

Drayton Valley's Bio-Mile:

Shaping Innovation in the Fiber Industry



Inspiration, not desperation . . .



Rather than view the closure of the Weyerhaeuser's Drayton Valley OSB facility as a detriment, we have been working to create new opportunities in using the wood bio-mass in new and innovative processes. Despite the loss of tax revenue and jobs that resulted from the OSB closure, we believe that the Bio-Mile will pull our community through these hard times.

Drayton Valley relies on the oil and gas industry, agricultural operations and forestry. We are fortunate to have the support of local entrepreneurs in the oil and gas sector which will collaborate to diversify their businesses by investing in support services, as well as the new opportunities presented through this initiative.



What is Bio-Industry?

Bio-Industry is:

- environmentally and economically sustainable development through the creation of a “green” economy which conserves resources and effectively uses and coordinates infrastructure;
- an industrial development without waste ... where one industry’s by-product is another’s feedstock;
- making use of additional fibre products, such as agricultural and municipal solid waste to create products and processes;
- proof that wood can produce everything that oil is used for today and much more;
- the development of knowledge-based economy – not just creating *things* but creating a culture of innovation.



How does it work?

Simply put, bio-industry is the use of natural wood fibre to create the products we use every day. Anything from jeans to cars ...

BIOMASS FEEDSTOCKS:

Trees
Agriculture
- Hay, Silage
- Crop Residue
- Animal Waste
Municipal Solid Waste
Algae Farms



CONVERSION PROCESS:

-Enzyme
Fermentation
-Gas/Liquid
Fermentation
-Acid Hydrolysis
Fermentation
-Gasification
-Pyrolysis
-Co-generation
-Combined Heat
& power



PRODUCTS:

Fuels
-Ethanol
-Bio-diesel
Utilities
-Electricity
-Heat
Chemicals
-Plastics
-Solvents
-Adhesives
-Paints
-Dyes & inks
-Pigments
-Detergents
Food & feed



What is the Bio-Mile?

The Bio-Mile is approximately one square mile of land, where the current wood industry and the power plant, as well as future bio-industry, will operate in coordination.

Bio-industrial cooperative processes will use the waste of the existing industries to create new products, optimizing all wood fibre, and integrating the operations of all businesses within the mile.

Research and development to provide synergies from each industry whether from fibre or value-added processes. Market research for bio-products will be a key component of the Bio-Mile.



The Town of Drayton Valley



What have we accomplished to date?

- We know how much forest is there, the wood supply and the fibre product being generated in our area.
- Ongoing development of strategies around how to utilize this wood fibre effectively, in partnership with industry.
- We have completed feasibility studies of wood feedstock, as well as agricultural feedstocks.
- Establishing links with universities and research institutes.
- Weyerhaeuser has been working in partnership with the Town of Drayton Valley, which has allowed the planning for the Bio-Mile to proceed as quickly and efficiently as it has.



Research is global, implementation is local

Because of Drayton Valley's initiative in promoting and diversifying bio-industrial operations, several companies have sought us out and want to establish facilities in the Bio-Mile ...

TTS Inc. out of Edmonton provides research, development and consulting services to primary and secondary forest products manufacturers in the areas of training, product and process development and process improvement. They have committed to bringing their fibre mat facilities to the Bio-Mile and have already obtained provincial financial support to do so. In creating research and development facilities, TTS will construct two 30,000 sq. ft. buildings to produce value-added products.



Otoka Energy, Inc. from Minneapolis, Minnesota is "on a mission to commercialize innovative technologies designed to convert biomass to energy" and is focussed on making Drayton Valley its next base of operation.

Phase I of Otoka's plan comprises construction and operation of a solid-fuel boiler co-generation facility of at least 25MW, to immediately put to use some 200,000+ tons of woody biomass available through partnership with Weyerhaeuser and other sources. They anticipate work will begin on this phase immediately, to commence operations in 2009.

Phase II would implement gasification of wood wastes additional to those obtained from the cogeneration facility, and the world's first commercialization of methangen-based 'METS reactor' that utilizes an organic process to convert synthetic gas to green natural gas and clean water. Phase III comprises the construction of liquid transportation fuels facility of at least 35 million gallons per year as well as platform chemicals which will be of benefit to CLIB.



CLIB2021 is a German-based bio-industrial consortium of government, industry, academia and research institutes funded with 40 million Euros of government money. The consortium includes major companies such as Bayer, Cognis, Evonik, Henkel and many smaller companies and research institutes.

