

COALITION FOR
RATIONAL FUEL REGULATION

The Low Carbon Fuel Standard: Is It Really Ready for Prime Time?

Under Executive Order 09-05, the Washington State Department of Ecology has been evaluating a low carbon fuel standard (LCFS) which would force a radical change in gasoline and diesel fuels sold in our state. An LCFS requires fuel providers to reduce the carbon intensity of the fuels they sell by at least 10 percent.

While it is important to make progress on improving our transportation fuels, both environmental and economic costs and benefits must be carefully weighed before adopting new regulations with far-reaching consequences for Washington consumers and businesses.

The Department of Ecology staff is recommending the state begin developing the regulations that will implement a LCFS for Washington.

Major Economic Questions about the Low Carbon Fuel Standard Remain

- **What will a LCFS cost consumers?**

A Charles River Associates (CRA) study of a proposed national Low Carbon Fuel Standard concluded that the huge technical and production investments required for compliance could increase gasoline and diesel prices by 90 to 170 percent by 2025. That would mean the national average cost for gasoline would increase to \$5.44 to \$7.74 per gallon compared to today's average prices.

This study also found that the fuels price impact of an LCFS in just the first five years could be an increase of 30 to 80 percent. That would increase current costs for gasoline to \$3.72 to \$5.15 per gallon.

The Department of Ecology's own analysis concluded in four of the six scenarios it studied, Washington consumers would pay \$1 billion more in fuel costs over 10 years if the state adopts a LCFS. And another \$2.5 billion in new infrastructure would have to be built and paid for to accommodate the additional low-carbon fuels.

- **Will an LCFS have any impact on jobs?**

While proponents of an LCFS trumpet overly optimistic projections of new, "green" jobs that would be created, they tend to under-estimate the negative consequences of an LCFS on employment. The CRA study concluded that a national LCFS could result in the loss of 2.3 million to 4.5 million jobs across the country. It is extremely likely, were Washington to impose its own state LCFS, that it also would experience job losses in the state.

- **Will enough LCFS-compliant fuel be available to meet our needs?**

There are major questions about whether enough low-carbon alternative fuels will be available to meet LCFS requirements within the timeframes contemplated.

Serious Environmental Questions about the Low Carbon Fuel Standard Also Remain

- **Will a state LCFS have any measurable impact on global warming?**

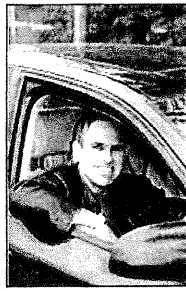
It is reasonable to expect that a significant new environmental regulation would have a measurable impact on the problem it is trying to solve. Scientists from Sierra Research found that a similar regulation in California would have no detectable impact on global warming. The California researchers also found that their state's LCFS would actually increase smog-forming emissions, an impact we do not want to see here in Washington.

- **Are there better ways than an LCFS to address transportation's greenhouse gases emissions?**

Existing state and national alternative fuel programs already are reducing greenhouse gas emissions. Nationally, the federal government is moving aggressively to implement the federal renewable fuel standard (RFS2) and new vehicle fuel efficiency standards which are expected to achieve nationwide greenhouse gas emission reductions. In addition, the federal RFS2 achieves the goal of forcing new fuel technologies to be developed. The EPA is also considering mileage standards for mid-size and heavy-duty diesel vehicles. Washington State has already adopted an RFS mandating the use of biofuels, and adopted strict vehicle fuel efficiency standards. In addition, the state is working with the Western States Electrification Project to establish a fueling system for electric cars.

The proposed LCFS is an extremely complex and risky policy initiative that Washington doesn't need to adopt

Development of a Low Carbon Fuel Standard for Washington is a very risky policy that could lead to increased job losses, inadequate fuel supplies and higher fuel costs for consumers. And numerous other state and federal programs and regulations will achieve many of the benefits sought by a LCFS without the same costs or risks.



