

## Cheap energy prices nudge a B.C. firm to explore markets abroad

Nexterra turns to Europe and Asia to sell its sustainable gasification systems

With low natural gas prices in North America eroding the business case for sustainable alternatives such as energy from waste, Nexterra Systems Corp. of Vancouver is seeking customers farther afield. Its sights are on Britain, Japan, South Korea and Brazil, where fossil fuels are more expensive and governments offer incentives for renewable forms of energy.



Mike Scott, right, with Mark Tonner of GE Energy Financial Services

Through partnerships with project development companies that have a strong local presence, small companies such as Nexterra, which has about 50 employees, can expand globally, says Michael Scott, the president and chief executive officer.

Nexterra uses gasification to convert waste biomass, such as wood chips, sawdust, clean construction debris and biosolids from sewage sludge, into clean-burning "syngas," an alternative to fossil fuels. Established in 2003, it has a product development centre in Kamloops and has completed projects in British Columbia, Tennessee and South Carolina, it will open a new gasification system at a veterans hospital in Michigan early in 2013.

Scott, 47, is a former corporate and securities lawyer and a former investment banker. Nexterra was named to the Global Cleantech 100 list of top private companies in clean technology in 2011. Its combined heat and power plant at the University of British Columbia (a commercial demonstration facility) has drawn visits from more than 1,000 business leaders, engineers, scientist and academics.

### What is your biggest challenge?

In North America the cost of fossil fuels has declined precipitously, which means that the business case associated with producing energy from waste has deteriorated. Five years ago, natural gas prices were \$10 to \$12 a gigajoule and now they're in the \$3 to \$4 range. We were already in the process of looking beyond our home market.

### How do you penetrate markets outside North America?

Our focus has been on finding partners who are already in those markets with established businesses, looking for a new technology solution—something that is proven. We're finding partners who are already looking for us. We're solving a problem for them.

### Why are partnerships so important to you as a small company?

There are only so many things you can do as a small company, particularly when you're located away from some of these main markets. The partners have local market knowledge. They have capabilities that we don't have on our own. They have more financial heft. The customers who are purchasing from the partner will have more comfort with the financial strength of the partner.

### How do you find your partners?

We have chosen, particularly in the U.K., to have a twin strategy where we've gone with our own sales and marketing resources directly to prospective end customers, and we've worked with consultants. We've also leveraged some of our very strong relationships with the Canadian government. We've worked with DFAIT [Canadian Department of Foreign Affairs and International Trade] and the B.C. Trade Commission. It's a long process finding the right partner, finding the right mix of skills and capabilities.

### What markets are advantageous for you?

Markets where fossil fuel prices are higher and where there are incentives for renewable energy. The U.K. has some very attractive incentives for waste energy, particularly where gasification is being used. We have a tremendous market opportunity.

Other markets like Japan, South Korea and Brazil—where we would be looking to work with licensees—natural gas prices continue to be over \$10 a gigajoule. In the U.S., in the longer term we see the biggest opportunity in focusing on lower-cost, maybe even negative-cost, waste feedstocks [products that can be converted into biofuels and bioenergy]. So the systems that we're working on developing in the U.K. will use construction and demonstration debris.

### When you say negative cost, you mean people pay you to take this stuff?

Yes, you call them tipping fees. We're exploring the possibility of using what they call refuse-derived fuels, which are sorted municipal solid waste. We've done extensive work using sewage sludge as a feedstock and so that's another way to attack it. Rather than using clean wood, you use waste feedstock and that can improve the economics. Longer term, we see great opportunities in North America using waste feedstock where our systems are ideally suited.

In the long term, there will be more of a normalization in the world fossil fuel prices as natural gas gets shipped around the world and there's more demand for liquefied natural gas. So long term we see great opportunities in North America. In the short to medium term, the opportunities seem to be more focused on Asia and Europe.

### What have Canadian government agencies done for you?

Provided us with support for some of our early projects. They've helped us overcome some of that risk-aversion with some of the initial customers. They've made numerous introductions in foreign markets. They have introduced us to potential partners. They've supported us at trade shows. Export Development Canada [EDC] has provided us with performance bonding for one of our projects in the U.S. We would not have got that project without EDC's support.

### Explain what a performance bond is, please.

The U.S. government requires some financial assurance that the project will get delivered and that they are not taking a risk that the project or technology will fail. A variety of insurance companies around the world provide performance bonds—I've heard them called "completion bonds."

It's virtually impossible for a small company like ours with a relatively small balance sheet and a relatively short track record to get that bonding. So EDC steps in and provides backing to Nexterra to get the insurance companies to provide that bond.

### What is your vision of Nexterra's future?

In addition to renewable waste systems, Nexterra is focusing on production of renewable fuels such as hydrogen and other chemicals derived from our ultra-clean syngas. Over the next couple of years, Nexterra will be collaborating with University of British Columbia researchers to upgrade clean, engine-grade syngas into high-value fuels and other products that may include renewable hydrogen, fuel cells and electro-chemical battery storage.

*This interview has been edited and condensed.*