

# BC Bioenergy Strategy

**Growing Our Natural Energy Advantage**



BRITISH  
COLUMBIA

The Best Place on Earth

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**Honourable Gordon Campbell**  
Premier of British Columbia

*“The Province is addressing these challenges head on. The BC Bioenergy Strategy will help turn existing challenges into new opportunities – for both forestry and agriculture.”*

Human activity has changed our world. It has led to numerous advances – from instant power to airline travel to the farthest reaches of the globe. For a long time, these advances carried with them the unseen cost of rising greenhouse gas emissions, which has led to the monumental challenges of global warming and climate change.

The Province is addressing these challenges head on. The BC Bioenergy Strategy will help turn existing challenges into new opportunities – for both forestry and agriculture.

The BC Bioenergy Strategy sets us on a path to diversify rural economies and turn adversity into opportunity by recovering maximum value from all our forests and creating new economic opportunities for mountain pine beetle damaged timber through conversion into bioenergy.

Bioenergy provides new opportunities for agriculture. It will be developed from B.C.’s landfills, crop residues and agricultural wastes.

Bioenergy is a positive, practical approach that will involve all regions and all British Columbians in preparing for a low-carbon future. The bioenergy we generate from our abundant resources in B.C. can help meet greenhouse gas reduction targets at home and in other jurisdictions, creating enduring economic benefits.

This strategy builds upon a solid foundation of expertise, innovation and experience. Many B.C. forest companies already convert wood residues into electricity and heat used in their mills, and some supply surplus amounts into the power grid. Established community energy projects and landfill methane-capture systems demonstrate the success and commitment to bioenergy that exists in B.C. right now.



With the support of government, industry and partners in the Western Climate Initiative, this strategy will help launch British Columbia as a carbon-neutral energy powerhouse in North America.

The BC Bioenergy Strategy will help B.C. achieve its targets for zero net greenhouse gas emissions from energy generation, improved air quality, electricity self-sufficiency and increased use of biofuels.

Bioenergy holds the promise of innovation, investment and job creation. All are within our grasp if we're willing to look to the future and embrace the changes that are upon us.

**Honourable Gordon Campbell**

Premier of British Columbia

**Honourable Richard Neufeld**

Minister of Energy, Mines and Petroleum Resources

**Honourable Rich Coleman**

Minister of Forests and Range

**Honourable Pat Bell**

Minister of Agriculture and Lands



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## HIGHLIGHTS

### CLEANER, GREENER

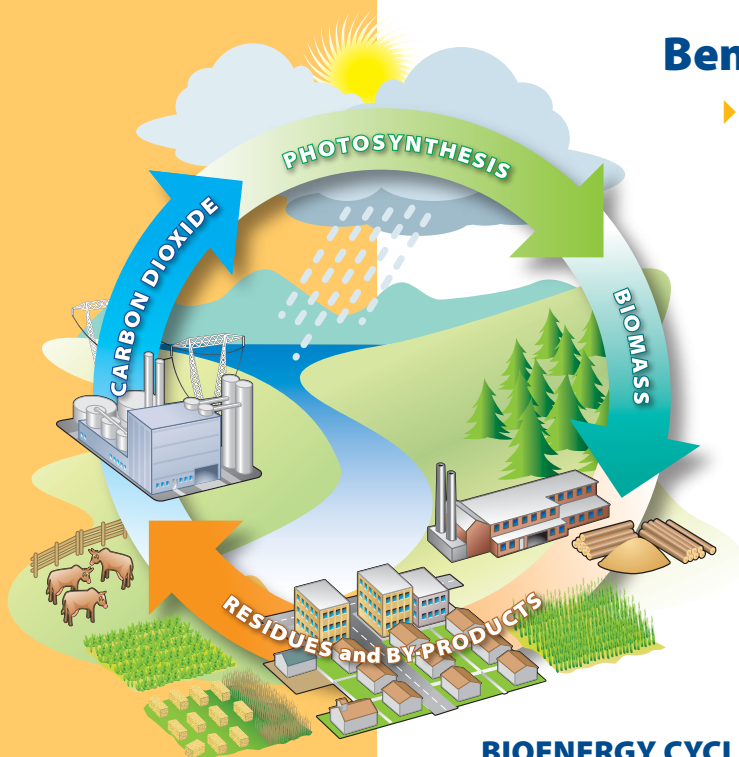
Bioenergy is energy derived from organic biomass sources – such as trees, agricultural crops, food processing and agricultural wastes and manure. Biomass can be generated from logging, agriculture and aquaculture, vegetation clearing and forest fire hazard areas. When used for energy, biomass such as organic waste, wood residues and agricultural fibre is considered clean or carbon neutral because it releases no more carbon into the atmosphere than it absorbed during its lifetime. When used to replace non-renewable sources of energy, bioenergy reduces the amount of greenhouse gases released into the atmosphere.

