

Oilsands, pipelines will become “stranded assets” as market drives to electric vehicles, cleaner technologies, environmentalist Kennedy tells GLOBE conference

By Elona Malterre

VANCOUVER – Canada’s oilsands and associated pipelines will become “stranded assets” as market forces drive consumers to adopt electric cars and other clean technologies, says prominent environmentalist **Robert F. Kennedy Jr.**

“We’re going to see a very rapid market adaption, a disruptive adaption of electric cars,” he told a keynote session at the **GLOBE 2014** international environment business conference and trade show, held in Vancouver in March.

As that happens, “anybody who’s producing oil for \$59 dollars a barrel is going to have stranded assets – those pipelines and that business,” said Kennedy, president of the **Waterkeeper Alliance** and venture partner and senior advisor with **Vantage Point Capital**.

In a GLOBE session titled “Clean Capitalism Armchair,” Kennedy engaged in dialogue with **Wal van Lierop**, co-founder, president and CEO of **Chrysalix Energy Venture Capital**. Van Lierop pre-empted a question from the moderator and asked Kennedy: “How can we change the world step-by-step to that common vision we have of a zero CO₂ economy?”

Kennedy likened the challenge of phasing out carbon-based energy sources to the pre-Civil War situation in the United States, as the country began transitioning from an economy “based on free human labour . . . human bondage.”

Before the Civil War, many people argued that society should move incrementally in transitioning from slavery, because a sudden move would disrupt the marketplace. Others believed that slavery was immoral and society couldn’t move slowly on abolition.

“I think the same thing is going to happen to carbon,” Kennedy said. Eventually, people will view climate change and air pollution as moral issues and society will put a tax on carbon, and “a lot of the companies that are heavily invested in carbon at this point are going to be left with stranded assets.”

As an example, he compared the costs of driving an electric car versus one with an internal combustion engine.

In British Columbia, if you own an electric car and are buying electricity from the local grid at peak prices, you’re paying about three cents a mile to drive in your car, he said.

But if you’re driving a car with an internal combustion engine, you’re paying about 24 cents a mile, assuming gasoline costs about \$4 per gallon. So the cost savings of using electricity to power vehicles rather than gasoline is about \$20,000 to \$40,000 over the 10-year life of a car, Kennedy said.

Up to now, he added, the cost of buying electric vehicles has been high because there hasn’t been enough competition in the marketplace.

“But this year, all 14 top automobile companies produced an electric car. And they’re going to start competing with each other for market share,” Kennedy said, adding that will bring down prices.

If you believe in the market, he said, “you have to believe people are going to pursue those fuel savings. And when that happens, things like the (Keystone) XL pipeline

or the (Northern Gateway) they're trying to put through B.C. are going to become stranded assets, because they need \$60-a-barrel in order to make themselves economic."

The U.S. has already passed a critical milestone that economists recognize as being when a disruptive technology displaces an incumbent technology, Kennedy noted. "Last year in the United States, we built more solar generation and more wind generation than all the incumbents combined – wind, solar, nuke and oil."

Van Lierop agreed with Kennedy about the need for cleaner energy, saying they "shared a vision for the endpoint." But he disagreed about the speed at which change could happen.

"I wish that all of you could drive a Tesla," van Lierop told GLOBE delegates. "But the trouble is that if you had five Teslas charging in the parking lot, the lights would probably go out here" in the Vancouver Convention Centre which hosted the conference. Current energy infrastructure is simply not ready for the rapid adoption of electrical vehicles, he said.

"We're all hooked on hydrocarbons," van Lierop added. "And those people in the world who are not yet hooked would be very happy to be hooked. That's the tremendous problem . . . because last year in the world we went over 400 ppm CO₂" in Earth's atmosphere.

"This addiction to hydrocarbons will only grow faster," he said. "It will wreak more havoc. You already see the consequences here in British Columbia – the retreating glaciers, the pine forests and now the dying off of our shellfish and the economic impact of that."

Van Lierop said it is positive that the clean technology sector is moving away from a "pure technology push" that drives innovative technology – such as the Tesla – only into the hands of people willing to pay a premium to buy it.

Renewable energy technologies are now poised to reduce costs across major industries, while improving their environmental footprint, he said. "I do not know of any Fortune 500 companies right now that are not working on a sustainability strategy, because it makes sense from a cost point of view."

However, it will take "quite a while" before the planet's 9 billion people can be served by clean energy, van Lierop said. Because hydrocarbons "will be with us for quite a while, we need to really focus on breakthrough innovations that can ensure your car can drive 100 kilometres on (a litre of) petrol . . . We need the breakthrough innovations that can make our hydrocarbon industry much more sustainable."

Kennedy responded that the debate was only on the pace of adaption to clean energy.

"I believe that the pace of adaption would be much quicker than his (van Lierop's) oil industry friends believe it's going to be," he said, which elicited chuckles from the 1,000-plus audience.

The session began with moderator **John Wiebe**, president and CEO of the **Globe Group**, asking the two speakers what "clean tech" meant to each of them.

Kennedy said that clean tech can thrive in healthy capitalism and healthy governance, in which producers paid the full cost of bringing their products to market.

"A functioning democracy is a functioning free market," he said. "A true (free) marketplace promotes efficiency, and efficiency means the elimination of waste and pollution is waste."

In a true free market, Kennedy said, society would be compelled to properly value its natural resources, because it's the under-valuation of those resources that causes people to use them wastefully.

"So in a true free market, you can't make yourself rich without making your neighbors rich and without enriching your community. But what polluters do is they make themselves rich by making everybody else poor," he said.

