

# Biofuels Market Alert

## Politics and Policy

### Efforts to Prime the Biofuels Pump

### On Hold on Capitol Hill

Legislation in the Senate that would pump billions into the biofuels industry will be delayed until late this year or next.

After three months of dithering, Sens. John Kerry (D-Mass.) and Barbara Boxer (D-Calif.) introduced their version of climate change legislation in the Senate today.

But the contentious issue of cap and trade under the bill — plus the heavy Senate workload on health care and financial market regulation — probably means there will be no action on energy legislation this year, even though the Senate Committee on Energy and Natural Resources has already teed up a bill — the American Clean Energy Leadership Act of 2009 — that would benefit biofuels and other clean energy programs.

In one of the major changes from the House measure, the Senate bill does not restrict the Environmental Protection Agency

(EPA) from using international land use change as a factor in determining whether a fuel qualifies as renewable under the proposed Renewable Fuel Standard to be issued later this year by the agency.

Under the House version, the EPA would be barred from using such measurements for five years while the issue is studied. It was inserted into the House bill to garner the votes of farm state representatives led by Rep. Colin Peterson (D-Minn.), chairman of the House Committee on Agriculture, and will be pushed by ag interests in the Senate.

The draft does mirror the House bill in supplying farmers and other parties with allowances for environmentally friendly projects.

The Kerry-Boxer bill, which both senators admit is a work in progress, differs from the House measure in calling for a 20% reduction in greenhouse gas emissions from the 2005 level by 2020; while the House wants only a 17% reduction by that time. Both bills seek a 42% reduction by 2030 and an 83% reduction by 2050.

But, unlike the House measure, the Senate bill is silent on how the government would distribute hundreds of billions in emissions allowances that would be created under the bill.

While the House measure would split regulation of the carbon market to be created under cap and

### ETHANOL SHOWING SIGNS OF NEW LIFE

In a sign that the U.S. ethanol industry is picking up after last fall's doldrums, the industry is poised to produce more than 1 billion gallons of the fuel monthly.

And more important, most of it is going into the fuel supply, which may indicate that the blend wall will occur earlier than predicted. That is the point at which ethanol will account for 10% of the fuel supply.

Currently, the Environmental Protection Agency (EPA) allows only fuel blends with 10% ethanol, although the trade group Growth Energy wants the limit raised by 50%, and the EPA is required to issue a ruling on the request by Dec. 1.

Earlier, the Department of Energy had estimated that ethanol would account for 10% of the fuel supply by 2013, but a combination of less gasoline usage due to the recession and favorable economics for discretionary ethanol blending may mean that figure is reached in 2010.

In July, the industry produced 948.2 million gallons (22.6 million barrels) of ethanol, the Energy Information Agency (EIA) said in reporting its most up-to-date figures on Sept. 29. That's up from the 847.5 million gallons (20.9 million barrels) produced in June.

And while stocks were up slightly in the same period, by 1.6 million gallons, the stock increase did not match the production hike, indicating that blending is going up along with supplies.

On a daily basis, U.S. ethanol plants produced 29.2 million gallons in June compared with 28.1 million in May. ■

### In This Issue ...

*In Washington* . . . . . 2

*Aventine's Rebirth?* . . . . . 3

*Interview: ABFA's McAdams* 4

*Enviros and Biofuels* . . . . . 5

*Business Briefs* . . . . . 6

*continued on Page 2*

**Capitol Hill** (continued from Page 1)

trade between the Federal Energy Regulatory Commission and the Commodity Futures Trading Commission (CFTC), the proposed bill in the Senate would give all regulatory power to the CFTC.

Boxer is scheduled to provide a more detailed outline of the proposed legislation in the middle of October and hopes to have a bill marked up by the end of the month.

At that point, the bill would need to be meshed with the American Clean Energy Leadership Act, passed by the Senate Energy and Natural Resources Committee, led by Sen. Jeff Bingaman (D-NM), on June 17.

That bill would establish a new Clean Energy Deployment Administration to facilitate tens of billions in new financing to expand clean energy technologies — including biomass based projects. The agency would be an independent administration in the Department of Energy (DOE) that would fund projects considered too risky by commercial lenders.

The proposed bill would double funding for the DOE research and development programs from \$3.28 billion in fiscal year 2009 to \$6.56 billion by fiscal 2013.