The BC Bioenergy Strategy will help British Columbia and other places in North America reduce greenhouse gas emissions and strengthen our long-term competitiveness and electricity self-sufficiency. Bioenergy is absolutely critical to achieving B.C.'s climate goals and economic objectives. It turns the challenges of the mountain pine beetle infestation into new opportunities and looks to future bioenergy technologies. This strategy directly supports the commitments made in the BC Energy Plan and is a key contributor to helping our partners in the Western Climate Initiative achieve their emission reduction goals.

### Building Opportunities for Rural British Columbia

British Columbia's bioenergy assets include top researchers, innovative companies, committed partners, forward-thinking communities, and half of the entire country's biomass electricity-generating capacity.

- ▶ Establish \$25 million in funding for a provincial Bioenergy Network for greater investment and innovation in B.C. bioenergy projects and technologies.
- ▶ Establish funding to advance provincial biodiesel production with up to \$10 million over three years.
- ▶ Issue a two-part Bioenergy Call for Power, focusing on existing biomass inventory in the forest industry.



**BIOENERGY CYCLE**

### Benefits for British Columbians

- ▶ We will aim for B.C. biofuel production to meet 50 per cent or more of the province's renewable fuel requirements by 2020, which supports the reduction of greenhouse gas emissions from transportation.
- ▶ We will develop at least 10 community energy projects that convert local biomass into energy by 2020.
- ▶ We will establish one of Canada's most comprehensive provincial biomass inventories that creates waste to energy opportunities.

## Developing Our Bioenergy Resources

British Columbia is world-renowned for its plentiful natural resources and strong environmental values. Through the BC Bioenergy Strategy, British Columbia will take its proven track record one step further. We will develop the province's bioenergy resources to enhance both the environmental and economic benefits for the people who live here. Next steps include:

- ▶ Collaborate with the Western Climate Initiative and the Pacific NorthWest Economic Region.
- ▶ Create First Nations bioenergy opportunities.
- ▶ Require methane capture from our largest landfills.
- ▶ Utilize waste wood from phased-out beehive burners to produce clean energy.
- ▶ Provide energy providers with information to develop new opportunities.
- ▶ Support wood gasification research, development and commercialization.



## WHAT IS BIOMASS?

Biomass is renewable organic matter like crops, trees, wood chips, aquatic plants, manure and municipal waste. British Columbians produce biomass from daily activities. Biomass can take the form of organic garbage, yard and garden waste, sewage, and wood from demolition and construction sites.

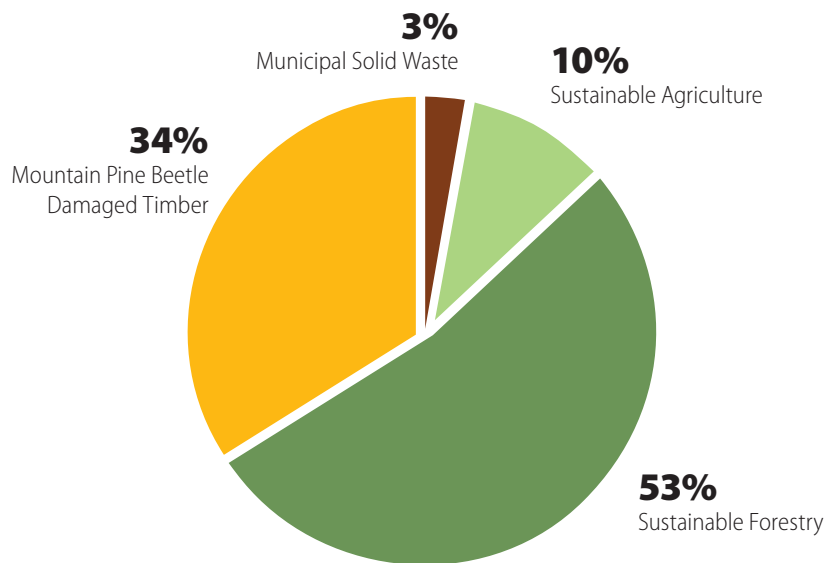
The province's main sources of biomass come from forest and agricultural activities. Food processing, aquaculture and other industries also produce large amounts of biomass.

Biomass can be used to produce heat and electricity, liquid and gaseous fuels (such as ethanol from grain and cellulose, biodiesel from oilseed and waste greases and biogas from anaerobic digestion), solid fuels (pellets and briquettes), and various other products.

