

**Fedorak, Julia ENV:EX**

---

**From:** Kapac de Frias, Martina E ENV:EX  
**Sent:** Tuesday, November 22, 2016 12:24 PM  
**To:** Brosz, Corinne M ENV:EX  
**Subject:** Re: Call

Can you call him back and set up a time for a call on Thursday pls? Thanks, M

On Nov 18, 2016, at 11:23 AM, Brosz, Corinne M ENV:EX <[Corinne.Brosz@gov.bc.ca](mailto:Corinne.Brosz@gov.bc.ca)> wrote:

Hey,  
Don Fast called for you, s.22 . Please call him back. He says he'll be in and out early afternoon,  
but that he's available definitely after 3:00 for a chat.  
Cheers,  
Corinne Brosz  
Administrative Assistant to the **Honourable Mary Polak**  
Minister of Environment  
*Room 112, Parliament Buildings*  
*Victoria, B.C. V8V 1X4*  
*P: 250-387-1187*  
*F: 250-3871356*

**Fedorak, Julia ENV:EX**

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**From:** Kapac de Frias, Martina E ENV:EX  
**Sent:** Thursday, November 24, 2016 10:53 AM  
**To:** Brosz, Corinne M ENV:EX  
**Subject:** Re: RE:

Thx

> On Nov 24, 2016, at 10:07 AM, Brosz, Corinne M ENV:EX <[Corinne.Brosz@gov.bc.ca](mailto:Corinne.Brosz@gov.bc.ca)> wrote:

>

> Hey,

>

> Call now set up at 4:00, the only other time he was available.

>

> Corinne

>

>

> -----Original Message-----

> From: Kapac de Frias, Martina E ENV:EX

> Sent: Thursday, November 24, 2016 9:58 AM

> To: Brosz, Corinne M ENV:EX

> Subject:

>

> Can you let Don Fast know I'll call this afternoon pls. Thanks. M

## Ord, Kris ENV:EX

---

**From:** Ord, Kris ENV:EX  
**Sent:** Monday, December 5, 2016 2:39 PM  
**To:** s.22  
**Subject:** Call with Kris Ord

Hi Don

Hope you are well.

Following up from your phone message on Friday. Are you available for a call tomorrow at 1:30?

I can look at other times if needed.

Thanks

Kris



**KRIS ORD**  
Executive Director  
Environmental Standards Branch  
Ministry of Environment  
☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

**Ord, Kris ENV:EX**

---

**From:** Ord, Kris ENV:EX  
**Sent:** Monday, December 5, 2016 4:32 PM  
**To:** 'Don Fast'  
**Subject:** RE: Telecom

It was to s.22 that was the address I was given. Let me know about tomorrow

K

KRIS ORD  
Executive Director  
Environmental Standards Branch  
Ministry of Environment  
MM250-387-9933 | 250-356-7197 | [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

-----Original Message-----

From: Ord, Kris ENV:EX  
Sent: Monday, December 5, 2016 4:31 PM  
To: 'Don Fast'  
Subject: RE: Telecom

Sent you an email earlier today seeing if you are free at 1:30?

K

KRIS ORD  
Executive Director  
Environmental Standards Branch  
Ministry of Environment  
MM250-387-9933 | 250-356-7197 | [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

-----Original Message-----

From: Don Fast s.22  
Sent: Monday, December 5, 2016 4:07 PM  
To: Ord, Kris ENV:EX  
Subject: Telecom

Hi Kris. I hope you are doing well.

Mark suggested I talk to you about a project I am working on. Do you have time for a short telecom tomorrow (Tue)?

Best Regards,  
Don

## Ord, Kris ENV:EX

---

**From:** Ord, Kris ENV:EX  
**Sent:** Tuesday, December 6, 2016 9:19 AM  
**To:** 'Don Fast'  
**Subject:** RE: Telecom and Meeting

Tuesday morning next week would be the best but let's talk today and determine next steps.

Kris

KRIS ORD  
Executive Director  
Environmental Standards Branch  
Ministry of Environment  
MM250-387-9933 | 250-356-7197 | [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

-----Original Message-----

From: Don Fast <sup>s.22</sup>  
Sent: Tuesday, December 6, 2016 8:52 AM  
To: Ord, Kris ENV:EX  
Subject: Re: Telecom and Meeting

Hi Kris. I'll call at 1:30 pm. But Wed mtg won't work. How about mtg Mon or Tue?