In addition, it would require electric utilities to meet 3% of their energy requirements through renewable sources, including biomass, in 2011, gradually increasing to 15% by 2021.

The energy committee proposal also has funds for research on nuclear power, which helped win over Republican support, and that could lead to passage in the full Senate.

However, the whole cap and trade program under the Kerry-Boxer bill faces steep opposition.

All Republicans will line up against the measure, which they see as an energy tax. In addition, 10 Democratic senators recently wrote to President Obama indicating that they would not support the measure unless it contained a “border protection mechanism,” that is, tariffs to protect U.S. industries from competition with products from countries whose carbon emission policies are not as strict. ■

**IN WASHINGTON**

**The Environmental Protection Agency (EPA) will require large companies to begin reporting their carbon dioxide emissions next year**, in a move that could make it easier for the agency to

institute its own climate change regulations, even if Congress doesn't act on new climate change legislation (see story on Page 1). “This is a major step forward in our effort to address the greenhouse gases polluting our skies,” EPA Administrator Lisa Jackson says. All companies that emit over 25,000 tons of CO<sub>2</sub> yearly—equivalent to 58,000 barrels of oil consumed—will be required to track emissions of CO<sub>2</sub>, methane, nitrous oxide and hydrofluorocarbons, beginning in January 2010, with the first report due one year later. Approximately 10,000 facilities will be covered by the regulation. Next up: Vehicle and engine manufacturers outside of the light duty sector will have to report CO<sub>2</sub> emissions starting with the 2011 model year. A Republican effort in the Senate to ban the move by the EPA was beaten back...**The deadline for comments on the EPA's Renewable Fuel Standard (RFS2) generated a flurry of activity** on Sept. 25 with the renewable fuels lobby, including Growth Energy, the Renewable Fuels Association and the National Biodiesel Board, all renewing their attacks on the use of international indirect land use change in the formula for evaluating whether fuel met the greenhouse gas emission threshold required to be labeled renewable and thus generate Renewable Identification Numbers. The organizations also called on EPA to implement the renewable fuel volumes called for in the 2007 Energy Independence and Security Act for 2010. That may be difficult, however, since the agency needs to have RFS2 in place before it can set those volumetric goals, and the rule-making process has been slow going. ...**The EPA is expected to act soon to declare the emissions of greenhouse gases** a danger to human health and therefore subject to its jurisdiction under the Clean Air Act. The way for EPA action was cleared as the Senate passed a \$32.1-billion discretionary funding bill for the Department of the Interior and the EPA after beating back Republican efforts that would have banned the EPA from instituting its own cap and trade system for greenhouse gas emissions. The funding is a 16% increase over fiscal year 2009. Sen. Lisa Murkowski (R-AK) had proposed an amendment that would have prevented EPA from acting on its own on cap and trade, but it was defeated in a 77 to 21 vote. Murkowski contends that EPA was using the threat of action on its part as “a thinly veiled threat” to force the Senate to act on climate change legislation. Under a 2007 Supreme Court ruling, the EPA was directed to issue an endangerment finding declaring that greenhouse gas emissions are pollutants and therefore subject to that agency's jurisdiction. The Obama administration has indicated that it would prefer the issue to be dealt with by Congress rather than bureaucratic fiat. ■

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**Kiplinger's Biofuels Market Alert**

Knight Kiplinger, Editor in Chief

Drake Lundell, Editor Phone: 202-887-6417

E-mail: biofuels@kiplinger.com

Cindy Broome, Copy Editor

Lee Matsos, Intern

Subscription inquiries: 202-887-6426 or sub.services@kiplinger.com

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## Investing

# Ethanol Margins Improving; Aventine Out of Chapter 11?

Look for **Aventine Renewable Energy Holdings Inc.** [AVRNQ] to emerge from Chapter 11 bankruptcy proceedings "soon," possibly within weeks. Aventine was the second largest ethanol producer after **VeraSun Energy** to seek court protection last year, and is seen as a sign that ethanol margins are improving. VeraSun was essentially liquidated during its bankruptcy proceedings.

The company wouldn't comment on the possibility of leaving bankruptcy and noted that it has not filed a plan of reorganization with the U.S. Bankruptcy Court for the District of Delaware in Wilmington, which is overseeing the Chapter 11 proceedings for Aventine and six of its subsidiaries.

