum.
- Biofuel supply limitations are less of a concern at the state level than at the national level, and electricity and natural gas are plentiful options.

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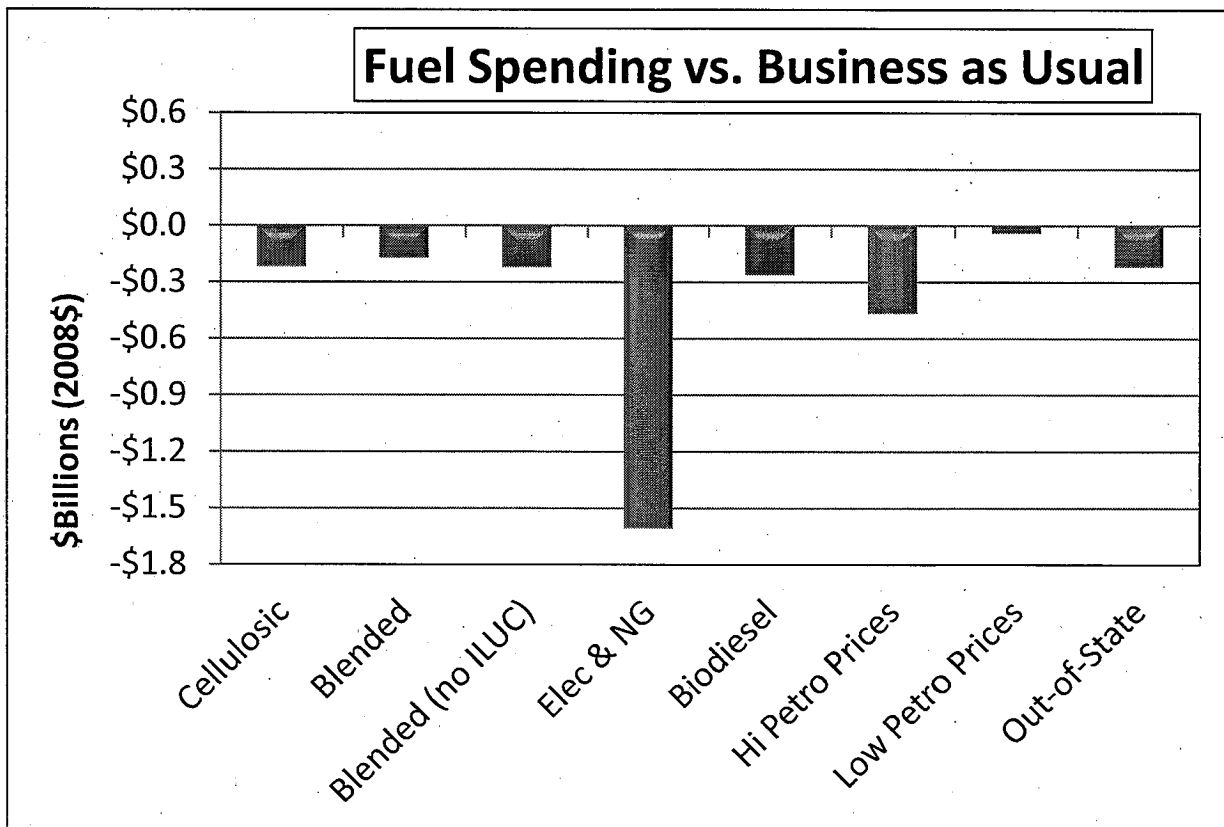
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Selected Graphs from the Jack Faucett Associates Study of the economic benefits of the CFP.

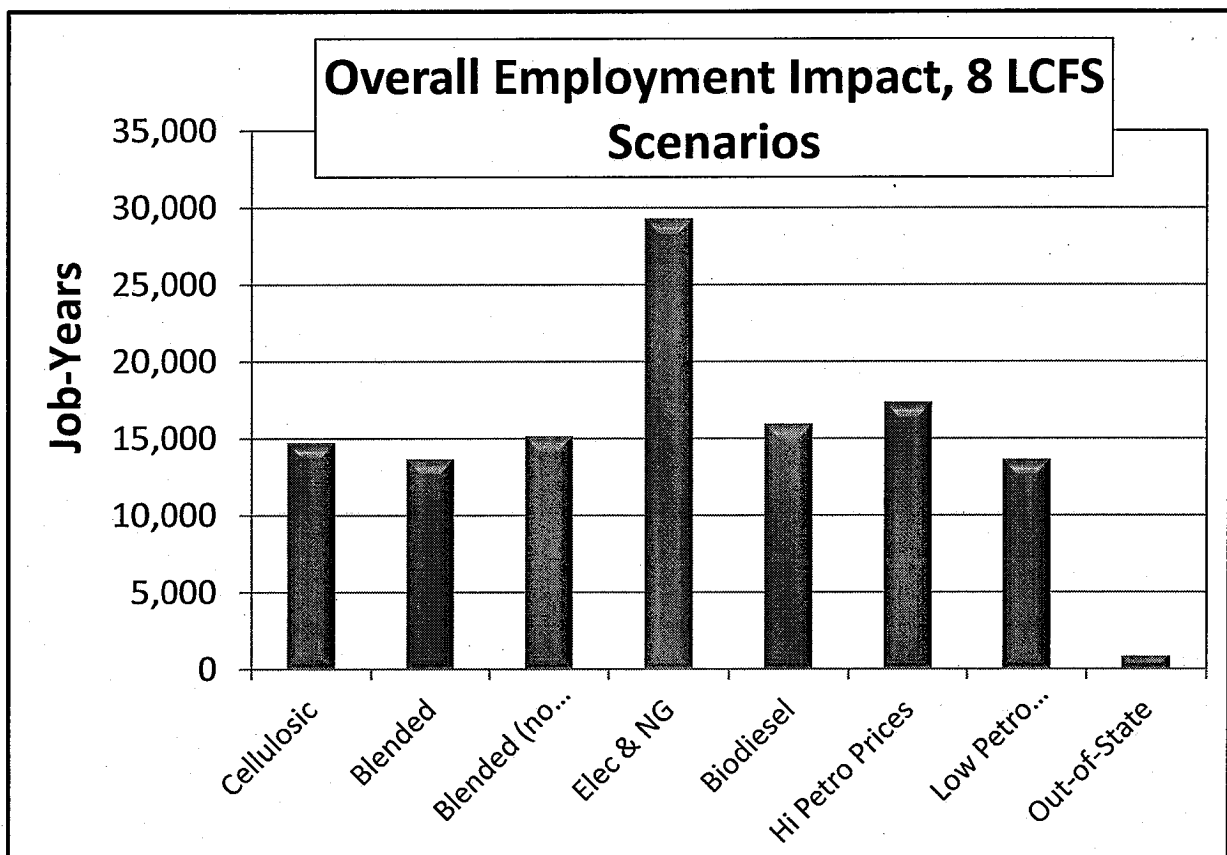
## Oregon Clean Fuels Program Reduces Fuel Expenditures