CLIB2021 wants to set up an office in our Bio-Mile, as their first and only Canadian presence, for the development of an incubator based on lignocellulosic fuels and chemicals from woody biomass. In pursuit of their goal, CLIB's associate, Nova Institute, is in the process of conducting a feasibility study with the approval of Alberta Agriculture, as well as the German Ministry of Innovation.

We have been working with the Nova Institute and the Canadian Embassy in Germany, and we are confident that both are as excited to bring this project to the Bio-Mile as we in Drayton Valley are.



What do we need to achieve our vision?

LAND - We have land available from the Town, Weyerhaeuser and private developers. Acquisition is still required.

INFRASTRUCTURE – We need to undertake preliminary engineering for sustainable industrial design (including soil conditions, water, sewer, storm drainage, power, gas and roadways.) An important part of infrastructure development is the addition of a RAILROAD spur to our existing transportation system.

ATTRACTION / INCENTIVE– Collaboration between industries, by establishing “anchor” industries, will bring in smaller, growing bio-industries.

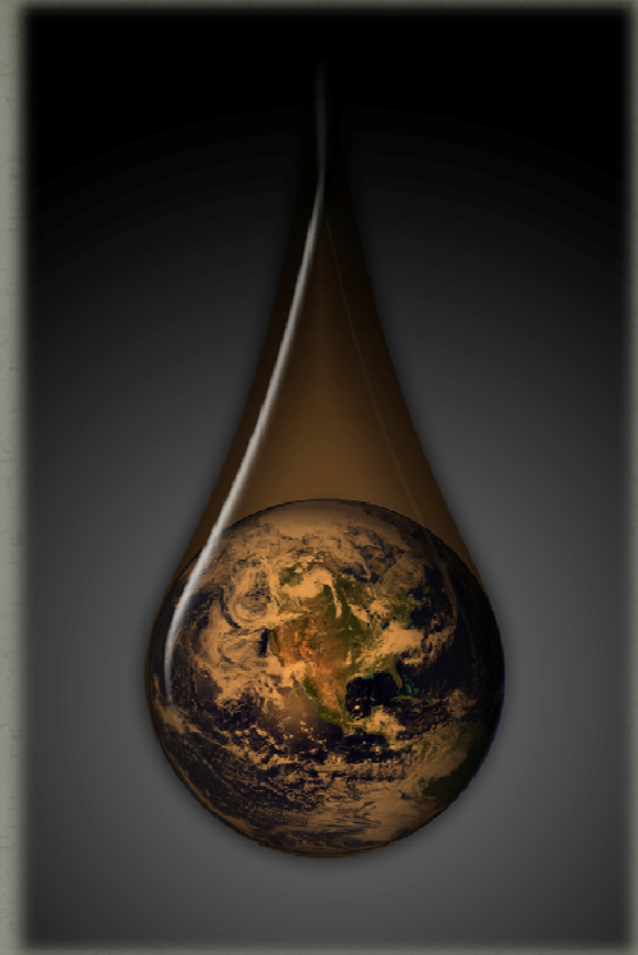


RESEARCH AND DEVELOPMENT – Along with the industries which are preparing to establish within the Bio-Mile, we have had to complete a biomass and commercialization study. The future development of the Bio-Mile will require working with Nova Institute for the creation of an incubator centre, research coordination, entrepreneurial development and human resources, specifically retraining and the utilization of our skill sets.

PROJECT MANAGEMENT AND COORDINATION – In addition to the overall development of the Bio-Mile, we must assess the current feedstocks on the Weyerhaeuser and Valley Power sites to be sorted for useable material and the disposal of unusable material.



CONFERENCE - We will host a conference to bring world-wide notice to the Bio-Mile project and all that the Province of Alberta has to offer. Above all, this conference will specifically showcase Drayton Valley's desire and determination to create a centre of excellence in bio-industrial operations.



