



## **Community Update**

Presented by: Pat Miller  
April 2, 2011

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## **Preface**

Sun Peaks Utilities Co., Ltd provides the community with water, sewer and gas services. These utilities operate safely, and in accordance with the checks and balances required to achieve and maintain our ISO 14001:2004 certification and meet all regulatory requirements.

We are a well regarded multi-utility that is a proud contributor to the growth of our community. We provide year round, career oriented employment within an environmentally sound operating environment.

The growth of the community has created new challenges for the Utility. We are hosting an information session in April 2011 to preview some of the changes anticipated as we renew our mission to serve the community within the framework of our new municipality.



SPUCL Operations

Water Utility: Operations as planned

Gas Utility: Commodity prices have increased

Wastewater Utility: Managing wastewater treatment

Composting Solution

## Sun Peaks Utilities Co. (SPUCL) is a multi-utility which provides three separate Utility services

- Sun Peaks Utilities Co. provides water, sewer and gas service to the Resort Municipality of Sun Peaks Resort, BC
- SPUCL was the sponsor/creator of the Multi-Utility certification program
  - Utility technicians must be certified by the Environmental Operators Certification Program
  - Our sponsorship of the multi-utility certification created a provincially recognized accreditation that increases our labour pool, and the career opportunities of our employees
- SPUCL is ISO 14001:2004 certified
  - ISO is the acronym for International Organization for Standardization
  - ISO 14000 addresses Environmental Management, establishing standards to:
    - Minimize harmful effects on the environment
    - Achieve continual improvement of its environmental performance
  - ISO 14001:2004 is implemented by some 200,000 organizations in 155 countries
- The Utility services a population base of 500 full time, year round residents, and up to 8,000 residents and visitors.



## The Water Utility provides potable drinking water, and water for fire suppression

### ■ Infrastructure

- Potable water is sourced from 5 deep production wells throughout the valley
- 3 treatment plants treat and filter the water
- 3 pressure zones through an interconnected grid with 2 booster stations deliver water throughout the community
- 3 storage reservoirs on the system meet our needs for potable water as well as fire suppression

### ■ Quality

- Our water conservation program made Sun Peaks one of the most water efficient communities in North America
- Independent testing confirms that the potable water at Sun Peaks **meets or exceeds** the Canadian Drinking Water Guidelines as published by Health Canada
- Operations comply with Ministry of Environment and Interior Health as well as recognised industry standards

### ■ Rates

- Rates are regulated by the Ministry of Environment, Water Stewardship Division
- Changes to the Water Purveyor's Permit is not expected to impact rates
- The 1% municipal tax on water utilities will not impact rates

# Conditions of our permit are periodically reviewed by Interior Health. Changes are posted on our website once they are finalized.



March 16, 2011

Manager of Utility Services  
Sun Peaks Utilities Co. Ltd.  
1280 Alpine Road  
Sun Peaks, BC V0E 5N0

Dear Pat Miller

**Re: Sun Peaks Utilities Co. Ltd.  
Drinking Water Quality Improvement Program – 2011 Proposed Conditions of Permit**

Since the enactment of the Drinking Water Protection Act (DWPA) & Drinking Water Protection Regulation (DWPR) Interior Health has been working with the Sun Peaks Utilities towards better protecting its water supply system from source to tap. As part of this effort the Drinking Water Quality Improvement Program was implemented with focuses on a multi-barrier approach. Part of this program involves a regular re-evaluation of the Conditions of Permit on the water system.