Court records show that Aventine has a period of exclusivity under which only it can file such a plan, not its creditors. That period ends on Oct. 5, but could be extended by the court.

Aventine and its subsidiaries filed for bankruptcy protection April 7, citing assets of \$676.5 million and debts of \$391.1 million.

Documents filed with the court show that margins are improving at Aventine and that it is aggressively building its cash position. As of May 5, it had \$22 million in cash on hand and access to \$15 million in debtor in possession financing. Cash on hand had increased to \$39.1 million at the end of August.

For August, the company had sales of \$36.8 million and a gross profit of \$1.9 million. For that month, it had a net loss, when all the expenses and interest payments were added up, of just over \$585,000. But that net loss had been running at almost \$1 million a month on an operating basis since Aventine filed in April.

Investors might also like what they see: In the past two weeks, the share price has almost doubled (from 18¢/share on Sept. 14 to 32¢/share on Sept. 24), and trading volume increased from 125,000 shares daily to more than 1 million traded on Sept. 22, though they had dropped back to around 315,000 by Sept. 24.

Aventine operates three facilities with a total capacity of 207 million gallons per year. It suspended construction on plants in Mount Vernon, Ind., and Aurora, Neb., when it filed for bankruptcy. Those facilities are still listed as assets by Aventine, but the company wouldn't say when or if construction will resume.

It also marketed other producers' ethanol, and in 2007 delivered 670 million gallons, which made it one of the largest ethanol marketers at the time. ■

## FINANCIAL BRIEFS

In order to boost its stock price, **Verenium Corp.** completed a 1 for 12 reverse stock split, which increased the price from 58¢ per share to \$6.92 per share. Until Oct. 7, its symbol will be VRNMD and then it will revert to VRNM.

**LS9 Inc. raised \$25 million in a new round of funding.** The company produces its proprietary UltraClean Diesel, which passed ASTM specs in July, as a replacement for diesel, at its pilot facility in South San Francisco, Calif. LS9 has engineered an array of DesignerMicrobes, which interact with sugarcane and cellulosic biomass to produce the fuel as well as gasoline and jet fuel. Investors include **CTTV Investments LLC, Chevron Technology Ventures LLC, Flagship Ventures, Khosla Ventures** and **Lightspeed Venture Partners.**

**BioFuel Energy Corp.** [BIOF] will be delisted from the NASDAQ market along with **Pacific Ethanol Inc.** [PEIX] if the companies' stock prices can't maintain at least \$1/share for 10 consecutive trading days by mid-March 2010. The stocks have been floating around 70¢ and 50¢, respectively. After debuting with a price of \$10.50 in June 2007, BioFuel Energy has closed under \$1 for the past year, with three exceptions in May. Pacific Ethanol's stock was last above \$1 on Nov. 7.

**EDITOR'S NOTE:** As a convenience to readers, beginning today we will show basic stock information for all of the publicly traded companies mentioned in an issue in a table like the one below. All of the prices are the closing prices on Monday of the week of publication, compared with the close prices two weeks earlier as reported by Google Finance, Thomson One Analytics and Yahoo!Finance.

### TABLE OF THE TICKER: Companies in the News

Company	Symbol	9/14/09	9/28/09	Change \$	Change %
Archer Daniels Midland	ADM	\$28.65	\$27.69	-96¢	-3.35
Aventine Renewable Energy	AVRNQ	18¢	28¢	10¢	55.56
BioFuel Energy	BIOF	69¢	69¢	0	0
Husky Energy	HUSKF (ADR)	\$27.21	\$28.04	83¢	3.05
Kinder Morgan Energy Partners	KMP	\$53.80	\$54.30	50¢	0.93
Pacific Ethanol	PEIX	50¢	54¢	4¢	8.00
Verenium	VRNMD	\$7.14	\$6.97	-17¢	-2.38

Sources: Google Finance, Thomson One Analytics, Yahoo!Finance

**Interview**

## McAdams: Advanced Fuels Don't Need Higher Blend Levels

*Michael J. McAdams, a 28-year veteran of government and public affairs, leads the Advanced BioFuels Association (ABFA), representing 23 second and third generation green fuel producers and suppliers. Formerly known as the Advanced Biofuels Coalition, the organization has three years' experience in lobbying federal and state lawmakers.*

**Q.** How does ABFA differ from other biofuels groups in Washington, including Growth Energy and the Renewable Fuels Association?