Don

> On Dec 5, 2016, at 4:53 PM, Don Fast <sup>s.22</sup> wrote:  
>  
> Hi Kris, I will call tomorrow at 1:30 pm  
>  
> Would you also be able to meet with me and my two clients Wed morning at your office?  
>  
> Don  
>  
>  
>  
>> On Dec 5, 2016, at 4:47 PM, Don Fast <sup>s.22</sup> wrote:  
>>  
>> Yes 1:30 works. Email is <sup>s.22</sup> Thx Kris I'll call you  
>> at <sup>s.22</sup> Tue  
>>  
>> Don  
>>

>>

>>

>>> On Dec 5, 2016, at 4:32 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

>>>

>>> It was to s.22 that was the address I was given. Let

>>> me know about tomorrow

>>>

>>> K

>>>

>>>

>>>

>>>

>>> KRIS ORD

>>> Executive Director

>>> Environmental Standards Branch

>>> Ministry of Environment

>>> MM250-387-9933 | 250-356-7197 | [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

>>>

>>>

>>>

>>> -----Original Message-----

>>> From: Ord, Kris ENV:EX

>>> Sent: Monday, December 5, 2016 4:31 PM

>>> To: 'Don Fast'

>>> Subject: RE: Telecom

>>>

>>>

>>> Sent you an email earlier today seeing if you are free at 1:30?

>>>

>>> K

>>>

>>>

>>>

>>>

>>> KRIS ORD

>>> Executive Director

>>> Environmental Standards Branch

>>> Ministry of Environment

>>> MM250-387-9933 | 250-356-7197 | [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

>>>

>>>

>>> -----Original Message-----

>>> From: Don Fast s.22

>>> Sent: Monday, December 5, 2016 4:07 PM

>>> To: Ord, Kris ENV:EX

>>> Subject: Telecom

>>>

>>> Hi Kris. I hope you are doing well.

>>>

>>> Mark suggested I talk to you about a project I am working on. Do you have time for a short telecom tomorrow (Tue)?

>>>

>>> Best Regards,  
>>> Don  
>>>  
>>>



From: [Ord, Kris ENV:EX](#)  
To: [McGuire, Jennifer ENV:EX](#)  
Cc: [Zacharias, Mark ENV:EX](#); [Jenkins, Chris ENV:EX](#); [Hansen, Erin ENV:EX](#)  
Subject: tc with Don Fast  
Date: Tuesday, December 6, 2016 1:51:20 PM

---

Hi Jennifer

I just got off the phone with Don Fast who is working with a company called Pivotal who has been talking to the Westshore Communities about a gasification option for municipal solid waste (he was not sure if it was just organics or not). They are interested in knowing what the process is for authorizing such a facility. I gave him the high level on that but he would like his client to meet with MoE reps to discuss next week.

Who from regions can I invite to a meeting to input on the authorization process – AJ/Avatar? ESB is happy to participate from the policy side.

Erin – meeting should include Chris Jenkins, myself, whoever Jennifer names and Don Fast (I will get you his email and he will do logistics for his people).

Thanks

Kris



**KRIS ORD**

Executive Director  
Environmental Standards Branch  
Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | 📧 [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

**From:** [McGuire, Jennifer ENV:EX](#)  
**To:** [Ord, Kris ENV:EX](#)  
**Cc:** [Zacharias, Mark ENV:EX](#); [Jenkins, Chris ENV:EX](#); [Hansen, Erin ENV:EX](#); [Downie, AJ ENV:EX](#); [Sundher, Avtar S ENV:EX](#)  
**Subject:** Re: tc with Don Fast  
**Date:** Tuesday, December 6, 2016 1:58:41 PM

---

Include Avtar Sundher and AJ Downie. I do not need to be involved.

Sent from my BlackBerry 10 smartphone on the TELUS network.

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**From:** Ord, Kris ENV:EX  
**Sent:** Tuesday, December 6, 2016 1:51 PM  
**To:** McGuire, Jennifer ENV:EX  
**Cc:** Zacharias, Mark ENV:EX; Jenkins, Chris ENV:EX; Hansen, Erin ENV:EX  
**Subject:** tc with Don Fast

---

Hi Jennifer

I just got off the phone with Don Fast who is working with a company called Pivotal who has been talking to the Westshore Communities about a gasification option for municipal solid waste (he was not sure if it was just organics or not). They are interested in knowing what the process is for authorizing such a facility. I gave him the high level on that but he would like his client to meet with MoE reps to discuss next week.

