Waste to Energy Workshop Report

October 18th 2011, at the Old Fire Hall in Whitehorse

"There is an opportunity to create waste management solutions while at the same time creating new power sources." (workshop participant)

1.0 Introduction

At the Yukon Energy Charrette in March 2011, Yukon Energy brought together governments, Yukoners and energy experts for three days to discuss and share information on resource options for Yukon's energy future. One of the key outcomes from the charrette was Yukon Energy's commitment to continue engaging stakeholders, governments and the public in planning for the future. To meet that commitment and plan in public, Yukon Energy is holding energy workshops on a series of topics and resource options.

The information gathered from the workshops and public meetings is used to inform and direct the work of Yukon Energy and its consultants in carrying out the resource options planning.

This is the report from the Waste to Energy, Biogas and Biomass workshop and public meeting held October 18, 2011 in Whitehorse.

2.0 Workshop Participants

Over 70 invited participants attended the afternoon session. Participants represented the following stakeholders, governments and development corporations:

Government of Canada

Village of Haines Junction

City of Whitehorse

Yukon Conservation Society

Dakwakada Development Corporation

Champagne and Aishihik First Nations

Cold Climate Innovation Center

Government of Yukon (Energy Mines and Resources, Community Services, Environment, Highways and Public Works)

Waste to Energy Canada

Raven Recycling

P&M Recycling

YESAB

Council of Canadians

Village of Carmacks

Town of Faro

Association of Yukon Communities

The workshop was also attended by several Yukon Energy staff and consultants. The public meeting in the evening was attended by 68 people.

3.0 Presentations

The workshop provided an opportunity for Yukon Energy to share the waste to energy information and business case findings and for key stakeholders to present their information. The following presentations were delivered at the workshop and are posted on the Yukon Energy website at: http://yukonenergy.ca/energy/public_engagement/w2e

- Waste to Energy Business Case Analysis – Discussion of Initial Results: Don McCallum, Morrison Hershfield, Yukon Energy consultant;
- An Introduction to Biogas: Shannon Mallory, Yukon Energy;
- Waste of Energy - Examining Waste to Energy in Whitehorse from a Waste Management Perspective: Bryna Cable, Raven Recycling and P&M Recycling; and
- Whitehorse Waste Disposal: Wayne Tuck, City of Whitehorse.

4.0 Workshop

Following the presentations the participants were organised into facilitated groups ranging from six to eight people. The groups were asked to discuss and record their ideas and comments with the intention of their work being shared with the participants, the public and in the development of the waste to energy predesign work.

The participants were asked to consider the following:

1. Identify the opportunities and the challenges/issues around Waste to Energy
2. Can the issues become opportunities? How?
3. What does Yukon Energy need to make this project work?
4. What does Raven Recycling and P&M Recycling need to make this work?
5. What does the City of Whitehorse need to make this work?

5.0 Results

The following is a summary from the workshop and public meeting.

<u>Opportunities</u>

- Locally produced electricity;
- There are opportunities to use the waste heat in a district energy system;
- The forest waste can be used (fire smart, right of way clearing debris, waste from the sawmills);
- Will offset the use of diesel;
- Waste to energy is cheaper than diesel;
- Increased energy self sufficiency;
- Reduces the landfill footprint;
- Deals with our waste now rather than leaving it in the ground for future generations;
- Reduces greenhouse gas emissions;
- Constant electricity;
- Opportunities for new businesses and IPPs;
- Opportunities to create a wood biomass industry;
- Opportunities to work with the recycling companies and the City of Whitehorse to increase diversion; and
- Prepare an Integrated Waste Management Plan.

Challenges

- Will compete with recycling for materials;
- Undermines the 3 Rs;
- Will have a negative impact on recycling and zero waste target;
- Perceived air emissions;
- Air quality (inversions);
- Securing long term supply of feed stock;
- Variability of the waste;
- Whitehorse does not have a well developed waste management system;
- Technological risks;
- Competition for resources;
- Siting is critical for sale of heat;
- Seasonal variability of waste and loads;
- Staffing;
- Less waste because of increased diversion;
- Expensive capital investment;
- Still need to operate the landfill (costs);
- Finding customers for the waste heat;
- Erodes social capacity for diversion behaviour;
- What about less packaging? (extended producers' policy);
- Disposal of the ash, (fly and bottom);
- Forestry impacts;
- Loss of jobs and revenue for P&M and Raven Recycling; and
- How does this fit with the other energy resource options?

What is needed to make this project work?

- Capital investment and O&M;
- Public support;
- Integrated Waste Management Plan;
- Environmental regulations;
- Air emissions regulations;
- Suitable location;
- Security of feedstock for both recycling companies and Yukon Energy;
- Partnerships with City, Yukon government, Yukon Energy and recyclers;
- Commitment of maximum diversion;
- Customers for waste heat;
- Bioenergy strategy;
- Forestry support;
- Secure wood biomass feedstock;
- Public education;
- Research;

- Best technology;
- Coordinated plan – all working together;
- Conversation – all partners and stakeholders keep talking;
- Approval by YUB;
- Infrastructure and programs to support recycling;
- Understanding the impact on the landfill;
- Understanding the impact on the culture of conservation;
- Solid Waste Action Plan;
- A steering committee of the partners;
- A business case for recycling; and
- Needs to be sustainable.

6.0 Summary

The key themes emerging from the workshop and public meeting showed support for locally produced energy. However there was a strong desire to ensure that waste to energy was part of an integrated waste management system and did not compete with recycling. There is support for increased diversion and strict air emission regulations. There is disagreement as to whether the City of Whitehorse has a mature enough recycling program to initiate a waste to energy project.

The participants want to keep talking and sharing information as Yukon Energy considers this resource planning option. Information the participants have highlighted for moving forward includes but is not limited to: siting, security of feedstock (waste and wood biomass), land fill management costs and plans with and without waste to energy, recycling costs, heat customers, technology and emission controls.