**A.** ABFA engages the federal and state governments at all levels to secure a level playing field for advanced innovative technologies. Both Growth Energy and the Renewable Fuels Association principally represent first generation corn based ethanol. The association represents a wide range of technologies and potential feedstocks, which will be capable of manufacturing fungible molecules as if they were produced from a barrel of oil. The products can be used in the existing engines and infrastructure without requiring more expensive flexfuel vehicles, pumps and stand-alone pipelines and tanks.

**Q.** ABFA is not in favor of raising the ethanol blend limit to 15%. Why not?

**A.** Advanced technologies have the ability to manufacture fuels that are fungible in the existing system and would not require an E15 mandate. The current waiver request is only for ethanol as an additive. Utilizing additional ethanol will continue to negatively impact the miles per gallon for the fuels and would negatively impact the formation of ground level ozone. This is a solution only targeted to help extend the almost monopoly status of first generation ethanol at the expense of the potential of future renewable fuels.

**Q.** What is your position on the issue of indirect land use change in EPA's proposed RFS2 (Renewable Fuel Standard)?

**A.** The clear intent by Congress in the passage of the advanced biofuels pool was that advanced biofuels should deliver a greenhouse gas reduction over conventional petroleum products. A highly polarized debate has arisen over the form in which the indirect and the direct calculations have been figured. Our association agrees that advanced biofuels should deliver reductions, but we would urge the EPA to be very thoughtful in terms of how it utilizes certain data, which have a wide variability in terms of accuracy and impact from excluding certain biofuels from meeting the requirements. We would also

urge all lawmakers to resist the call from some organizations that have asked that their products be grandfathered from under any requirements but still want to be called an advanced biofuel. In short, if you do not want to meet the requirements for an advanced biofuel, then you should not be allowed to be granted gallons from the advanced biofuels pools.

**Q.** You're also critical of the tax credits for biodiesel and ethanol. Why?

**A.** The tax law should provide a technology neutral approach and make sure that all technologies, feedstocks and renewable molecules are afforded parity in terms of the amount of credit they receive under the law. The current law should also allow for the ability of renewable oil or distillate producers to coprocess their renewable product in existing refineries along with traditional oil feedstock and receive the full credit under the biomass based diesel credit. At a minimum, we would also suggest that the Brazilian tariff should be harmonized with the current ethanol tax credit.

**Q.** Do you expect the tax credits to be extended before expiring this year (biodiesel) or in 2010 (ethanol)?

**A.** I believe at the end of the day, it will be a priority, and the Congress will, at a minimum, extend expiring provisions in the renewable fuels arena. However, I am expecting that Congress will revisit the entire framework of biofuels tax credits in 2010. For this year, the shortness of the year and the challenges on other policy subjects will make it very difficult to legislate substantive changes.

**Q.** In RFS2, there is little room for third and fourth generation fuels. Are you lobbying EPA for a larger carve out for such fuels?

**A.** Since the beginning of the debate on expanding the RFS, ABFA has consistently supported a technology neutral approach. We specifically supported the Senate passed version, which created a single 21 billion gallon advanced biofuels pool. Moving forward, the association believes that the advanced biofuels pool should only allow gallons that meet the GHG [greenhouse gas] reduction goals that are called for under the statute. We do not believe fuels that are now seeking a grandfather out from under these requirements should be given a Renewable Energy Credit in the advanced pool. In addition, should the Congress consider changing the existing format, we will urge the policymakers to return to the original Senate construction. ■

## Markets

# World Wildlife Fund Weighs in on Biotech's Potential

In a somewhat surprising move, the World Wildlife Fund (WWF), which usually sides with antibiofuel conservation groups, now says in a new report that the biotech industry could reduce carbon dioxide emissions between 1 and 2.5 billion tons per year by 2030.

But to be most effective, WWF says the biotech industry needs to develop "closed loop" technology where raw materials are reused as part of the process.

In a closed loop system, as WWF proposes, biorefineries reduce waste by reusing bio-based materials.