Who from regions can I invite to a meeting to input on the authorization process – AJ/Avatar? ESB is happy to participate from the policy side.

Erin – meeting should include Chris Jenkins, myself, whoever Jennifer names and Don Fast (I will get you his email and he will do logistics for his people).

Thanks

Kris



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Executive Director  
Environmental Standards Branch  
Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

**Ord, Kris ENV:EX**

---

**From:** Don Fast s.22  
**Sent:** Tuesday, December 6, 2016 6:15 PM  
**To:** Ord, Kris ENV:EX  
**Cc:** Jenkins, Chris ENV:EX; Sundher, Avtar S ENV:EX; Downie, AJ ENV:EX  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
Participant ID: s.15 (Kris is the moderator)

Thx. We will come to Kris's office and connect with region by phone from her office/bdrm. Is that ok? There will be three of us.

Don

On Dec 6, 2016, at 3:44 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

<mime-attachment.ics>

**Ord, Kris ENV:EX**

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**From:** Don Fast s.22  
**Sent:** Tuesday, December 6, 2016 6:21 PM  
**To:** Ord, Kris ENV:EX  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
Participant ID: s.15 (Kris is the moderator)

I assume the correct time is 2 pm at 1st floor bdrm. Is that right?

Don

On Dec 6, 2016, at 6:15 PM, Don Fast s.22 wrote:

Thx. We will come to Kris's office and connect with region by phone from her office/bdrm. Is that ok? There will be three of us.

Don

On Dec 6, 2016, at 3:44 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

<mime-attachment.ics>

**Ord, Kris ENV:EX**

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**From:** Don Fast s.22  
**Sent:** Wednesday, December 7, 2016 9:07 AM  
**To:** Hansen, Erin ENV:EX  
**Cc:** Ord, Kris ENV:EX  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
Participant ID: s.15 (Kris is the moderator)

Thx Erin.

Don

On Dec 7, 2016, at 9:03 AM, Hansen, Erin ENV:EX <[Erin.Hansen@gov.bc.ca](mailto:Erin.Hansen@gov.bc.ca)> wrote:

Hi Don.

We have had to switch meeting rooms as well as the time. Will now be at 2:00 pm in meeting room 4-1 on the 4<sup>th</sup> floor.

Thank you.  
Erin

---

<image001.jpg>

**ERIN HANSEN**  
Senior Administrative Assistant  
Environmental Standards Branch  
Ministry of Environment  
☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Erin.Hansen@gov.bc.ca](mailto:Erin.Hansen@gov.bc.ca)

---

**From:** Ord, Kris ENV:EX  
**Sent:** Tuesday, December 6, 2016 6:34 PM  
**To:** Hansen, Erin ENV:EX  
**Subject:** Fwd: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
Participant ID: s.15 (Kris is the moderator)

Erin can you please make sure Don has the correct info.

Sent from my iPhone

Begin forwarded message:

**From:** Don Fast s.22  
**Date:** December 6, 2016 at 6:21:21 PM PST  
**To:** "Ord, Kris ENV:EX" <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)>  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
**Participant ID:** s.15 (Kris is the moderator)

I assume the correct time is 2 pm at 1st floor bdrm. Is that right?

Don

On Dec 6, 2016, at 6:15 PM, Don Fast s.22 wrote:

Thx. We will come to Kris's office and connect with region by phone from her office/bdrm. Is that ok? There will be three of us.

Don

On Dec 6, 2016, at 3:44 PM, Ord, Kris ENV:EX  
<[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

<mine-attachment.ics>

**From:** [Jenkins, Chris ENV:EX](#)  
**To:** [Hansen, Erin ENV:EX](#)  
**Cc:** [Ord, Kris ENV:EX](#)  
**Subject:** FW: Meeting with Pivotal Integrated Resource Management - Dial-in s.15 . Participant ID: s.15  
(Kris is the moderator)  
**Date:** Wednesday, December 7, 2016 3:18:00 PM

---

Hi Erin,

Just checking to ensure that Kris forwarded this to you to set up?