British Columbia has 50 per cent of the biomass electricity-generating capacity of the entire country within our province.

## B.C.'s Biomass Resources

British Columbia is committed to developing our abundant natural resources in an environmentally responsible manner. Through the implementation of the BC Bioenergy Strategy, Government will create new economic opportunities for forestry, agriculture, municipalities and First Nations communities. It will establish British Columbia as the hub of a global supply network of bioenergy resources, technologies and services.



### Sustainable Forestry

This includes forest residues from logging practices, road clearing and other forestry activities. Site preparation, early tree removal and tree stand establishment could increase forest residues and be a source of biomass.

### Mountain Pine Beetle Damaged Timber

The increased annual allowable cut to remove beetle-killed timber and non-recoverable pine are temporary sources of biomass, which will be available for approximately 20 years.

### Sustainable Agriculture

Crop residues that are not utilized, which could include stalks, husks, straw and other post-harvest fibre, are available as a biomass source. Crops grown for biodiesel and ethanol production may include grain and canola. In future, livestock manure and dedicated crop growth are potential agricultural sources for biomass.

### Municipal Solid Waste

Municipal landfills contain biomass that can become a source of fuel through landfill gas collection or direct combustion.



Canada has approximately seven per cent of the world's land mass, and 10 per cent of its forests. Unused biomass from Canada's forestry and farming operations that is not otherwise required for soil health or ecosystem restoration could provide as much as 27 per cent of our national energy needs.

## Biomass Supply Estimates

The Ministry of Forests and Range has begun work on wood Biofuel Supply Estimates. These supply estimates, highlight the bioenergy potential of different regions and can assist independent power producers and other energy developers in evaluating bioenergy opportunities from wood.

The Ministry of Agriculture and Lands is also developing an inventory mapping system to chart the volume, availability and geographic distribution of agricultural and agri-food by-products, starting with the Fraser Valley.

### NEXT STEPS

A comprehensive inventory of the province's biomass resources will:

- Total the approximate volume of biomass available.
- Consolidate information and make it available in a user-friendly, easily accessed, online format.
- Provide energy producers with information to develop new bioenergy opportunities.



*Information and tools to understand the quantities, types, ownership and location of B.C.'s biomass resources can establish bioenergy development potential.*



### **BIOENERGY CALL FOR POWER**

BC Hydro will issue a two-part Bioenergy Call for Power early in 2008. This call will follow up on the March 2007 Request for Expressions of Interest for power production to convert underutilized wood into electricity.

The Bioenergy Call for Power will provide communities that are dependent on forestry and agriculture with new opportunities to partner with industry, First Nations and government to maximize economic benefits and improve air quality.

For further information visit [www.bchydro.com/2007/bioenergy](http://www.bchydro.com/2007/bioenergy)

### **BIODIESEL PRODUCTION**

The Province will provide up to \$10 million in funding over three years to encourage the development of biodiesel production in B.C. This will help diversify rural economies, improve competitiveness for B.C. biodiesel producers and provide new clean energy opportunities.

**Government and its partners will collaborate to develop B.C. bioenergy projects utilizing energy from wood waste, agriculture, renewable fuels and municipal waste.**

### **Energy from Wood Waste**

The opportunities to use both wood waste and mountain pine beetle damaged timber are endless. The City of Revelstoke is a leader in bioenergy. Wood waste from a local sawmill fuels a biomass boiler that enables the municipality to recover heat in the form of low pressure steam for drying lumber at the sawmill and providing hot water to a community energy system for buildings in the downtown core. The Revelstoke community energy project, in operation since 2005, increases energy efficiency, reduces wood waste from sawmills and improves local air quality.

### **Energy from Agriculture**

Bioenergy presents exciting economic prospects for B.C.'s agriculture sector. The development of biofuels from grains, oilseeds, waste fats and greases may better exploit unused crop residues and agricultural by-products. At the same time, bioenergy has the potential to address animal manure and other waste management challenges.

As technology advances, biofuels will be produced from an even broader range of sources, such as algae, straw and plants that thrive in less fertile regions. These opportunities will help balance the development of bioenergy from agriculture with global food requirements.

The Fraser Valley, North Okanagan, Cariboo, Northeast B.C. and Northwest B.C. have an abundance of livestock facilities which could produce a continuous supply of feedstock for anaerobic digestion. Anaerobic digestion uses bacteria to convert organic waste into a biogas composed primarily of methane and carbon dioxide.

Government is funding an Anaerobic Digestion Feasibility Study to explore long-term bioenergy opportunities in rural regions throughout B.C.