"You show me a polluter, I'll show you a subsidy," Kennedy added. "I'll show you a fat cat using political clout to escape the discipline of the free market and force the public to pay its production costs . . . (to) bring their product to market through pollution and forcing the nation or the people to pay for it, while they increase their profits."

In a true free market, he said, "any actor in the marketplace should be forced to pay the true cost of bringing his product to market. Otherwise we lose the efficiency."

Kennedy said that in places where you see large-scale pollution, democracy has been subverted by the incumbents in the market who "have captured the organs of government and are using it to promote their mercantile interests and keep disruptive technologies out of the marketplace."

Those disruptive technologies are often more efficient, he said, pointing to LED light bulbs as an example. "If everybody had to externalize their costs and there were no subsidies and we had a level playing field, the carbon incumbent could not survive for a day in the marketplace," he added.

"Good environmental policy is always identical to good economic policy," Kennedy noted.

The way we should be quantifying good economic policy is to measure how it produces jobs, gauge the long-term dignity of those jobs, and assess how it preserves the assets of the community, he said.

"On the other hand, if what we want to do is what the big polluters and their indentured servants in Ottawa or Washington D.C. want us to do, which is to treat the planet as if it were a business liquidation (and) convert our national resources to cash as quickly as possible (and) have a few years of pollution-based prosperity, then we can make a few people billionaires by impoverishing the rest of us," Kennedy said.

"We can generate an instantaneous cash flow and the illusion of a prosperous economy. But our children are going to pay for our joy ride, and they're going to pay for denuded landscapes and poor health and huge cleanup costs that are going to amplify over time, and that they're never going to be able to pay," he said.

Environmental injury is "deficit spending," Kennedy said. "It's a way of loading the costs of our generation's prosperity onto the backs of our children."

Spending money on environmental initiatives and clean technologies doesn't diminish a nation's wealth, he added. "It's an investment in infrastructure – the same as investing in telecommunications (and) road construction. It's an investment we have to make if we're going to ensure the economic vitality of our generation."

Van Lierop answered the clean tech question by saying that the world needs clean, reliable, cheap energy. But in seeking how to define clean tech, he and his colleagues in Chrysalix had concluded that "as the world is changing also, clean tech is changing."

He noted that **Nicholas Parker**, founder and executive chairman of the [Cleantech Group](#) was in the room and that he had coined the term “clean tech” in 2001 as he was co-founding the company.

“At that time, clean tech was primarily about fuel cells, solar, wind (and) biomass, but now increasingly it is more than just renewables,” van Lierop said. “Increasingly it is about sustainable innovation that simultaneously reduces the cost of products and production processes while reducing the . . . environmental footprint.”

Siemens and **GE**’s annual reports list \$25 billion in clean tech revenues annually, he noted. For GE, in addition to solar and wind, it’s also about more energy-efficient engines for locomotives and airplanes or much more energy-efficient dishwashers.

The vast application of dishwashers that can use 50 per cent less energy constitutes clean tech, van Lierop said. “But then you start to think where will the evolution of the term ‘clean tech’ go to, because if a dishwasher (using) 50-per-cent less energy is clean tech, is oil exploration (using) 50-per-cent less energy input – is that clean tech?”

Society needs to aspire to cleaner energy sources, but we must be practical, too, he said. “We need to have our head in the clouds, but at the same time we have to have our feet on the ground.”

“There is no magical switch that we can turn that in one go we are clean tech. So we need to ensure that while the world is on its way to 9 billion people by 2050 – and most of these people want a life like you and me – we need to ensure that we make the hydrocarbons that we are going to use much cleaner,” van Lierop said.

Session moderator Wiebe asked Kennedy and van Lierop, both of whom are investors, what areas they would put their money into.

Kennedy, who advocated for building a national smart grid, said he would invest in smart grid technology. Society will not see the incandescent Edison light bulbs in five years, he predicted, adding: “They’re already illegal in Europe.”

“Electric cars, LED lights, (electrical) transmission are the areas where you will see really, really big displacements” of existing technology, he added.

Other areas of green tech will include “disruptive water technologies” that will eliminate millions of gallons of water waste, said Kennedy, who is on the board of [ColorZen](#), a company whose technology eliminates water use from cotton dyeing.

“That’s the gold standard, the holy grail of the cotton industry,” he said, adding that a tee-shirt uses 13 gallons of water to dye with conventional technology, and the water is filled with toxic chemicals and is permanently lost.

ColorZen’s process “takes one-third of the time, one-quarter of the energy, a fraction of the cost, and no consumptive water use.”

“Water is the oil of the 21st century,” Kennedy said. “There’s going to be a big advantage to people who can make water use more efficient.”

Van Lierop said he would invest in breakthrough innovations either in pure renewables, especially new energy storage technologies, or in ensuring that all hydrocarbons we’re still going to use will become much cleaner, such as localized or *in situ* upgrading in the oilsands.

Without mentioning “nuclear,” van Lierop said he was also excited about fusion energy – “absolutely the holy grail of clean energy.”

“It’s happening here in British Columbia with [General Fusion](#) . . . and it’s getting very close . . . fusion energy with not much more radiation than the average academic hospital,” and with none of the problems associated with the nuclear reactor accidents at Fukushima or Chernobyl.

An “innovation gateway” is needed to connect innovators with oil and gas companies, van Lierop said, adding the companies that embrace innovation will become the winners of the future, the successful “green elephants.” *EnviroLine*