*The following terms and conditions on your Permit to Operate are placed under Section 8 of the Drinking Water Protection Act. As such, there is a legal requirement to comply with all terms and conditions of the permit. It is important to note that any amendment of an operating permit must occur in accordance with section 8 (4) of the Act, which requires prior consultation with the water supplier and consideration of any comments the water supplier may provide in respect of the proposed changes. The terms and conditions in this letter will supersede and update previous terms and conditions:*

## 1. Provide Source Water Protection Plan

The purpose of the source protection plan is to identify areas and activities that could affect the quality, quantity and timing of flow of the drinking water sources. By identifying critical areas and activities, the water supplier can influence planning and measure impacts on their system. Additionally, the source protection plan is to reduce threats to water quality and provide an additional barrier for drinking water protection. *DWP Act Section 18 (2) (a).*

### Status:

- Currently in progress with BC Groundwater Consulting developing the Wellhead Protection Plan

### Objective:

- To considered risk from two perspectives: identifying the hazards that threaten drinking water, and identifying the vulnerabilities in the multiple barrier system intended to protect the drinking water system.
- Focus on Modules 1, 2, 7 and 8 of the BC Comprehensive Drinking Water Source to Tap Assessment Guide or equivalent. <http://www.health.gov.bc.ca/protect/source.html>
- The completed Source Water Assessment will provide the basis for the development of the Assessment Response Plan/Risk Management Plan

### Targets & Dates:

- Engage the Assessment Team/Consultant with Modules 1 & 2 to review the characterization and delineation of the source water and conduct the contaminant survey prior to November 2012.
- Engage the Assessment Team with Modules 7 & 8 to characterize the risks and the recommend actions to improve drinking water protection prior to November 2014.
- Develop and maintain a Assessment Response Plan/Risk Management Plan from the recommendations by November 2015.



## The Gas Utility operates a storage & distribution system that meets or exceeds all government regulations

### ■ Infrastructure

- Sun Peaks Utilities operates the gas grid using bulk gas storage facilities located below the Burfield Lift

### ■ Quality

- The gas distribution system is designed so that staff can make safe any leaks within minutes of being notified of a gas main break

### ■ Rates

- Gas rates are regulated by the BC Utilities Commission
- Impact of the 1% municipal tax on the gas utility will eventually affect rates
- Increased commodity prices this year will have an impact on rates
  - Our December 2010 rate change was approved with the condition that rates be revised again in the spring, if commodity prices continued to increase
  - Our commodity price has increased over the past winter
  - We must report to the BC Utilities Commission by the end of May, with our submission for a commodity rate increase if warranted



## **The Wastewater Utility effectively treats all of our sewage, disposes treated wastewater to ground, and will compost de-watered bio-solids**

### ■ Infrastructure

- an advanced sewage treatment plant was designed for Sun Peaks, that allowed for modular expansion as our needs grew
- In 1999, the first phase was built and brought on line. Since then, numerous upgrades have occurred to accommodate the resort's growth
- Treated wastewater is disposed to ground
- Treated bio-solids could be disposed of in a variety of ways. Once dewatered, they could be trucked off-site, landfilled, incinerated or composted
- We have chosen to build a composting capability for disposal of our dewatered bio-solids

### ■ Quality

- We maintain 15 boreholes that monitor groundwater to ensure we are not impacting the downstream environment plus 3 that monitor slope stability
- The results of our wastewater treatment process are monitored by an independent registered professional biologist & engineer

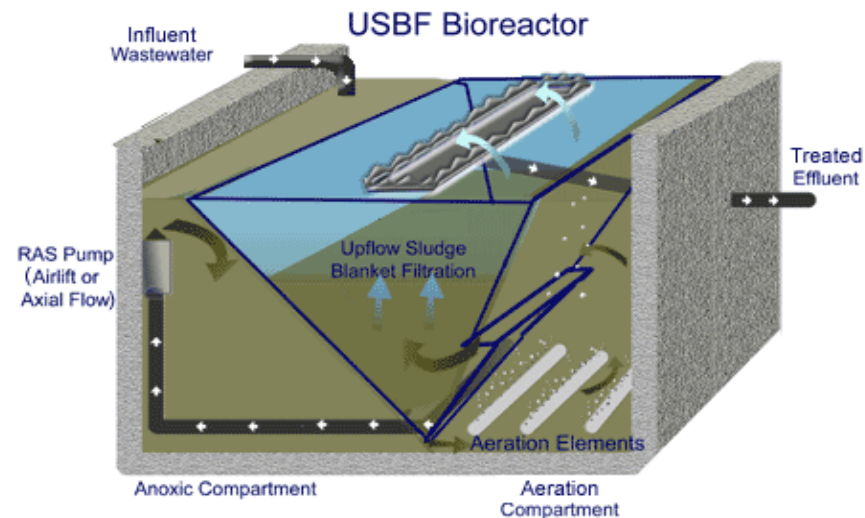
### ■ Rates

- Wastewater rates are not regulated
- SPUCL applies the Ministry of the Environment's Water Stewardship Division rules for water rates, to the wastewater utility rates