### **Energy from Renewable Fuels**

Government has set out to establish a low carbon fuel standard for British Columbia and is committed to implementing a five per cent average renewable fuel standard for diesel and to increasing the ethanol content of gasoline to five per cent by 2010. Farmers in the Peace Region stand to benefit from rising demand for grain used in ethanol production. A study completed in April 2007 for the B.C. Grain Producers Association shows potential for a 22-million-litre-per-year biodiesel production facility in the area using 56,000 tonnes of canola.

## Energy from Municipal Waste

Turning municipal waste into green energy offers endless potential. The Hartland Landfill near Victoria captures landfill gases through a series of underground pipes. The gas is collected, then cooled, compressed and transported to a generating facility where it creates enough electricity for about 1,400 homes.

A similar system at Vancouver's Delta landfill can generate up to 50 gigawatt hours of power and provides heat to local greenhouses. The SEEGEN project, owned by the Greater Vancouver Regional District, incinerates waste to produce up to 125 gigawatt hours of power and low pressure steam for use in a nearby paper recycling plant.

### NEXT STEPS

- The Province will develop legislation to phase in requirements for methane capture at landfills, the source of about nine per cent of B.C.'s greenhouse gas emissions. This methane could be used for clean energy.
- The Province will collaborate to streamline the regulatory and permitting environment and address the current waste management challenge posed by agricultural residues such as animal manure.
- The Province will develop regulatory measures to eliminate beehive burners, which will help divert those wood residues to higher value, lower pollutant bioenergy production.
- The Province will promote wood pellet production and facilitate market development opportunities within the province and around the world.
- The Province will improve access to wood fibre feedstocks for the generation of heat and power in collaboration with the forest and energy industries, utilities and provincial government partners.
- The Province will review the *Safety Standards Act* Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation to accelerate adoption of bioenergy technology in the forest industry.
- The Province will work with the bioenergy industry and others to develop new fine particulate standards for industrial boilers to improve air quality.

**BIOFLEET** is an initiative to expand the development and use of biodiesel in Western Canada. This project will continue to build market confidence in biodiesel to increase the purchase and use of clean, renewable fuel and will also reduce greenhouse gas emissions generated by vehicle fleets. British Columbia will consume more than 500 million litres of biofuel annually by 2010.



### BC BIOENERGY NETWORK

To support B.C.'s clean energy goals, capture value from beetle damaged timber and help rural agriculture and forest communities diversify and remain competitive, Government will establish funding for a \$25 million Bioenergy Network. It will set the course to reduce greenhouse gas emissions, while increasing home-grown renewable energy production and strengthening the forest and agriculture industries.

This commitment will build on the existing foundation of bioenergy production sites, research centres and technology development projects, leading the way to greater investment in innovation and affirming B.C.'s role as a world leader and global partner for sustainable bioenergy solutions.



British Columbia has a strong bioenergy and biorefining network of academic and industry talent, as well as a number of active projects.

### Building on the Existing Bioenergy and Biorefining Network

The purpose of the Network is to achieve greenhouse gas emission reductions, improve air quality and capitalize on B.C.'s bioenergy potential through the development of projects which could include:

- ▶ New bioenergy technology and production capacity to better utilize beetle damaged timber and other woodwaste in sawmills and pulp mills.
- ▶ Agricultural biogas production from animal and food processing wastes.
- ▶ Next-generation biofuels such as ethanol from woodwaste and biodiesel from algae.
- ▶ Projects to convert municipal waste and landfill gas to electricity and other fuels.