Support for the Bio Mile

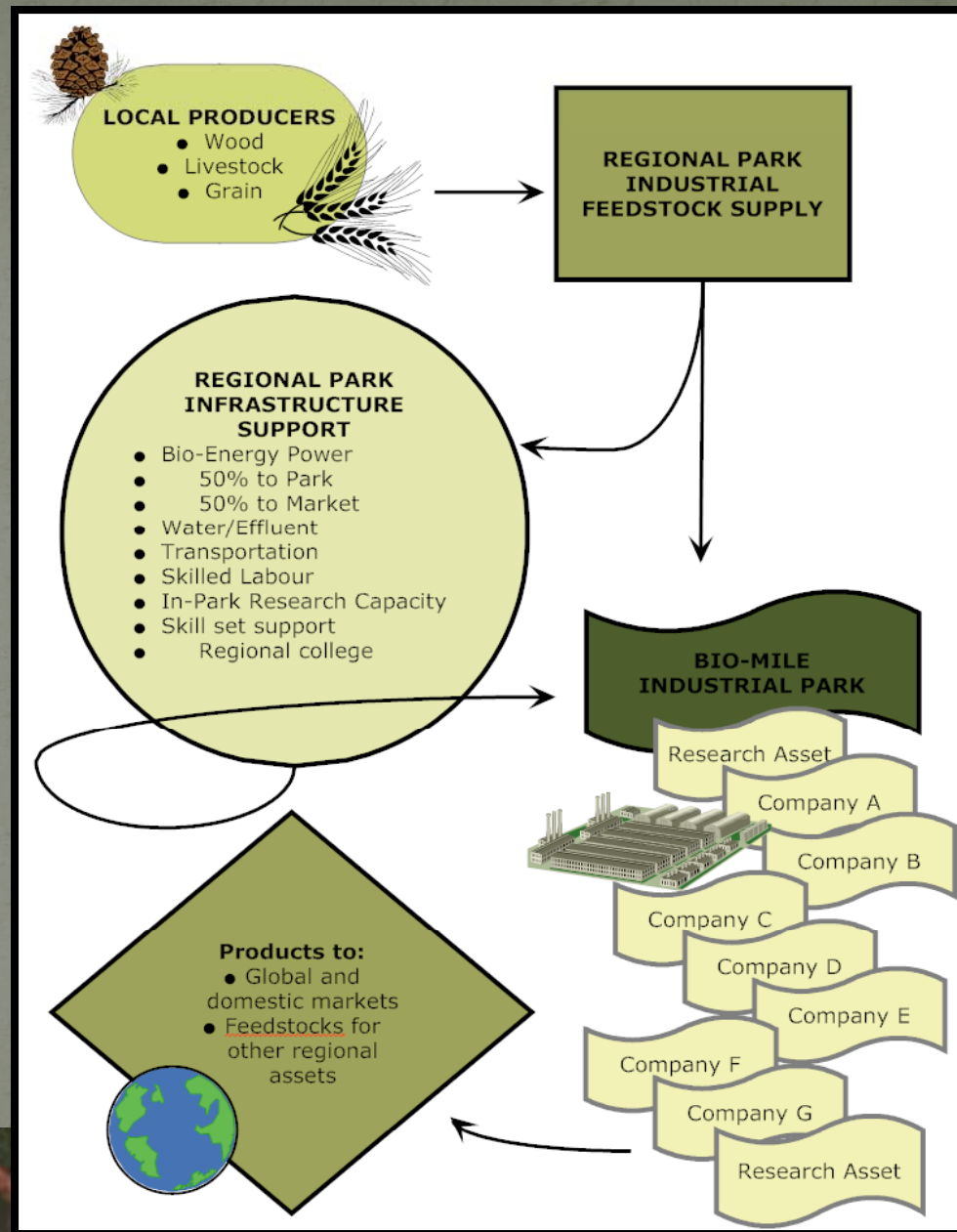
Drayton Valley's vision is aligned with federal and provincial mandates; the Governments are actively working with communities and stakeholders who are serious about helping the environment, industry and the economy.

Sustainable Resource Development has been working closely with Energy and Finance and Enterprise in support of the Bio-Mile Project in Drayton Valley. SRD further supports Drayton Valley's application for a federal grant to fund the Bio-Mile project.

The federal government recognizes the vital role of forestry in Alberta and in Canada. Federal support for the diversification and growth of the forestry industry will facilitate opportunities within Drayton Valley's Bio-Mile.



Drayton Valley's Bio-Mile will be an example of environmentally conscious, value-added operations. This initiative can and will show a tangible benefit to Drayton Valley, to all Alberta communities, to Canada and to the world through economical, environmental and industrial resourcefulness.



Thank you



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DRAYTON VALLEY

'Pulling Together'