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Washington LCFS – alternative views

- Low carbon fuel regulations are very complex and carry huge risks
- Full LCFS compliance depends on fuels and technologies that do not exist at commercial scale today
- Supplies of low-carbon fuels are not plentiful and are not likely to be inexpensive
- LCFS regulations will result in lost jobs and could force refinery closures
- A Washington LCFS will not impact climate change

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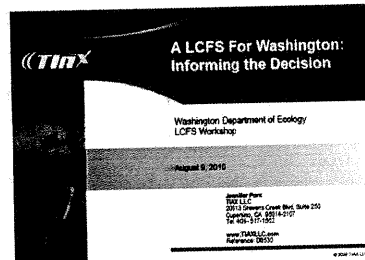
Source: Washington Department of Ecology, LCFS Workshop, Effects of LCFS on Fuel Prices, September 27, 2010



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Potential LCFS impacts on consumers

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- Another \$2.5 billion in new infrastructure would have to be built and paid for to accommodate the additional low-carbon fuels.



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Source: Washington Department of Ecology, A LCFS For Washington: Informing the Decision, LCFS Workshop, TIAX LLC, August 9, 2010



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Potential LCFS impacts on consumers

A previously proposed nationwide LCFS would have:

- Resulted in a price shock that would have dramatically increased the cost of transportation fuels to consumers
- Had long term effects on the economy by increasing transportation costs for all goods
- Increased the cost of transportation fuels 30% to 80% within 5 years (to \$3.72 to \$5.15 per gallon)
- Increased in the cost of fuel 90% to 170% by 2025 (to \$5.44 to \$7.74 per gallon)

CRA Charles River Associates

5 Source: Economic and Energy Impacts Resulting from a National Low Carbon Fuel Standard, Charles River Associates, June 2010; U.S. Energy Information Administration U.S. average cost for regular gasoline, November 8, 2010



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Potential LCFS impacts on jobs, the economy

CRA study also concluded a nationwide LCFS would have:

- Resulted in 2.3 to 2.4 million lost jobs
- Reduced household annual purchasing power by \$1,400 to \$2,400 relative to 2010 income levels
- Forced the closure of 43 to 55 refineries nationwide
- Resulted in the loss of about 21,000 to 33,000 direct refinery jobs.

CRA Charles River Associates

6 Source: Economic and Energy Impacts Resulting from a National Low Carbon Fuel Standard, Charles River Associates, June 2010; U.S. Energy Information Administration U.S. average cost for regular gasoline, November 8, 2010



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Washington LCFS – Sierra Research

Success of a Washington LCFS depends on:

- Development of technologies that are not yet commercially viable and/or changes in consumer behavior
- Sufficient volumes of low carbon intensity (CI) biofuels being available for LCFS compliance
- High sales volumes of electric and plug-in hybrid electric vehicles
- High sales volumes of flexible fuel vehicles

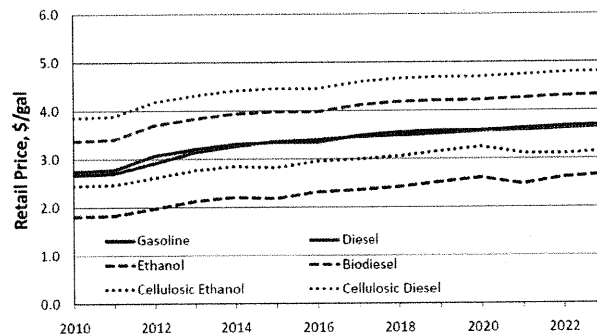
7 Source: Sierra Research, Summary of Important Assumptions Used in Washington Department of Ecology's LCFS and Alternatives Assessments, October 6, 2010



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Washington LCFS – alternative views

- Economic benefits of LCFS based on plentiful supplies of inexpensive low-carbon biofuels



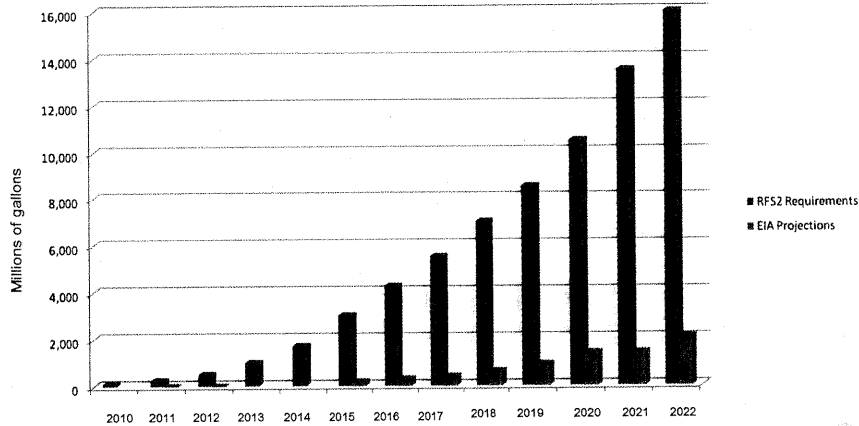
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Source: Washington Department of Ecology, LCFS Workshop, Effects of LCFS on Fuel Prices, September 27, 2010