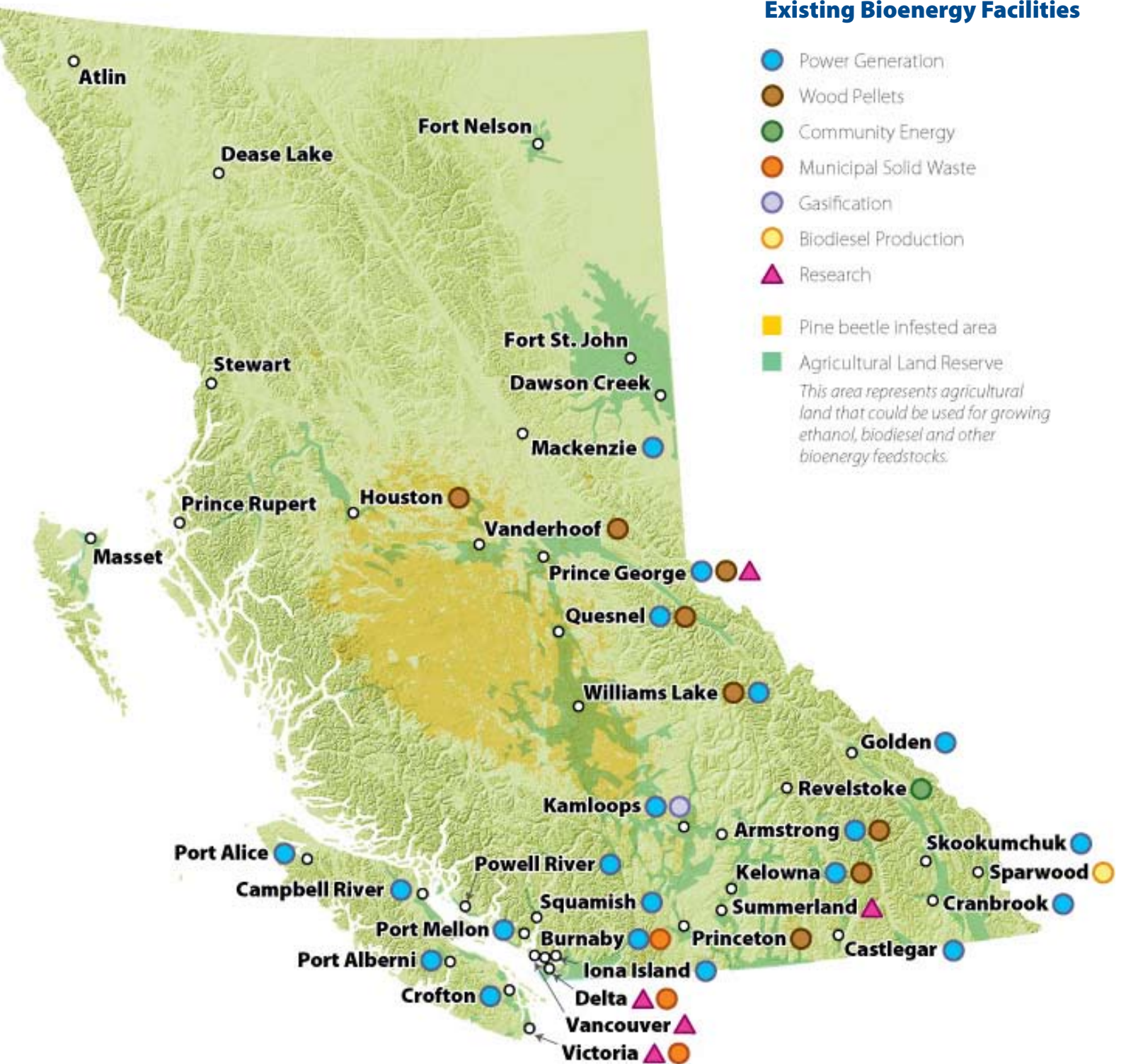
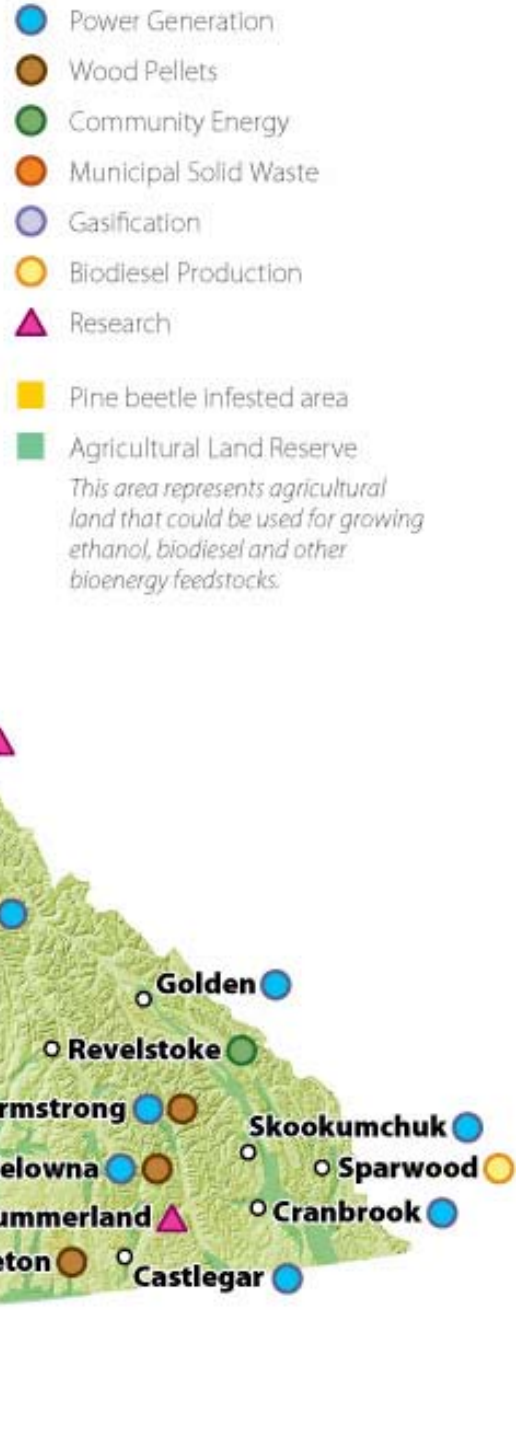
The Network strengthens the development of world-class bioenergy research and technology expertise in British Columbia. This will include the creation of at least one academic leadership chair in bioenergy.