Growing pools of bio-based carbon are "stored in end products" and "continuously reused in production processes." These renewable carbon pools "reduce pressure on land use and therefore enable a larger production of biotechnology produced bio-based materials."

In order for the industry to thrive, WWF wants pollution costs charged to petroleum based products and funds for waste management technology. "Progression toward large scale and closed loop systems," and management of feedstock land, "according to principles of sustainability," is necessary, according to the WWF.

The organization delineates the following areas in projecting biotech's carbon reduction potential: increased industrial efficiency and significant decreases in energy use and raw materials (204 million tons per year); replacing petroleum based fuels with biofuels in the transportation sector (1.024 billion tons); a new system that uses biomass instead of fossil materials to make plastics and other products (668 million tons); and reusing waste materials in energy and material production (633 million tons).

According to the WWF, biotech solutions would eliminate from 126 to 183 million tons of carbon emissions each year if "used throughout the food industry." Another 57 million tons would be reduced if current biotech solutions were adopted in pulp and paper mills and in other traditional industries.

The group's analysis doesn't neglect land availability for feedstock production as an important consideration for biotech policymakers. It mentions a recent study by the FAO (Food and Agriculture Organization), which estimates an additional 5 billion acres are suitable for crop production. ■

### PRICING TRENDS

**EDITOR'S NOTE:** With this issue, we are inaugurating a pricing trends chart that shows at a glance how ethanol prices are moving compared with prices in the wider energy markets.

Rack prices generally track the price paid when shipments are loaded onto trucks for local delivery to blenders, while the spot price reflects what is being paid for shipments, generally from the Midwest, to points around the country by rail or barge. The future prices on the Chicago Board of Trade (CBOT) reflect how investors feel the market is trending. RBOB (Reformulated Blendstock for Oxygenate Blending) gasoline future prices are included because that is the gasoline into which ethanol is blended. If RBOB prices are low, blending ethanol becomes uneconomical, especially discretionary blending, not required by the Renewable Fuel Standard.

The price moves of West Texas Intermediate crude oil generally predict the direction of the gasoline market. Corn prices are included because they are the largest single cost to present day ethanol plants, and high prices of corn can affect profitability of those plants, as they did when corn spiked to almost \$7.50/bushel in June 2008, driving several ethanol producers into bankruptcy.

Our rack prices are derived from nine locations in the Midwest, while the spot prices are an average of deliveries to five separate locations around the country. Ethanol future prices and corn prices come from the settlements on CBOT, while the West Texas Intermediate price and the RBOB gasoline prices are from the New York Mercantile Exchange. ■

### INDUSTRY INDICATORS

	9/14/09	9/28/09	Change \$	Change %
Rack/gal.	\$1.759	\$1.7404	-0.018	-1.03
Spot/gal.	\$1.697	\$1.815	0.118	6.95
Futures	\$1.610	\$1.722	0.112	6.96
Corn/bu.	\$3.176	\$3.386	0.20	6.61
WTI/bbl	\$68.86	\$66.84	-2.020	-2.93
RBOB/gal.	\$1.7433	\$1.638	-0.105	-6.04

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## BUSINESS BRIEFS

**Crop yields will supply ethanol demand for 40 years** without hurting the food supply, according to Patricia Woertz, CEO of **Archer Daniels Midland Co.** [ADM], in a speech to the Global Harvest Initiative. The company plans to increase "processing and storage infrastructure to handle tomorrow's larger crop yields" along with global demand for food goods. Demand is on the rise as the economy comes out of recession.

**A new University of Georgia green crude technology** has been licensed to **Tolero Energy LLC**, a private company based in Sacramento, Calif. UGA's method is an updated version of pyrolysis, in which a material is heated under "very controlled conditions to both decompose it and collect gases." The gases condense quickly into green crude with very low sulfur content that requires no additional refinement prior to blending with biodiesel or diesel. Tolero will primarily use trees that died from beetle infestation as the feedstock and plans to make the product available in early 2010.

**Poet LLC has a Dept. of Energy grant increase of \$6.85 million** to aid the ethanol leader's quest to establish a market for corn-cobs. Poet needs to secure 700 tons of cellulosic biomass per day for its 25 million gallons per year (Mgy) Emmetsburg, Iowa, plant named Project Liberty, scheduled to come on line in late 2011. Poet expects the DOE to add another \$13.15 million for the project next year, totaling a \$100-million agency contribution toward the \$250-million effort.