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Cellulosic ethanol supply gap



9 Source: Energy Information Administration, letter to Lisa Jackson, Administrator, U.S. Environmental Protection Agency, October 20, 2010; Energy Information Administration, Annual Energy Outlook.



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Outlook for cellulosic ethanol production

- Perceived benefits of LCFS depend on large increase in Washington low CI biofuels production
- U.S. Department of Agriculture forecasts vast majority of new advanced biofuels production will occur in Southeast and Central East

Advanced Biofuel Production from New Capacity (billion gallons)

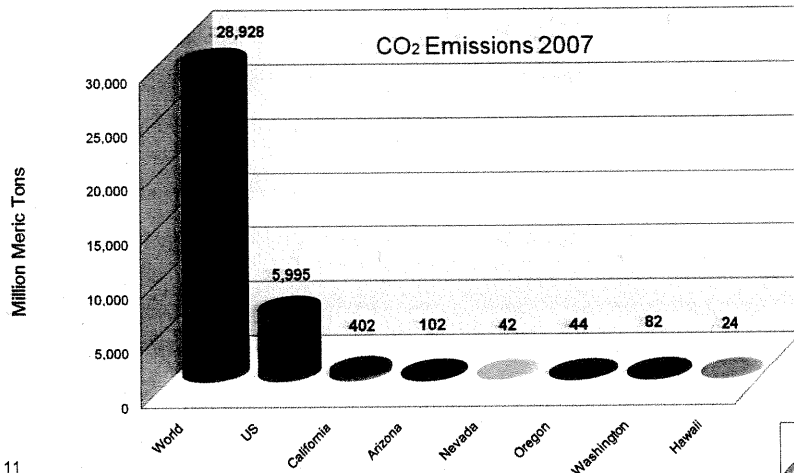
Region	% of Total Advanced Volume	Advanced biofuels		Total Advanced	Total Advanced
		Ethanol	Biodiesel	Volume	RFS2 Basis
Southeast	49.8	10.45	0.01	10.46	10.47
Central East	43.3	8.83	0.26	9.09	9.22
Northeast	2.0	0.42	0.01	0.42	0.43
Northwest	4.6	0.79	0.18	0.96	1.05
West	<.3	0.06	0.00	0.06	0.06
United States		20.55	0.45	21.00	21.23

10 Source: USDA Biofuels Strategic Production Report, June 23, 2010



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Keeping it in perspective: states cannot go it alone



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Source: US Energy Information Administration, 2007; United Nations Statistical Division, CO₂ emissions Data 2006



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Reality: state LCFS programs are costly and risky

- Development of LCFS is highly complex and carries big risks of price shocks, supply disruptions and consumer backlash
- Presumed benefits of LCFS are highly speculative and unrealistic
- Numerous other state and federal programs will significantly reduce greenhouse gas emissions at much lower costs and impacts
 - ✓ Federal RFS2
 - ✓ New federal vehicle mileage standards
 - ✓ Proposed mileage standards for medium and heavy duty vehicles
 - ✓ State biofuels mandates

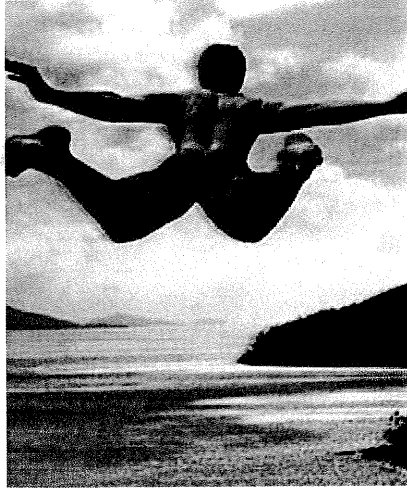


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Message: Look before you leap



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