British Columbia's current bioenergy network already includes:

- ▶ Over 800 megawatts of biomass electricity capacity is installed in British Columbia, primarily within the forest sector – enough for 640,000 households.
- ▶ The British Columbia wood pellet industry enjoys a 16 per cent share of the growing European Union market for bioenergy feedstock. In 2007, British Columbia produced over 900,000 tonnes of wood pellets, of which 90 per cent was exported for thermal power production overseas.
- ▶ British Columbia's pulp and paper mills meet over 33 per cent of their electricity needs through cogeneration of electricity and steam on site.



## Existing Bioenergy Facilities



## Building Bioenergy Capacity

When it comes to using renewable fuels, British Columbians are among the most receptive consumers, and the demand for biodiesel and ethanol is growing. Municipalities including Vancouver, Richmond, Whistler, Delta, Burnaby and North Vancouver are using biodiesel in their fleet vehicles, and so are BC Transit and other commercial fleets. There is significant potential to expand the production and use of biofuels in the Peace River Region and other areas of the province. Community energy projects increase energy self-sufficiency, address waste management issues, diversify local industries and create new jobs. Projects underway include:

- ▶ Highlighting biomass and bioproduct development potential in Quesnel through an inventory of available wood fibre.
- ▶ A biomass energy system to heat schools in Nakusp.
- ▶ An engineering assessment and business model for a biomass heat-and-power community energy system in Port Hardy.
- ▶ A biomass gasification community energy project at Dockside Green in Victoria.

British Columbia is expanding its bioenergy capacity through government funding for bioenergy programs, including:

- ▶ Up to \$10 million in funding over three years for biodiesel production.
- ▶ A biodiesel production feasibility study to encourage the development of oilseed crushing and biodiesel facilities in the Peace Region.
- ▶ A feasibility study conducted by the BC BioProducts Association on building an anaerobic digestion and gas processing facility in the Fraser Valley.
- ▶ The Anaerobic Digester Calculator Project, an electronic tool to assess the environmental benefit and economic viability of constructing anaerobic digestion facilities in specific locations.

Ethanol BC, a program to support value-added uses for wood residue, has funded:

- ▶ Research and development of softwood residue-to-ethanol technology by Lignol Innovations.
- ▶ Advances in wood gasification technology by Nexterra.
- ▶ Fuel pellet design, engineering and emission performance assessments testing wood, agricultural fibre and other feedstocks.





The Province is promoting a Product Commercialization Roadmap that will enhance the export success of British Columbia's bioproducts by guiding companies through business planning, financial analysis and processes for product and market development.

## NEXT STEPS

The Province will establish the Bioenergy Network to:

- Support wood gasification research, development and commercialization in collaboration with the University of Northern British Columbia, University of British Columbia, Forest Products Innovation, the National Research Council, the forestry and energy sectors, industry and other partners.
- Advance biorefining for multiple, value-added product streams, such as biochemicals, in conjunction with bioenergy production in new facilities and/or at existing industrial operations by working with the BC Bioproducts Association, First Nations, agricultural and forest sectors.
- Encourage the development of pilot and demonstration projects with industries and communities in key biomass resource areas.
- Support research into socially and environmentally responsible dedicated energy crop production and enhance enzymatic and other biotechnology solutions for biomass-to-energy conversion.
- Advance the development of biofuels, such as cellulosic ethanol and renewable diesel from algae and other resources, through the Green Energy and Environmentally Friendly Chemical Technologies Project and other initiatives.

## WITHIN OUR POWER

British Columbia has an abundance of underutilized wood in the form of sawmill residues and logging debris, and a growing supply of timber killed by the mountain pine beetle.