## Sound wastewater management is an end to end cycle of collection, treatment and disposal

- Our wastewater process results in treated water and de-watered bio-solids
- The last step in the treatment cycle is disposal of the bio-solids
  - We used to truck bio-solids to Kamloops
  - As our population increased, so did our volumes
  - Trucking became the least desirable solution
    - environmental impact
    - limited ability to control cost of the disposal step of our treatment process (i.e.. trucking costs, fuel surcharge, tipping fees, road travel limits)
    - Community interest in achieving local solutions



## We considered many options for disposal of the de-watered bio-solids

- Input from our own research, Urban Systems, other utilities and Ministry of the Environment staff, helped identify a long list of options
  - Land application to agricultural, forestry or disturbed lands
  - Treatment by Mesophilic aerobic digestion prior to reuse, further treatment or disposal
  - Thermal drying
  - Lime stabilisation
  - Composting
  - Off-site processing through a third party, such as the Thompson Nicola Regional District
  - Development of a landfill operation under the jurisdiction of Sun Peaks
  - Disposal to landfill owned and operated by the City of Kamloops
  - Energy generation through gasification either as a facility designated primarily for Sun Peaks or through agreement with Domtar



## **Our requirements narrowed the list to two viable alternatives for Sun Peaks**

- Sun Peaks requirements are unique
  - Local disposal
  - Environmentally neutral or positive
  - Cost effective over the long run
  - Minimal land footprint
  - Operationally effective in winter, when volumes are highest
  
- Two alternatives that were viable for us
  - Composting
  - Gasification, with ability to offset cost through energy generation
  
- Option pursued
  - Composting met more of our requirements, therefore this option was pursued in detail