It may have come while her new phone was being activated.

Chris

---

**From:** Don Fast s.22  
**Sent:** Tuesday, December 6, 2016 6:15 PM  
**To:** Ord, Kris ENV:EX  
**Cc:** Jenkins, Chris ENV:EX; Sundher, Avtar S ENV:EX; Downie, AJ ENV:EX  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15 Participant ID: s.15 (Kris is the moderator)  
Thx. We will come to Kris's office and connect with region by phone from her office/bdrm. Is that ok? There will be three of us.

Don

On Dec 6, 2016, at 3:44 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

**From:** [Hansen, Erin ENV:EX](#)  
**To:** [Jenkins, Chris ENV:EX](#)  
**Subject:** RE: Meeting with Pivotal Integrated Resource Management - Dial-in s.15 Participant ID: s.15  
(Kris is the moderator)  
**Date:** Wednesday, December 7, 2016 3:25:37 PM

---

Hi Chris.

I have set this up on December 14<sup>th</sup> from 2-3 pm. Thank you for forwarding so I know how many others Don is bringing.

Thanks,

Erin

---

**From:** Jenkins, Chris ENV:EX  
**Sent:** Wednesday, December 7, 2016 3:18 PM  
**To:** Hansen, Erin ENV:EX  
**Cc:** Ord, Kris ENV:EX  
**Subject:** FW: Meeting with Pivotal Integrated Resource Management - Dial-in s.15  
Participant ID:s.15 (Kris is the moderator)  
Hi Erin,

Just checking to ensure that Kris forwarded this to you to set up?

It may have come while her new phone was being activated.

Chris

---

**From:** Don Fast s.22  
**Sent:** Tuesday, December 6, 2016 6:15 PM  
**To:** Ord, Kris ENV:EX  
**Cc:** Jenkins, Chris ENV:EX; Sundher, Avtar S ENV:EX; Downie, AJ ENV:EX  
**Subject:** Re: Meeting with Pivotal Integrated Resource Management - Dial-in s.15 Participant ID:s.15 (Kris is the moderator)  
Thx. We will come to Kris's office and connect with region by phone from her office/bdrm. Is that ok? There will be three of us.

Don

On Dec 6, 2016, at 3:44 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:



From: [Jenkins, Chris ENV:EX](#)  
To: [Ord, Kris ENV:EX](#)  
Cc: [Lohbrunner, Gwendolyn ENV:EX](#)  
Subject: Fw: Biosolids Demonstration Plant  
Date: Monday, December 12, 2016 8:24:07 AM

---

Hi Kris,

Gwen and I had a good meeting with Graeme.

He will be with Don Fast at our meeting this week.

Wrt to comment below s.13,s.17

Chris

Sent from my BlackBerry 10 smartphone on the TELUS network.

---

**From:** Graeme Bethell  
**Sent:** Sunday, December 11, 2016 9:32 AM  
**To:** Jenkins, Chris ENV:EX; gwendolynn.lohbrunner@gov.bc.ca  
**Subject:** Biosolids Demonstration Plant

---

Hello Gwen and Chris,

Thank you very much for meeting with me on Friday, it is much appreciated.

One thing that I did not get to discuss was the possibility for a Provincial demonstration project to treat sewage/biosolids. This could be a practical cost effective way to demonstrate an environmentally safe way to address the problem and be acceptable to all of the parties now in discussion on the matter. We all see the looming problem coming as we approach 2020 where everyone will have secondary sewage treatment. I will leave this with you but should you have any questions please feel free to call anytime.