British Columbia currently leads the nation in wood energy production and consumption. However, it is estimated that about 1.2 million bone-dry tonnes of mill residues per year – an amount that could produce approximately 1,900 gigawatt hours of electricity – are incinerated in beehive burners in the province with no energy recovery and impacts on air quality. These resources and wood residues in other regions present an opportunity for bioenergy in British Columbia.

**WOOD PELLETS** are produced from wood residue collected from sawmills and wood product manufacturers. Heat and pressure are used to turn wood residue into pellets without chemical additives, binders or glue.





### CROSS-GOVERNMENT COLLABORATION

The Province will work with federal agencies such as Sustainable Development Technology Canada, Natural Resources Canada, and the Western Diversification Office to:

- Promote bioenergy research and project development, support the efficient use of biomass, address current waste challenges and diversify community economies.
- Streamline and coordinate the development of bioenergy policies and programs to advance the Province's goals for energy, the economy and the environment.



**B.C. is viewed around the world as a bioenergy hot spot, and its increasing profile in the global economy highlights the importance of strong relationships with other jurisdictions with shared interests in bioenergy development.**

Nationally and internationally, many view British Columbia as the hub of a growing bioenergy and biorefining network. The Western Climate Initiative allows B.C. to foster economic opportunities through the development of new technologies and innovation. B.C. and western states have engaged in electricity trading for the past 30 years, and the Government has signed a joint statement with Sweden that strengthens a partnership of information exchange and best practices for the development and use of bioenergy and biorefining technologies. The BC Bioenergy Strategy affirms B.C.'s commitment in an agreement with Manitoba to reduce greenhouse gas emissions by broadening renewable energy portfolios to include biomass power.

The expertise gained through the BC Bioenergy Strategy offers other jurisdictions the potential to benefit, while creating new economic opportunities for British Columbians. With our plentiful biomass resources, industry and academic leadership, and the Government commitment to bioenergy, British Columbia will continue to:

- ▶ Develop, deploy and export British Columbia's clean and alternative energy technologies.
- ▶ Maximize bioenergy market opportunities.
- ▶ Advance bioenergy research, collaborate in project development and build upon shared interests with other jurisdictions in Canada and around the world.

### NEXT STEPS

- The Province will advance joint interests and share information on best practices in bioenergy research and development with the Western Climate Initiative and the Pacific NorthWest Economic Region.
- Under the British Columbia/Alberta Memorandum of Understanding on Energy Research, Technology Development and Innovation, the Government will develop a joint framework for bioenergy research, technology demonstration and deployment.
- The Province will create First Nations bioenergy opportunities and invite representatives to speak about biomass community energy systems.
- The Province will release an information guide on pursuing biomass energy opportunities and technologies in British Columbia for First Nations, small communities, local government and industry.

## CONCLUSION

With our strengths in bioenergy, British Columbia will pursue our alternative energy advantage. Bioenergy is critical in meeting that objective. The know-how, researchers and partner communities here today are committed to making this happen. The enhanced BC Bioenergy Network, funding to advance biodiesel production and the two-part Bioenergy Call for Power, will take B.C. the next step in realizing our full natural resource potential.

The BC Bioenergy Strategy will benefit communities by helping make cleaner, greener energy available for use in our homes and vehicles. It will benefit our economy by tapping into the potential of B.C.'s biomass resources, unleashing the energy of materials that previously went to waste and promoting the development of new industries and markets. In turn, it will benefit our environment by helping meet our growing energy demands with clean, renewable and environmentally responsible energy resources.



# BIOENERGY TECHNOLOGY DEVELOPMENT TIMELINE

**NOW**

**WOOD TO ELECTRICITY  
BY COMBUSTION AND  
STEAM TURBINES**

*Technology available—  
economics drive the decision*

**WOOD TO  
SOLID FUEL PELLETS**

*Technology available—  
economics drive the decision*

**WOOD TO SYNGAS FOR  
WOOD DRIERS**

*Recently implemented in B.C.—driven by  
high natural gas prices*

**WOOD TO SYNGAS FOR  
PULP MILL LIME KILNS**

*Further research and development  
required to maintain clean syngas stream*

**2010 - 2015**

**BIOMASS TO CLEAN SYNGAS TO  
POWER INTERNAL COMBUSTION  
ENGINE FOR UP TO 10MW  
ELECTRICITY GENERATION**

*To be piloted—  
high probability of success*

**BIOMASS TO HIGH GRADE  
SYNGAS FOR LIQUID  
FUEL PRODUCTION**

*Needs research and development,  
large-scale pilots and further research and  
development on catalysts to adapt current  
technology for coal conversion*

