

CRISIS LEADS TO INGENUITY *(part one)*

If you watched the Democratic National Convention recently, and I hope you did, you heard many invigorating and inspiring speeches about turning the country around, back to what many of us know as "The American Dream." You also heard a generous sprinkling of calls for protecting our national security and strengthening our country by reducing our over-dependence on imported oil.

Dependence on foreign oil is thought by many in this country to be the reason we send our troops abroad to protect our oil interests. This dependence also leaves us economically vulnerable to the spikes in oil prices, with consequent rising prices for many things that have Hawaii and our nation in dire financial straits. On Opening Day of this year's Legislature, gas sold at \$100 a barrel, and by summer was hitting upwards of \$150.

These increases caused fuel to surpass labor as the highest operating cost for airlines. This year, for example, saw Aloha Airlines and ATA go out of business, citing high fuel costs as one reason. The Legislature responded by considering a bill to exempt interisland airlines from general excise and use taxes for fuel, to no avail. Many of us by now have been hit by higher airline prices and extra charges for local and out-of-state flights.

Former presidential candidate Michael Dukakis has thrown out the idea that it is time for the government to invest in our train system as an alternative to air travel because trains generally use less fuel for the same distance. Wherever he goes, even Kansas, the idea has been ecstatically embraced. You all know by now that I'm a rail transit advocate, and while Amtrak won't directly help Hawaii, it's a very good idea. For decades our national train system has been relatively neglected while the federal government invested heavily in building up air travel.

Those of you who have ridden the Shinkansen in Japan or any of the trains throughout Europe, Australia, China, or other parts of the world understand this. Other countries have invested heavily in their railways systems and their citizens enjoy the convenience of high-speed transport between other cities and other countries. Consider the difference government investment makes. In Europe, high speed trains travel over 200 miles an hour. In the U.S, as Gov. Dukakis pointed out, we'd be lucky to break a 100 mph, with as little investment as we've made.

Why is train travel advantageous? Have you had trouble booking a flight because you couldn't get a seat on an airplane? With a train, you simply buy a ticket and get on board. There is far more flexibility and availability of a seat on the date you want to travel than there is for airplanes. The next time you're on the mainland, you might want to consider a train.

Add to the ease and flexibility of scheduling the fact that traveling by train can be more enjoyable than flying. You'll be enjoying the scenery as the train goes past, rather than blank air. The restrooms tend to be a little larger than the ones on airplanes. Of course, you won't have a movie or airline music, but you can bring your own entertainment. Generally, a train ticket also allows you to get off and get back on in case there's a city you'd like to walk around and see en route to your final destination.

So that's something to think about it as we come up with alternatives to the rising cost of air travel. The law of supply and demand means that as more options become available to the consumer and demand for airline travel drops, airlines will have to bring their prices down to compete with trains for passengers. What difference will it make to Hawaii people? There might be a fair amount of Hawaii residents willing to fly just to the cheaper west coast then get to their destination by train, at hopefully a lower cost.

Another transportation-related issue is right size packaging. That one's a little less obvious, but here's the point. The bigger the packaging, the fewer products can be placed on a shipment. Take your average cereal box. Open the big box up and half of it is empty space. If you eliminate that empty space, having the box just the right size for the amount of food actually in it, you can pack more cereal boxes in the crate in which it was delivered. More cereal boxes per crate means you can deliver the same number of boxes in less trips. Less trips means less transportation charges and less gas used. That saves businesses money, and that saves consumers' money.

California once again is the pioneer, as it has been in so many other environmental and energy issues. Its Waste Management Board is developing a strategy to reduce discards that go into landfills by placing shared responsibility on manufacturers and others in the product distribution chain. Encouraging packaging design to minimize waste can result in fewer trees being needed to produce packaging and less waste being sent to landfills, as well as cutting transportation costs associated with distributing those products. Reining in these costs helps companies better control their bottom line.

Hewlett-Packard's Pavilion dv6929 will be packaged in a recycled bag rather than a box. The design reduces packaging by 97% and requires a quarter fewer trucks to deliver the laptops to stores because of their smaller size when packaged. The product recently won Wal-Mart's Home Entertainment Design Challenge for less wasteful packaging. Wal-Mart has set a long-term goal of using only renewable energy and creating zero waste, and has challenged its suppliers to reduce packaging and increase energy efficiency in their products.

Next part: automobiles and alternate energy.

CRISIS LEADS TO INGENUITY *(part two)*

In 2007, on Oahu alone, it cost more than \$2 million dollars a day to import oil to produce electricity, an annual total of around \$750 million dollars. One person testifying at an energy hearing at this past session described Hawaii's dependence on oil as extreme, not only in generating electricity, but also for cars, jet fuel, and utility gas, as well as a basis for many consumable products and fertilizer for agricultural products. According to one source, at least eight farms and Oahu's last dairy closed down within the last year, citing higher transportation and feedstock costs as primary contributing factors.

