

Architectural Rendering of UBC CHP Facility



UBC Vancouver Campus

## UNIVERSITY OF BC AND NEXTERRA PARTNER ON WORLD'S FIRST-OF-KIND CAMPUS GREEN ENERGY PROJECT

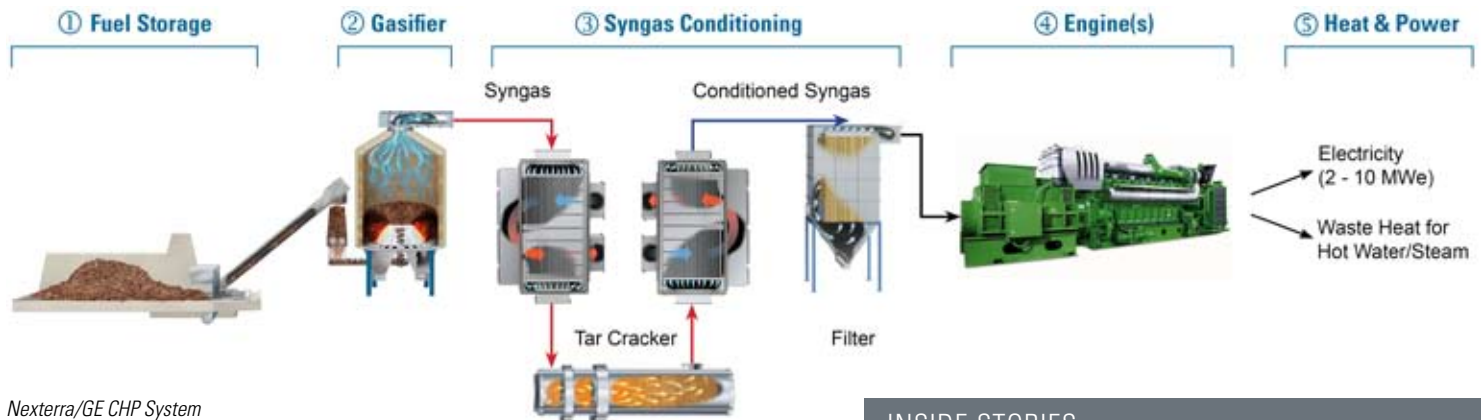
UBC will be the first customer of a unique, on-site biomass combined heat and power (CHP) solution developed by Nexterra Systems Corp. and GE Energy. The new system will gasify urban wood fuel and direct-fire syngas into a GE gas engine to produce clean, renewable heat and electricity for the university's Vancouver campus.

High efficiency and low operating costs result in this system being more economical at a smaller-scale (2-10 MWe) than standard biomass combustion systems. This makes it ideally suited to onsite applications at public institutions and industrial facilities.

Learn more at [www.nexterra.ca/industry/ubc.cfm](http://www.nexterra.ca/industry/ubc.cfm)

### Highlights:

- > Operates at efficiencies up to 60%
- > Consumes 13,000 tonnes/year of urban wood fuel
- > Produces 9,600 lbs/hr steam, 2 MW electricity
- > Reduces GHGs by 4,500 tonnes/yr
- > Displaces up to 12% of campus natural gas consumption
- > Equivalent to taking 1,100 cars/yr off the road



Nexterra/GE CHP System

*"This project demonstrates UBC's leadership in sustainability and our concept of the campus as a living laboratory. This groundbreaking partnership is helping UBC achieve its sustainability goals through the convergence of research, operations and industry in the bioenergy sphere."*

- Professor Stephen Toope, President and Vice Chancellor of UBC

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## NEXTERRA OPENS BRAZIL OFFICE



Nexterra has opened a Brazilian Office in Aracruz, Espirito Santo to pursue the strong industrial market opportunities and abundant biomass in the region. Nexterra's Brazil operation is managed by Olavi Tervo, a veteran in the renewable energy and biofuel industries.

