



UNIVERSITY OF NORTHERN BRITISH COLUMBIA STARTS UP BIOENERGY SYSTEM

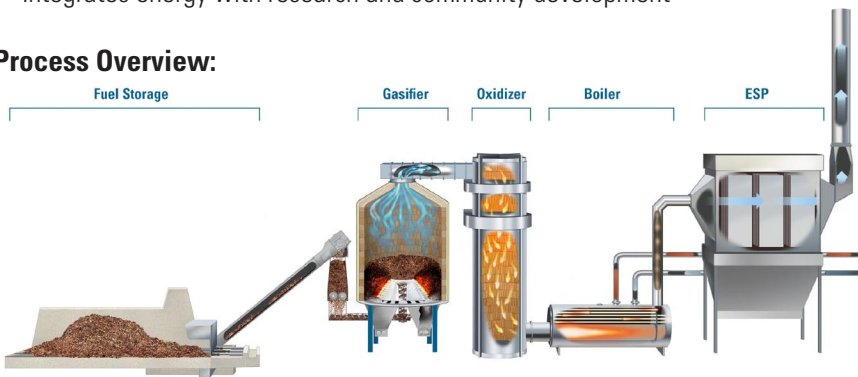
In December 2010, the University of Northern British Columbia started up a Nexterra biomass gasification system which will reduce the campus' greenhouse gas emissions and energy costs. In addition to environmental and energy savings benefits, the system will contribute to the school's research, training, and education programs. The UNBC Bioenergy Program will also support development of bioenergy projects and demonstration opportunities for northern communities.

UNBC chose Nexterra because of the ultra-low emissions generated by Nexterra's systems - a critical consideration in Prince George's sensitive airshed.

Project Highlights:

- 15 MMBtu/hr hot water heating system
- Displaces 85% of natural gas consumption
- Reduces energy costs by \$600,000 - \$800,000/year
- Reduces greenhouse gas emissions by 3,500 tonnes/year
- Integrates energy with research and community development

Process Overview:



UNBC Accepts AASHE Award (October 2010)

UNBC & HARVARD SHARE TOP SUSTAINABILITY AWARD

UNBC and Harvard shared the Association for the Advancement of Sustainability in Higher Education's (AASHE) award for top campus case study in sustainability. AASHE selected UNBC's Bioenergy Program for its ability to connect teaching and research to campus operations, while serving as a model for communities and other campuses. The award was announced in Denver in front of 2,400 delegates at AASHE's annual conference.

"This project is a model for using local, renewable energy. They are models for energy efficiency and ultra-low emissions. They are models for how to integrate campus operations into teaching and research that is of tremendous value for our region. I've been involved with universities for nearly 40 years, and I've never been involved with a project like this."

- George Iwama, UNBC President

INSIDE STORIES

- University of Montana Selects Nexterra
- Nexterra Breaks Ground at UBC
- Nexterra Project Updates
- Report Validates Air Quality Emissions



UNIVERSITY OF MONTANA SELECTS NEXTERRA BIOMASS SYSTEM

The University of Montana has selected Nexterra and McKinstry to supply a biomass gasification system that will reduce the University’s energy costs and greenhouse gas emissions. The system will reduce the campus’ natural gas consumption by 70 per cent and save the university over \$1 million per year. The system is expected to be operational in 2013.

In addition to reducing the campus’ carbon footprint, the gasification system will act as a learning tool for forestry and energy technology students.

Project Highlights:

- 33,000 lbs/hr of low pressure steam
- Displace 70% of natural gas consumption
- Reduce energy costs by \$1 million/year
- Reduce GHG emissions by 10,000 tonnes/year
- A training tool for the Forestry Program and the College of Technology

“The reason we chose this technology is that the emissions are the same or less than natural gas, and that’s the standard we are going to hold ourselves to. The technology is so much more advanced than a wood stove or a boiler.” - Bob Duringer, VP Finance, University of Montana



NEXTERRA BREAKS GROUND ON UNIVERSITY OF BRITISH COLUMBIA BIOMASS CHP SYSTEM

Nexterra has broken ground on a new biomass combined heat and power (CHP) system at the University of British Columbia’s Vancouver campus.

This high efficiency CHP system will convert urban wood waste into 2 MWe of electricity and 9,600 lbs/hr of steam using Nexterra’s proprietary gasification and syngas conditioning technologies. The system will be installed in 2011 and will be operational in early 2012.

The project is a key component of the University’s plan to eliminate 100 per cent of GHGs by 2050. It also supports the Province of British Columbia’s Carbon Neutral Government initiative.

Project Highlights:

- 2 MW of electricity and 9,600 lbs/hr of low pressure steam
- Displace 12% of natural gas consumption used for district heating
- Reduce greenhouse gas emissions by 4,000 tonnes/year
- Key piece of UBC’s “Campus into a Living Laboratory” strategy

“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.”