Cars

Last year I introduced a bill to set benchmarks for importing electric cars to Hawaii. Under the bill, the Department of Business, Economic Development, and Tourism, would come up with a plan to increase the number of electric cars in the state. By 2015, a minimum of 10% of the cars imported into Hawaii must be powered by electricity or alternative fuel. By 2025, that number goes up to 20%. I plan to reintroduce the bill next Session.

Hybrid-electric buses make up 10% of the City & County of Honolulu's bus fleet. By 2013, the City plans to have 50% of its bus fleet hybrid-electric. Better Place is planning to invest by 2011 in a subscriber-based electric battery system for electric cars sold in Hawaii. By owning and re-charging the batteries in new electric cars, Better Place would substantially reduce the purchase price of electric cars, putting electric car ownership within reach for many Hawaii residents.

California, along with 17 other states – half the population of the country -- put in their law books a requirement that by 2009, automobile manufacturers design cars that emit lower levels of greenhouse gases. A key way to reduce emissions is to increase fuel efficiency. I'm pondering introducing a bill to add Hawaii to that list of states so that our drivers can stop paying so much at the pump. Please let me know what you think about this.

Daimler Mercedes-Benz has received more than 30,000 reservations for its Smart Car, a car used widely throughout Europe, and which was recently put into the American market. The Smart Car's base price is \$12,000. It gets 33 mpg in the city and 41 mpg on the highway. Addressing concerns that passenger safety was being traded for fuel efficiency, the 1,800 pound car has a steel safety cage and four standard air bags to protect passengers, and received the highest rating of good in front-end and side-impact testing by the Insurance Institute for Highway Safety. The Institute's president said the Smart Car's engineers designed a high level of safety into a very small package.

The Smart Car's fuel efficiency still trails the Toyota Prius, which gets 48 mpg in the city and 46 mpg on the highway. Toyota is working on an array of alternative fuel cars in addition to its Prius. Progressive Insurance earlier this spring announced that it will co-sponsor a \$10 million competition for the most production ready, most fuel efficient cars. The winners will race in the summer of 2009.

Alternative Energy

The Legislature found that encouraging the development of renewable energy is in the public's interest. This year Hawaii became the first state in the nation to require that, as of 2010, all new single family homes must have solar water heaters. You might have seen news stories about "cow power" providing electricity in Vermont, Connecticut, Oregon, and parts of Canada. Another law we passed permits farmers to install energy facilities on agricultural land, provided that agriculture remain the primary use of the land. Farm methane is one of the options available under the bill, along with wind turbines or solar panels. You may already be familiar with the clothesline bill that allows clotheslines that are out of view, despite association rules to the contrary. The bill was vetoed by the Governor. The Senate overrode the veto, but the House could not get 2/3 of its members to vote to do so.

In addition to these bills, the Legislature approved Special Purpose Revenue Bonds (SPRBs) to assist energy companies to raise investment capital to finance projects. Here's a rundown:

H2 Technologies plans to construct on the island of Hawaii, a hydrogen generation research, development and manufacturing facility, and a gasoline- or diesel-to-hydrogen automobile conversion garage to transition car owners to using hydrogen rather than imported petroleum-based fuel.

Jacoby Development- Geoplasma intends to plan, design, construct, and acquire land on the Big Island for a plasma arc municipal solid waste processing system. In its simplest sci-fi movie description, the plasma arc zaps landfill with hot-as-the-sun temperatures and produces methane which is used to generate electricity.

Oceanlinx, in its Maui Wave Energy project will tap hydrokinetic power to generate electricity. Oceanlinx will plan, design and construct the facility off Pe'ahi near "Jaws" at Maui's north coast and supply electricity to Maui Electric Company. The technology is being used in projects under development in Rhode Island, the United Kingdom, Australia, and South Africa. The waves flowing through the twin turbines forces air to reverberate through a column, powering a turbine to generate energy. The project is expected to generate enough electricity for as many as 1,600 Maui homes by 2009.

Hui Mana 'Oma'o ("Consolidated Green Power") received a SPRB for renewable energy projects on Oahu. Its principals and affiliates have long been laboring in both the cogeneration and renewables markets in Hawaii.

Sopogy is a high tech company producing concentrated solar power systems. You may have read about the parabola in Australia, Spain, and California. Sopogy will plan, design, construct, equip, and operate a solar farm power plant on Oahu.

Change is coming. The public and private sectors are working toward decreasing our dependence on imported oil. The benefits are clear: we can increase our national security, decrease our economic vulnerability, reduce our need to spend heavily on military intervention when our foreign oil suppliers may be threatened, and help our cash-strapped residents and businesses be better able to make ends meet.