Best regards,

**Graeme Bethell**

Pivotal IRM Inc.

~~~~~

T: 250 478 8820 C: s.22

[www.pivotalirm.com](http://www.pivotalirm.com) for biosolids disposal via advanced gasification.

From: [Ord, Kris ENV:EX](#)  
To: [Jenkins, Chris ENV:EX](#)  
Cc: [Lohbrunner, Gwendolyn ENV:EX](#)  
Subject: RE: Biosolids Demonstration Plant  
Date: Monday, December 12, 2016 9:20:50 AM

---

Yes that's all I can think of. We may get more info from CSCD on other pots at the meeting on Friday.

K



**KRIS ORD**

Executive Director  
Environmental Standards Branch  
Ministry of Environment  
☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

---

From: Jenkins, Chris ENV:EX  
Sent: Monday, December 12, 2016 8:24 AM  
To: Ord, Kris ENV:EX  
Cc: Lohbrunner, Gwendolyn ENV:EX  
Subject: Fw: Biosolids Demonstration Plant

Hi Kris,

Gwen and I had a good meeting with Graeme.

He will be with Don Fast at our meeting this week.

Wrt to comment below [s.13,s.17](#)

Chris

Sent from my BlackBerry 10 smartphone on the TELUS network.

---

From: Graeme Bethell <[gbethell@pivotalirm.com](mailto:gbethell@pivotalirm.com)>  
Sent: Sunday, December 11, 2016 9:32 AM  
To: Jenkins, Chris ENV:EX; [gwendolynn.lohbrunner@gov.bc.ca](mailto:gwendolynn.lohbrunner@gov.bc.ca)  
Subject: Biosolids Demonstration Plant

Hello Gwen and Chris,

Thank you very much for meeting with me on Friday, it is much appreciated.

One thing that I did not get to discuss was the possibility for a Provincial demonstration project to treat sewage/biosolids. This could be a practical cost effective way to demonstrate an environemntsally safe way to address the problem and be acceptable to all of the parties now in discussion on the matter. We all see the looming problem coming as we approach 2020 where everyone will have secondary sewage treatment. I will leave this with you but should you have any questions please feel free to call anytime.

Best regards,

**Graeme Bethell**

Pivotal IRM Inc.

~~~~~  
T: 250 478 8820 C: [s.22](#)  
[www.pivotalirm.com](http://www.pivotalirm.com) for biosolids disposal via advanced gasification.

From: [Ord, Kris ENV:EX](#)  
To: [Downie, AJ ENV:EX](#); [Sundher, Avtar S ENV:EX](#)  
Cc: [Jenkins, Chris ENV:EX](#)  
Subject: Meeting tomorrow with Pivotal Technologies  
Date: Tuesday, December 13, 2016 9:37:54 AM

---

Hi AJ and Avtar

A little background for our meeting tomorrow.

Don Fast contacted Mark to inquire about who to talk to about processing municipal organics. Mark gave him my name and we chatted briefly. Don let me know that he is working with Pivotal Technologies on the potential of a gasification facility – we think in the CRD. He and Pivotal would like to know what the process is for authorizing such a facility – and they want to tell us about it. I have no more details than that.

Chris met with Graham Bethel from Pivotal last week so he may have more to add.

Let me know if you have any questions and thanks for taking the call tomorrow.

K



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Environmental Standards Branch  
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☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

**From:** [Jenkins, Chris ENV:EX](#)  
**To:** [Ord, Kris ENV:EX](#); [Downie, AJ ENV:EX](#); [Sundher, Avtar S ENV:EX](#)  
**Subject:** RE: Meeting tomorrow with Pivotal Technologies  
**Date:** Wednesday, December 14, 2016 10:19:00 AM

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s.13

The opportunity is to link the 4 MW of electricity to electrifying Port of Victoria and improving air quality in James Bay.

Chris

---

**From:** Ord, Kris ENV:EX  
**Sent:** Tuesday, December 13, 2016 9:38 AM  
**To:** Downie, AJ ENV:EX; Sundher, Avtar S ENV:EX  
**Cc:** Jenkins, Chris ENV:EX  
**Subject:** Meeting tomorrow with Pivotal Technologies  
Hi AJ and Avtar

A little background for our meeting tomorrow.

Don Fast contacted Mark to inquire about who to talk to about processing municipal organics. Mark gave him my name and we chatted briefly. Don let me know that he is working with Pivotal Technologies on the potential of a gasification facility – we think in the CRD. He and Pivotal would like to know what the process is for authorizing such a facility – and they want to tell us about it. I have no more details than that.

Chris met with Graham Bethel from Pivotal last week so he may have more to add.

Let me know if you have any questions and thanks for taking the call tomorrow.