Olavi has over 20 years experience developing and managing the operations of the most energy efficient solutions and concepts within the pulp & paper industry. Prior to joining Nexterra, he was Manager, Special Projects, at Aracruz Celulose, the world's

largest eucalyptus market pulp producer, where his task was to help the company become the world's leader in energy efficiency utilizing biofuels. Previously he held the positions of Director, Utilities Optimization at Weyerhaeuser near Seattle, Senior Vice President, Capital Equipment Business at Andritz in Atlanta, and Vice President and General Manager, Global Recovery Boiler Product Line, at Ahlstrom Machinery in Atlanta.

Nexterra has launched a new Nexterra Brazil website at [www.nexterra.ca/index\\_por.cfm](http://www.nexterra.ca/index_por.cfm). Contact Olavi at [otervo@nexterra.ca](mailto:otervo@nexterra.ca) or +55 27 3250 3445.



Olavi Tervo



Kruger Tissue Mill in New Westminster Urban Area



Kruger Biomass Gasification System



Close-Up Aerial View of Kruger Tissue Mill

## KRUGER DIRECT-FIRES NEXTERRA SYNGAS INTO BOILER

Nexterra has successfully installed and commissioned a biomass gasification system at the Kruger Products LP tissue mill located in New Westminster. The system, the first of its kind in the pulp and paper industry, converts locally sourced wood waste into clean burning syngas that is fired directly, instead of natural gas, into a boiler to create steam. Direct-firing allows customers to re-use existing boiler infrastructure, which can substantially reduce overall project costs.

To successfully implement this system, Kruger, Nexterra and FPInnovations formed a consortium to build the new system, and the project received support from Natural Resources Canada (NRCan), the British Columbia Innovative Clean Energy (ICE) Fund, Western Economic Diversification and Ethanol BC. This is the first completed project funded by the ICE Fund.

Learn more at [www.nexterra.ca/industry/kruger.cfm](http://www.nexterra.ca/industry/kruger.cfm)

*"Our New Westminster mill is situated in an urban area, so we needed the cleanest technology available, and in a challenging economic climate, we also needed the most cost-competitive. Nexterra's biomass gasification system addresses both challenges, significantly reducing both greenhouse gas emissions and energy costs."*

### Highlights:

- > Produces 40,000 lbs/hr steam
- > Consumes 52,000 green (wet) tonnes/yr of fuel
- > Reduces GHGs by 20,000 tonnes/yr
- > Displaces 422,000 MMBtu/year of natural gas
- > Equivalent to taking 5,500 cars/year off the road

- Frank van Biesen, VP Technology, Kruger Products LP

## PROJECT UPDATES



ORNL Gasification System Construction

### US Department of Energy Installs Nexterra System at ORNL

Johnson Controls and the US Department of Energy (DOE) selected a Nexterra system in 2008 for Oak Ridge National Laboratory, the DOE's largest science and energy laboratory. Plant construction began in the fall of 2009 and installation of equipment components commenced in January 2010. Plant commissioning and startup is expected to take place in early 2011. Learn more at [www.nexterra.ca/industry/ornl.cfm](http://www.nexterra.ca/industry/ornl.cfm)



Tolko Biomass Gasification System

### Tolko Earns Revenues from Project Carbon Offsets

Tolko Industries announced in April 2010 that it has partnered with Just Energy to allow end-users to reduce their carbon footprint associated with the purchase of natural gas by purchasing offsets associated with the Tolko biomass gasification project installed by Nexterra. Just Energy procured the emission offsets from Tolko and is re-selling them to consumers. Learn more at [www.nexterra.ca/industry/tolko.cfm](http://www.nexterra.ca/industry/tolko.cfm)



Architectural Rendering of UNBC Gasification Facility

### University of Northern BC Proceeds Through Construction Stage

Nexterra is now in the construction stage of its project at UNBC. Upon completion, the system will convert local wood waste into clean-burning syngas that will displace up to 85% of the natural gas currently used to heat the campus. UNBC will reduce its fossil fuel consumption by 80,000 GJ/year, the equivalent of natural gas required to heat over 700 homes in BC. The new system will also reduce the university's carbon footprint by about 3,500 tonnes annually. Learn more at [www.nexterra.ca/industry/unbc.cfm](http://www.nexterra.ca/industry/unbc.cfm)