# Wastewater Treatment Lifecycle

## 1. MATERIAL COLLECTION & TREATMENT



## 2. RE-UTILIZE TREATED WATER



## 3. DEWATER BIO-SOLIDS

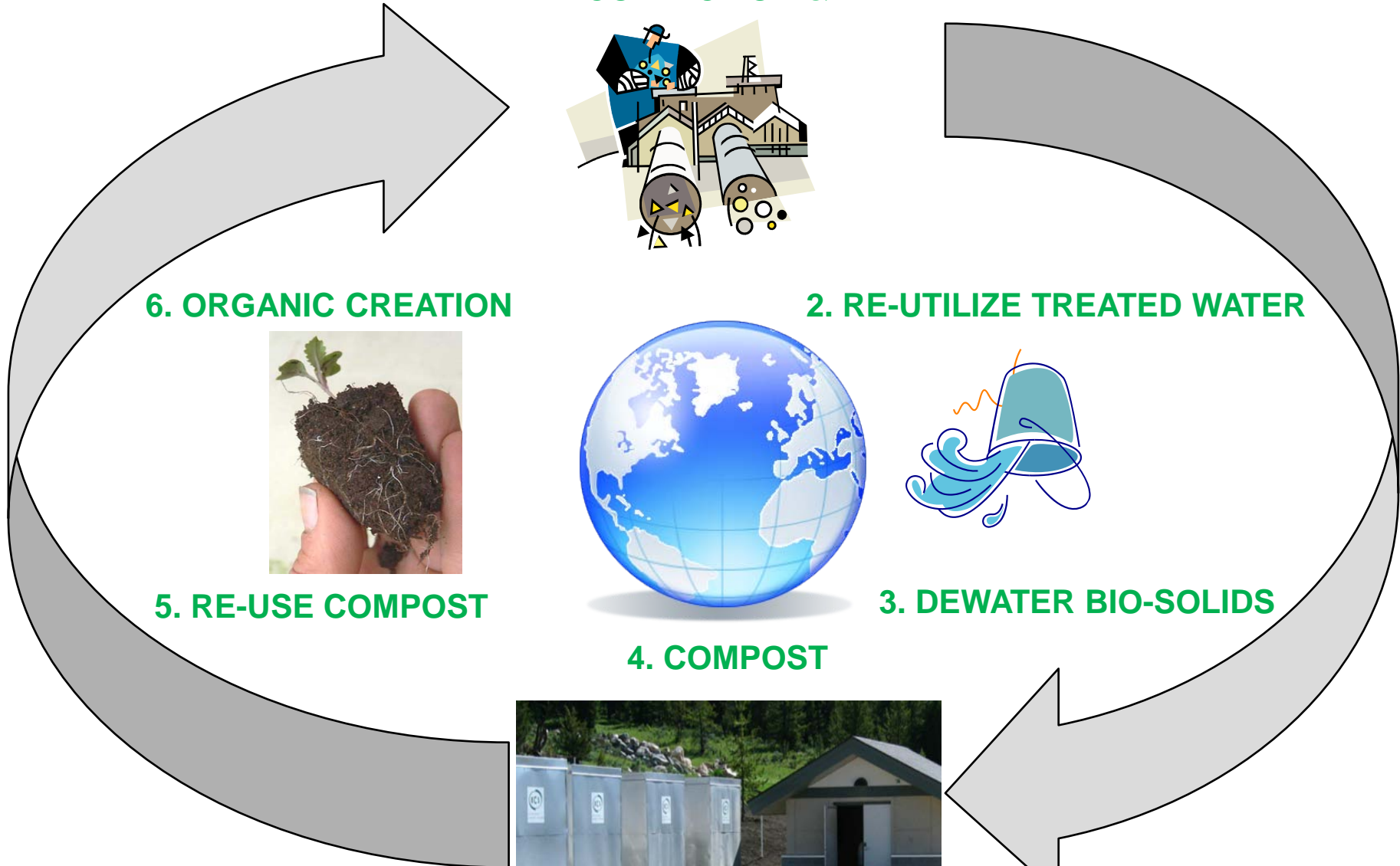
## 4. COMPOST



## 6. ORGANIC CREATION

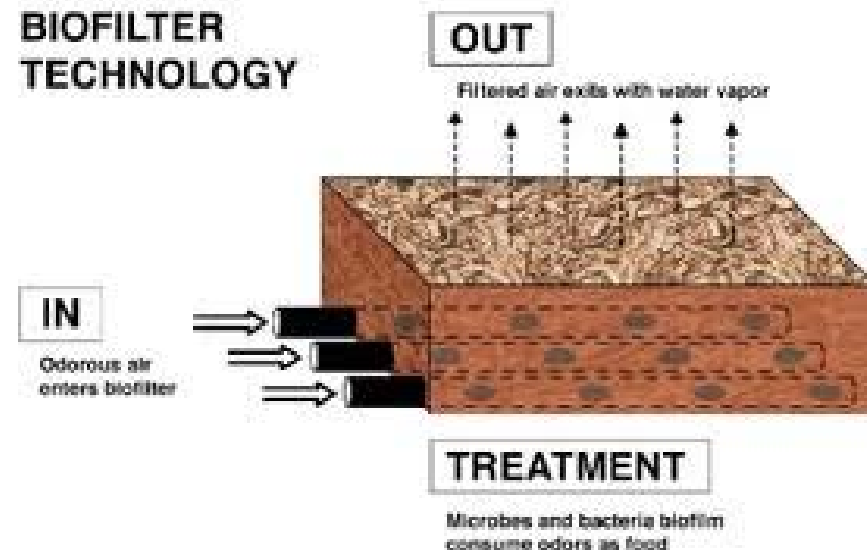


## 5. RE-USE COMPOST



## We considered various methods of composting, within the framework of criteria specific to Sun Peaks

- Additional criteria were established to decide on a method for composting
  - Minimal land footprint
  - Operationally effective in winter, when volumes of bio-solids are highest
  - Ability to accept additional organic feedstock in the future (i.e. yard clippings, vegetable waste)
  - Capable of producing Class A Compost
  - Low maintenance (simple equipment readily available)
  - Utilize existing personnel
  - Modular design, easy to expand
  - Effective odour suppression