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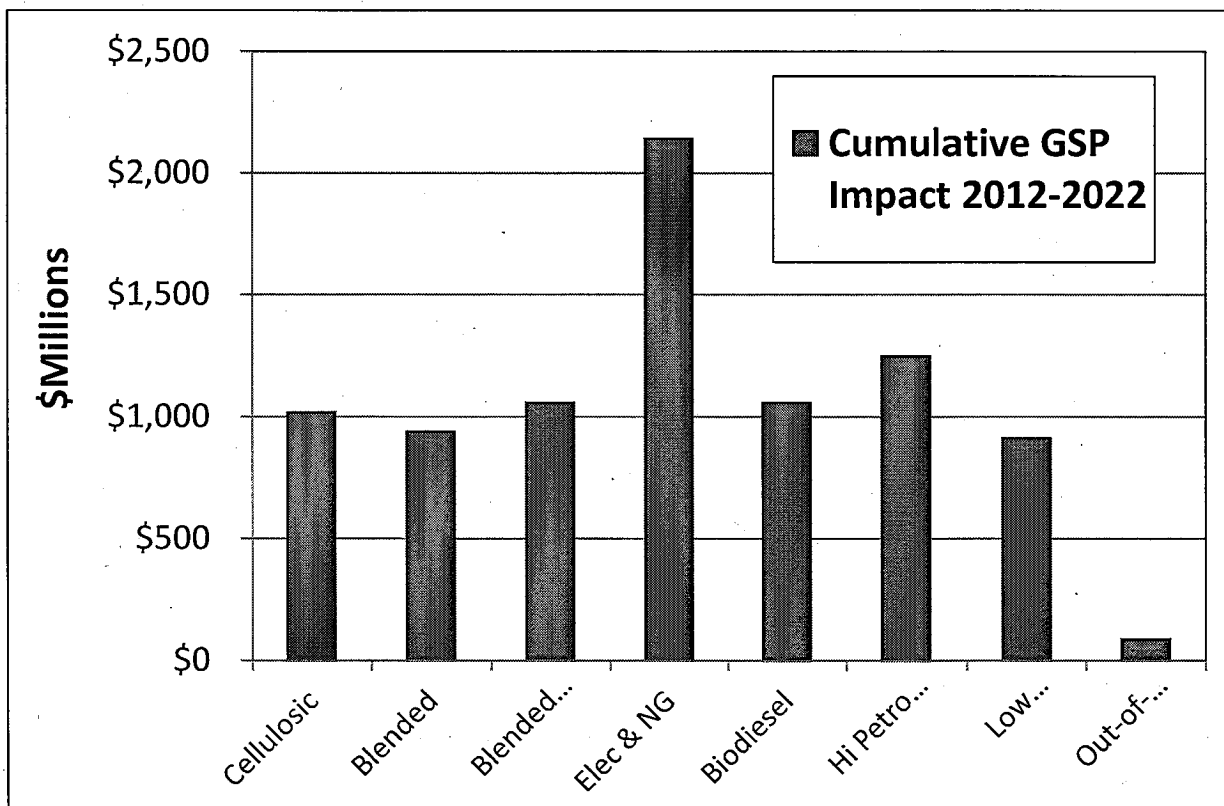
## Oregon Clean Fuels Program Increases Employment



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## Oregon Clean Fuels Program Enhances Gross State Product



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## Summary of Clean Fuels Program Benefits

<b>Range of Benefits Over 10-Years</b>	
Employment	863 – 29,290 Jobs
Fuel Savings	\$43 – \$1,607 Million
Personal Income	\$60 – \$2,630 Million
Gross State Product	\$70 – \$2,140 Million