K

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Environmental Standards Branch  
Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

From: [Ord, Kris ENV:EX](#)  
To: ["gbethell@pivotalirm.com"](mailto:gbethell@pivotalirm.com); ["Don Fast"](#)  
Cc: [Jenkins, Chris ENV:EX](#); [Downie, AJ ENV:EX](#); [Sundher, Avtar S ENV:EX](#)  
Subject: Meeting follow-up  
Date: Friday, December 16, 2016 2:11:27 PM

---

Hello Graeme and Don:

As promised at our meeting please find below links to:

Environmental Management Act:

[http://www.bclaws.ca/civix/document/id/complete/statreg/03053\\_00](http://www.bclaws.ca/civix/document/id/complete/statreg/03053_00)

Municipal Solid Waste Management Planning Guidelines

<http://www2.gov.bc.ca/gov/content/environment/waste-management/garbage/municipal-waste-management-plans>

Hope you have a great holiday,

Kris

---



**KRIS ORD**

Executive Director

Environmental Standards Branch

Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

From: [Don Fast](#)  
To: [Ord, Kris ENV:EX](#)  
Cc: [gbethell@pivotalirm.com](mailto:gbethell@pivotalirm.com); [Jenkins, Chris ENV:EX](#); [Downie, AJ ENV:EX](#); [Sundher, Avtar S ENV:EX](#)  
Subject: Re: Meeting follow-up  
Date: Friday, December 16, 2016 4:32:25 PM

---

Thx for your kind assistance Kris.  
Best wishes for the Holidays to all of you.

Warm Regards,  
Don

On Dec 16, 2016, at 2:11 PM, Ord, Kris ENV:EX <[Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)> wrote:

Hello Graeme and Don:

As promised at our meeting please find below links to:

Environmental Management Act:

[http://www.bclaws.ca/civix/document/id/complete/statreg/03053\\_00](http://www.bclaws.ca/civix/document/id/complete/statreg/03053_00)

Municipal Solid Waste Management Planning Guidelines

<http://www2.gov.bc.ca/gov/content/environment/waste-management/garbage/municipal-waste-management-plans>

Hope you have a great holiday,

Kris

---

**KRIS ORD**

Executive Director

Environmental Standards Branch

Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

From: Graeme Bethell  
To: Ord, Kris ENV:EX; "Don Fast"  
Cc: Jenkins, Chris ENV:EX; Downie, AJ ENV:EX; Sundher, Avtar S ENV:EX  
Subject: RE: Meeting follow-up  
Date: Monday, December 19, 2016 9:15:09 AM

---

Thank you Kris for forwarding these links. I will review for a better understanding where advanced gasification fits into the waste management picture.

Best regards,

**Graeme Bethell**

Pivotal IRM Inc.

~~~~~  
T: 250 478 8820 C:s.22

[www.pivotalirm.com](http://www.pivotalirm.com)

---

**From:** Ord, Kris ENV:EX [mailto:Kris.Ord@gov.bc.ca]

**Sent:** December 16, 2016 2:11 PM

**To:** 'gbethell@pivotalirm.com' ; 'Don Fast'

**Cc:** Jenkins, Chris ENV:EX ; Downie, AJ ENV:EX ; Sundher, Avtar S ENV:EX

**Subject:** Meeting follow-up

Hello Graeme and Don:

As promised at our meeting please find below links to:

Environmental Management Act:

[http://www.bclaws.ca/civix/document/id/complete/statreg/03053\\_00](http://www.bclaws.ca/civix/document/id/complete/statreg/03053_00)

Municipal Solid Waste Management Planning Guidelines

<http://www2.gov.bc.ca/gov/content/environment/waste-management/garbage/municipal-waste-management-plans>

Hope you have a great holiday,

Kris

---



**KRIS ORD**

Executive Director

Environmental Standards Branch

Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)

**From:** Graeme Bethell  
**To:** Ord, Kris ENV:EX; "Don Fast"  
**Cc:** Jenkins, Chris ENV:EX; Downie, AJ ENV:EX; Sundher, Avtar S ENV:EX  
**Subject:** RE: Meeting follow-up  
**Date:** Monday, December 19, 2016 10:51:00 AM

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Hi Kris,

I am reviewing the documents in the links you provided and came across the draft Zero Waste Business Case and suggest that there needs to be a revision to the 5 R's – in particular direction for the final step to include advanced gasification in addition to composting and digestion. I suggest this because gasification is twice as efficient at extracting energy from residuals as is digestion and there are several examples of highly successful communities where developing gasification has resulted in significant job creation, new revenue streams, significant GHG reduction and carbon sequestration. I suggest that the benefits of advanced gasification needs to be included as an option for RD's to evaluate besides AD/composting as solutions to residuals management.

Thank you,

**Graeme Bethell**

Pivotal IRM Inc.