## We considered the three main methods for composting

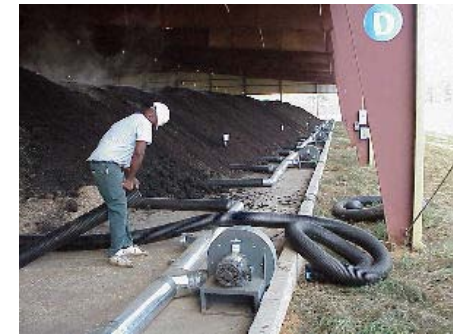
### ■ Windrow composting

- Needs a large land footprint
- Is exposed to weather
- Odour suppression is problematic



### ■ Aerated static pile

- Requires a smaller land footprint
- Is exposed to weather
- Odour suppression is problematic



### ■ In vessel composting

- Smallest land footprint of the 3 methods
- Complete containment prevents impact by weather
- Containment allows for proven effective biological odour control



**In-vessel composting has attributes that meet all of our criteria**

<b>Criteria</b>	<b>In-vessel composting</b>
Acceptable land footprint	Yes
Year round operation	Yes
Cost effective	Higher initial capital costs, offset by lower operational cost
Effective operational costs	Yes
Produces Class A compost	Yes
Effective odour suppression	Yes

## **We considered various In-vessel composting companies, to decide which one best met our vendor criteria**

### ■ Vendor and Equipment Criteria

- Good client references
- Proven and effective odour control system
- Proven reliability
- Automated constant monitoring (required so that we can demonstrate proof of quality prior to disposal)
- Environmentally positive (in-vessel control of leachate)
- Financial stability
- Willingness to work with us for the long term, not just through the warranty period

### ■ Decision

- Green Mountain Technologies met all of our criteria





**We plan to be producing Class A Compost by the Fall, and there are a number of steps which must be taken to achieve this goal**

- Public input sought
- Site design to accommodate containers, west of Burfield Lift
- On-site meeting with MoE to address any concerns, allowing us to proceed
- Finalize Financing
- Order system & equipment
- Site preparation & construction (control, mixing & storage building)
- Start composting process – about 60 days from start to finish

## What do we do with the compost produced?

- Options for finished compost use
  - Give away to residents
  - Give away to organizations to raise funds
  - Sell to contractors
  - Sell/Donate to the TNRD for use in landfill closure procedures
  - Sell to local gravel pit operators for use in closure procedures
  - Sell/Donate to the Sun Peaks Municipality for parks, etc.
  - Other ideas ????