**WOOD TO CLEAN SYNGAS  
TO POWER TURBINE FOR  
ELECTRICITY GENERATION**

*Needs pilot trials and  
research and development*

**TECHNOLOGIES IN USE IN B.C.**

**TECHNOLOGIES EXPECTED TO BE IN USE**

*\* SYNGAS is synthetic gas produced through the  
thermal gasification of biomass.*



2015 - 2020

**CELLULOSE TO ETHANOL**

*Needs large-scale pilots and further research and development on enzymes*

**AGRICULTURAL WASTE/  
MANURE TO POWER**

*Technology available—  
economics drive the decision*

**ENERGY CROPS LIKE GRAIN AND  
OILSEEDS TO RENEWABLE FUELS**

*Technology available—  
economics drive the decision*

**ANAEROBIC DIGESTION AND  
ALGAE FARMING FOR BIO-OIL**

*Needs pilot scale trials and research  
and development*

**BIOREFINING: BIOMASS TO  
ENERGY, BIOCHEMICALS AND  
OTHER PRODUCTS**

*Needs extensive research  
and development*

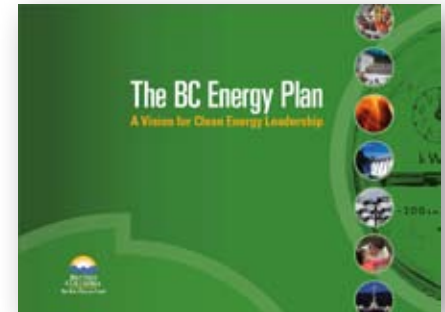
TECHNOLOGIES EXPECTED TO BE IN USE

Four key drivers spurred the development of the BC Bioenergy Strategy:

- 1 **Environment** – bioenergy can lower greenhouse gas and other air emissions and encourage the shutdown of beehive burners, organic garbage conversion, methane capture from landfills and better agricultural waste management.
- 2 **Mountain Pine Beetle Infestation** – bioenergy can help capture value from a deteriorating resource and help the forest sector, as well as impacted communities, remain competitive.
- 3 **Electricity Self-sufficiency** – bioenergy can help B.C. meet its future energy demands and become energy self-sufficient with made-in-B.C. energy resources from the forest and agricultural sectors.
- 4 **Long-term Competitiveness** – bioenergy can create new bioeconomic opportunities for forestry, agriculture, municipalities and First Nation communities and establish British Columbia as a global supplier of bioenergy resources, technologies and services.

## The BC Bioenergy Strategy supports these BC Energy Plan Policy Actions:

- ▶ Ensure self-sufficiency to meet electricity needs, including “insurance” by 2016.
- ▶ Establish a standing offer for clean electricity projects up to 10 megawatts.
- ▶ All new electricity generation projects will have zero net greenhouse gas emissions.
- ▶ Zero net greenhouse gas emissions from existing thermal generation power plants by 2016.
- ▶ Ensure clean or renewable electricity generation continues to account for at least 90 per cent of total generation.
- ▶ Government supports BC Hydro’s proposal to replace the firm energy supply from the Burrard Thermal plant with other resources. BC Hydro may choose to retain Burrard for capacity purposes after 2014.
- ▶ Pursue Government and BC Hydro’s planned Remote Community Electrification Program to expand or take over electricity service to remote communities in British Columbia.
- ▶ Ensure BC Hydro considers alternative electricity sources and energy efficiency measures in its energy planning for remote communities.
- ▶ Establish the Innovative Clean Energy Fund to support the development of clean power and energy efficiency technologies in the electricity, alternative energy, transportation and oil and gas sectors.
- ▶ Implement a provincial Bioenergy Strategy which will build upon British Columbia’s natural bioenergy resource advantages.
- ▶ Issue an expression of interest followed by a call for proposals for electricity from sawmill residues, logging debris and beetle-killed timber to help mitigate impacts from the provincial mountain pine beetle infestation.
- ▶ Implement a five per cent average renewable fuel standard for diesel by 2010 to help reduce emissions and advance the domestic renewable fuel industry.
- ▶ Support the federal action of increasing the ethanol content of gasoline to five per cent by 2010 and adopt quality parameters for all renewable fuels and fuel blends that are appropriate for Canadian weather conditions in cooperation with North American jurisdictions.
- ▶ Develop a leading hydrogen economy by continuing to support the Hydrogen and Fuel Cell Strategy for British Columbia.
- ▶ Establish a new, harmonized regulatory framework by 2010 for hydrogen by working with governments, industry and hydrogen alliances.



**For more information on the BC Bioenergy Strategy contact:**

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