**The government of Canada is stepping up** with a \$64-million contribution to **Husky Energy Inc.**'s [HUSKF] 34 Mgy Lloydminster, Saskatchewan ethanol plant. The grant is part of Canada's nine-year-long ecoEnergy for Biofuels program, which will invest up to \$1.5 billion. In addition, Canada's Economic Action Plan designates \$1 billion each to the country's Clean Energy Fund and Green Infrastructure Fund. Last month, the government invested about \$67 million in Husky's 2.6 Mgy facility in Minnedosa, Manitoba.

**Mascoma Corp. will study lignin with Chevron Technology Ventures** (CTV). Mascoma, based in Lebanon, N.H., will convert various lignocellulosic feedstocks (wood chips, energy crops and ag waste) provided by CTV into cellulosic ethanol using its Consolidated Bio Processing method, which leaves lignin as a by-product. The lignin will be passed on to CTV, which will attempt to turn it into jet fuel and biodiesel during the two-year project.

**Mansfield Oil Co. added Heron Lake BioEnergy**, a 50 Mgy dry grind corn ethanol facility, to **C&N Companies'** network of ethanol marketing partnerships. The Minn. plant uses 18 million bushels of corn per year and produces 160,000 tons of distillers dried grains as a by-product. C&N represents 11 plants and 650 Mgy of production.

**Biomass will account for 12.5% of renewable energy output** by 2014, up 2.5% from today, according to **SBI's** new report: *Global Biofuels Market: Opportunities, Emerging Technologies and Production*. SBI chalks up the increase to stronger efforts by bioenergy companies to generate electricity and biofuels faster and more economically. SBI also projects the \$103-billion biofuels market will exceed \$170 billion by 2014, with the speediest growth for bio-based energy manufacturing in China and India.

**A new British plug-in may improve U.S. ethanol output.** **TMO Renewables Ltd.** has developed a process involving a bacteria strain from compost that can be used by U.S. corn ethanol plants. The plug-in increases production by 15%, reusing distillers grains (DGs) from the initial fuel run while still wet, raising profits by up to 60% versus drying the DGs and selling them as livestock fodder.

**Barley is coming on as an ethanol feedstock.** Ethanol producer **Osage Bio Energy** of Glen Allen, Va., is partnering with **Perdue AgriBusiness**, a regional grain firm, to help farmers seed up to 300,000 acres and supply 30 million bushels of barley as feedstock to Osage's new 65 Mgy barley-to-ethanol plant in Hopewell, Va., which will come on line in June. Because barley is harvested in early summer, fields can be replanted with soybeans in the same year, giving barley a leg up on corn as a biofuels feedstock.

**May the gods go with you, Algaeus.** **Sapphire Energy** debuted an algae fueled car, coined The Algaeus, which completed a 3,750-mile cross-country tour on Sept. 18. The car achieved 52 mpg on highways in hybrid mode with an unmodified engine. Sapphire's Green Crude, a renewable gasoline, is made entirely from photosynthetic microorganisms.

**Distillers dried grains (DDGs) could be more marketable** as an animal feed, thanks to new research from Purdue University professor Klein Ileleji and his research team. DDGs, with solubles, a by-product of ethanol production, can be sold as feedstock for cattle, but often have unpredictable amounts of protein, fiber, sugar and amino acids, making livestock nutritionists wary of purchasing them. Ileleji found that differences in the grains/syrup ratio of liquids and solids combined to create DDGS changes the nutrient profile.

**Kinder Morgan Energy Partners LP's** [KMP] Oregon Pipeline carried its first commercial batch of blended 2% biodiesel (B2) on Sept. 21, moving approximately 100,000 barrels from Portland to Eugene. The B2 was created using a blending system to inject B99 into ultra-low-sulfur diesel. Kinder Morgan claims that the pipeline will assist Oregon diesel suppliers in meeting a new state biodiesel mandate, effective Oct. 1. It requires all diesel sold in the state to contain 2% biodiesel. The company is also transporting biodiesel on its southeastern Plantation Pipeline and ethanol on its pipeline from Tampa to Orlando in Fla.