- Prof. Stephen Toope, UBC President & Vice Chancellor



GASIFICATION SYSTEM AT TOLKO SURPASSES 36,000 HOURS

In 2006, Tolko Industries started up its Nexterra biomass gasification system at the Heffley Creek mill in Kamloops BC. Since that time, the system has operated for over 36,000 hours and provided the mill with high availability. The system has reduced the mill’s net GHG emissions by more than 48,000 tonnes.

System Highlights:

- 38 MMBtu/hr process heat for veneer dryer & log conditioning
- Reduce greenhouse gas emissions by 12,000 tonnes/year
- Displace 40% of natural gas consumption at the mill



AWARD WINNING SYSTEM AT KRUGER PRODUCTS CELEBRATES 1ST ANNIVERSARY

In 2009, Nexterra supplied and installed a 40,000 lbs/hr biomass gasification system at the Kruger Products LP New Westminster BC tissue mill. The system recently reached its one year anniversary. Operating on urban wood fuel, sourced in the Metro Vancouver region, the system outperforms Metro Vancouver’s stringent air emissions standards.

System Highlights:

- 40,000 lbs/hr of low pressure steam
- Reduce greenhouse gas emissions by 22,000 tonnes/year
- Winner of the 2010 Applied Energy Innovation Award from the Canadian Institute of Energy



PROJECT AT OAK RIDGE NATIONAL LABORATORY NEARS COMPLETION

In 2008, Johnson Controls and the US Department of Energy (DOE) selected a Nexterra gasification system for Oak Ridge National Laboratory, the DOE’s largest science and energy laboratory. Nexterra has completed equipment deliveries and installation is underway. Startup is scheduled for the second half of 2011.

System Highlights:

- 60,000 lbs/hr of low pressure steam
- Reduce energy costs by \$3 – 5 million/year
- Reduce greenhouse gas emissions by 20,000 tonnes/year



NEXTERRA HITS 1,400 HOURS OF OPERATION ON JENBACHER ENGINE

Nexterra has reached an important milestone in the commercialization of a new combined heat and power system being developed with GE Energy. The GE Jenbacher 208 engine at the Nexterra Product Development Center (pictured above) has operated over 1,400 hours on Nexterra’s conditioned syngas.

System Highlights:

- Nexterra proprietary syngas conditioning technology
- Syngas direct fired into Jenbacher J208 gas engine
- 2 MWe commercial demonstration being installed at UBC



CITY OF VANCOUVER COMMITTS TO CLEAN AIR

In January 2011, Vancouver City Council adopted 10 long-term goals recommended in the “Greenest City 2020 Action Plan” which lays out the plan to help the city become the greenest city in the world by 2020. The wide ranging goals relate to creating a green economy, climate change leadership, green buildings, green mobility, zero waste, access to nature, a lighter footprint, clean water, clean air and local food.

One of the key goals laid out in the plan is clean air where the city will commit to meet or beat the most stringent of British Columbian, Canadian, and international air quality standards and guidelines. This means that only the cleanest energy technologies, such as Nexterra’s, will be deployed within the region.

REPORT VALIDATES NEXTERRA EMISSIONS “BEST IN CLASS”

Nexterra has released an air emissions report by Levelton Consultants Ltd., which compares air emissions test results from Nexterra’s gasification plants against comparable conventional biomass combustion plants. The report found that Nexterra’s technology produces significantly lower levels of air pollutants than combustion technology. Some key findings from the report are outlined below:

Air Pollutant	Nexterra Comparison to Biomass Combustion
Carbon Monoxide (CO)	50 times less than combustion
Volatile Organic Compounds (VOC)	33 times less than combustion
Particulate Matter (PM)	Equal or better than best performing systems
Nitrogen Oxide (NOx)	5 times less than combustion systems using NOx control (SNCR or SCR technologies)

“The technical breakthrough achieved by Nexterra means that biomass energy can play a critical role in helping Vancouver and cities around the world achieve their sustainability targets without compromising air quality.”

- Gregor Robertson, Mayor of the City of Vancouver



VANCOUVER 2020 A BRIGHT GREEN FUTURE
AN ACTION PLAN FOR BECOMING THE WORLD'S GREENEST CITY BY 2020



About Nexterra

Nexterra develops and supplies advanced biomass gasification systems that enable institutional, utility, and industrial facilities to self-generate clean, cost-effective, continuous heat and power.



Corporate Headquarters
Nexterra Systems Corp.
Suite 1300 - 650 West Georgia Street PO Box 11582
Vancouver BC V6B 4N8 Canada

Telephone 604.637.2501
Facsimile 604.637.2506
Email inquiries@nexterra.ca
Website www.nexterra.ca