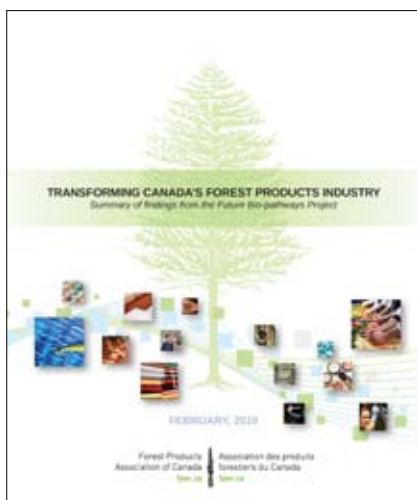


Gasification Plant Building at University of South Carolina

### University of South Carolina Achieves Emission Levels Near Natural Gas

Testing performed on the Nexterra system at University of South Carolina recorded emissions far below the fuel-related guidelines set by the Environmental Protection Agency (EPA). The third party-commissioned field measurements were conducted to determine particulate and trace gas emissions. Results show particulate matter (PM) emissions equivalent to those from natural gas combustion, and CO and VOC emissions lower than natural gas boilers based on EPA AP-42 factors. Learn more at [www.nexterra.ca/industry/johnson.cfm](http://www.nexterra.ca/industry/johnson.cfm)

## FORESTRY STUDY RANKS NEXTERRA'S GASIFICATION CHP SYSTEM AMONG TOP 3 TRANSFORMATIONAL TECHNOLOGIES



In February 2010, The Forest Products Association of Canada (FPAC) released a comprehensive study that shows how the forest products industry can build on its world-class forest management practices to emerge from the current recession as an engine of growth in the bio-economy. The report identifies Nexterra's gasification CHP system among the top three types of technologies that will play a key role in this transformation.

### Report: Transforming Canada's Forest Products Industry

Summary of findings from the Future Bio-pathways Project

[www.nexterra.ca/PDF/Transforming\\_Canadas\\_Forest\\_Products\\_Industry.pdf](http://www.nexterra.ca/PDF/Transforming_Canadas_Forest_Products_Industry.pdf)



Docksider Green Waterfront Community

## NEXTERRA AND CORIX HOST URBAN GREEN ENERGY FORUM AT DOCKSIDE

In March 2010, Nexterra and Corix hosted the ***Sustainable Infrastructure Development Forum & Docksider Green Tour*** in Victoria BC, bringing together over 60 senior-level municipal and university representatives from across the Pacific Northwest interested in renewable district energy solutions. The event was moderated by Greg Reimer, Deputy Minister, BC Ministry of Energy, Mines and Petroleum Resources with presentations from: Dean Fortin, Mayor of Victoria, Eric Van Roon, COO of Corix, and Sadhu Johnston, Deputy City Manager for the City of Vancouver. Case studies were presented by community leaders who shared best practices and lessons learned from their own experiences, and then the group toured the award winning Docksider Green community, which uses a Nexterra gasification system for district heating.

View agenda and download presentations from the event at [www.nexterra.ca/news/events\\_docksider\\_tour.cfm](http://www.nexterra.ca/news/events_docksider_tour.cfm)

## MEDIA COVERAGE



### BioEnergy Now, Spring 2010

Cover Story: *Nexterra, Taking Over the World One Gasification System at a Time: Vancouver-based Nexterra Systems' groundbreaking technologies lead to big deals and even bigger possibilities.*

By Paul Turenne

[www.nexterra.ca/PDF/BioenergyNow\\_spring2010\\_Nexterra\\_Story.pdf](http://www.nexterra.ca/PDF/BioenergyNow_spring2010_Nexterra_Story.pdf)

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