## What do we do with the compost produced?

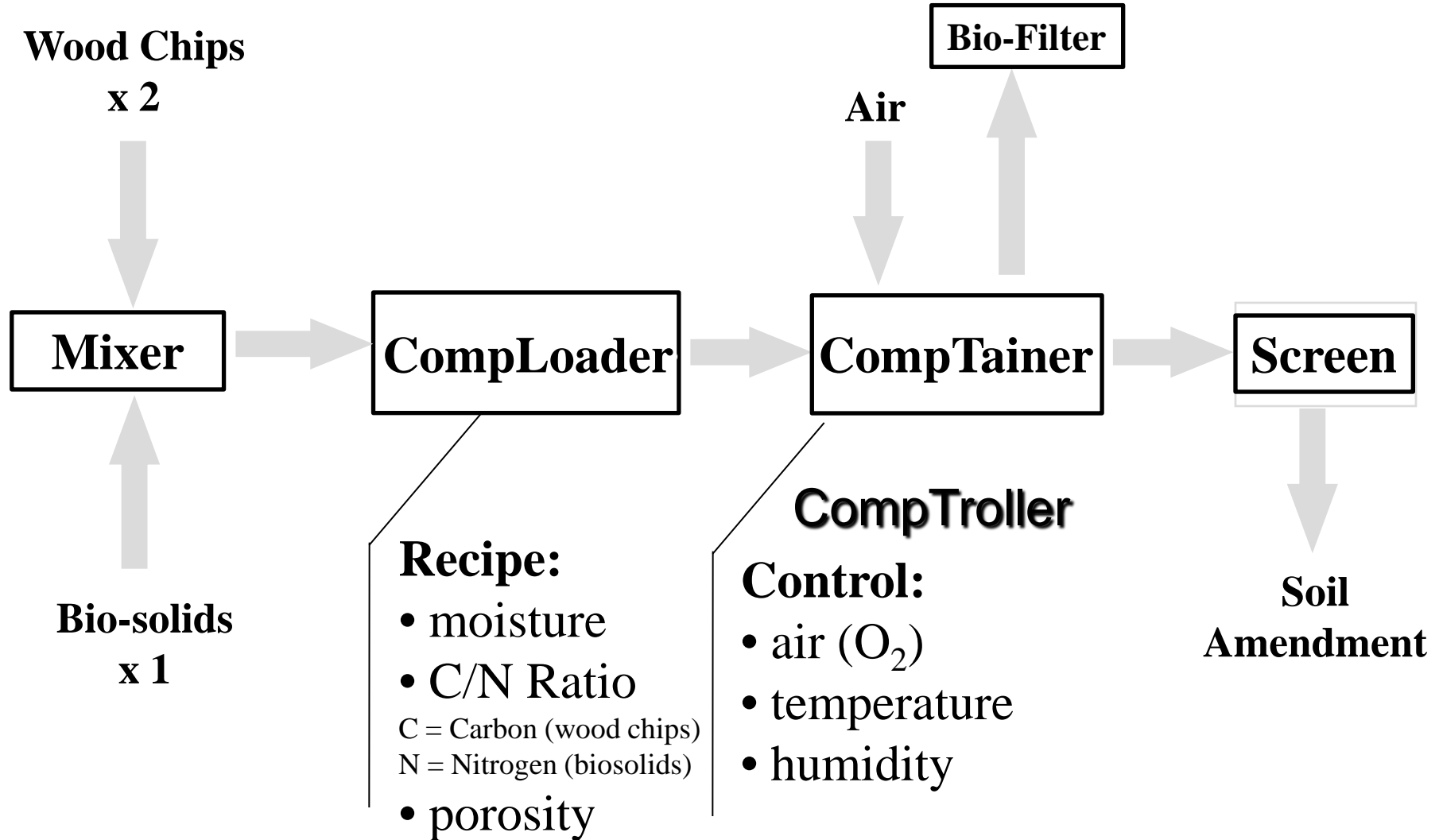
### ■ Considerations

- Packaging and labelling requirements
  - if not bagged, OMRR rules apply
  - if bagged, Canadian Food Agency rules apply
- Potential for trucking expense
- Control of timing for removal; space management
- Options can be re-visited over time

- Current plan – ship to compost provider at no cost to SPUCL



# The Compost Flow Diagram



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## **There are a number of resources that you can reference to learn more**

- Sun Peaks Utilities Website under the 'Composting tab' at [www.sunpeaksutilities.com](http://www.sunpeaksutilities.com)
- Green Mountain Technologies Website at <http://www.compostingtechnology.com>
  - <http://www.compostingtechnology.com/invesselsystems/ccs/video>
- Composting Council of Canada's website at [www.compost.org](http://www.compost.org)
- In addition to the feedback provided during this information session, we welcome your comments
  - via email to: [info@sunpeaksutilities.com](mailto:info@sunpeaksutilities.com)
  - or by calling the office at: 250-578-5490
- Questions or comments? (See question and answers from the meeting)