~~~~~  
T: 250 478 8820 C: s.22

[www.pivotalirm.com](http://www.pivotalirm.com)

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**From:** Ord, Kris ENV:EX [mailto:Kris.Ord@gov.bc.ca]

**Sent:** December 16, 2016 2:11 PM

**To:** 'gbethell@pivotalirm.com' ; 'Don Fast'

**Cc:** Jenkins, Chris ENV:EX ; Downie, AJ ENV:EX ; Sundher, Avtar S ENV:EX

**Subject:** Meeting follow-up

Hello Graeme and Don:

As promised at our meeting please find below links to:

Environmental Management Act:

[http://www.bclaws.ca/civix/document/id/complete/statreg/03053\\_00](http://www.bclaws.ca/civix/document/id/complete/statreg/03053_00)

Municipal Solid Waste Management Planning Guidelines

<http://www2.gov.bc.ca/gov/content/environment/waste-management/garbage/municipal-waste-management-plans>

Hope you have a great holiday,

Kris

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**KRIS ORD**

Executive Director

Environmental Standards Branch

Ministry of Environment

☎ 250-387-9933 | 📠 250-356-7197 | ✉ [Kris.Ord@gov.bc.ca](mailto:Kris.Ord@gov.bc.ca)



# Pivotal IRM

AJ Regional Director  
Autar Solid waste

16-12-14

Don Fast  
Graeme B.  
Chris J.  
Kris O.

## D.F.

> process for authorization D.F.

- understanding

- Env. Assessment

- SWMP

- permitting (oc?)

} timing

> 3rd generation gasifier

- Δ from 20 1990s

> lining up agencies

> investors and financing

- negotiation

> wood + MSW +

- feedstock

> operating test data

- California

- test runs

emissions

> guaranteed performance

- P. Eng. sign off

> P3

## G.B.

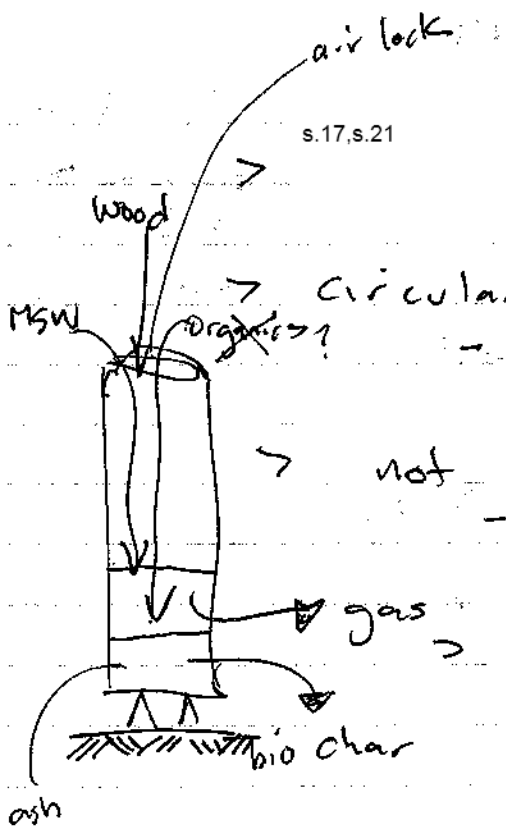
> CRD and environs

> gasification technology

Austrian

→ California (N.A.)

→ testing



s.17, s.21

> circular

- 500 KW unit x 8 = 4 MW

> not well represented in CRD reports

- consulting engineering reports

> published information available

> locations

Langford

- 2 areas

lots for Langford

8' x 40' tall

development permit  
in 30 days

Inputs

> wood chips

+

processed 50% MSW

mono-ground

} additional recycling, if needed

> outputs

products

ash

biochar

syn gas  $H_2$  CO

water

CO<sub>2</sub>

NO<sub>x</sub> or N<sub>2</sub>(g)

- no liquids

Gasification

(2)

- bio scrubbers

- acid scrubbers (HCL)

16-12-14

cannister

supplier

generator outputs

combustion

$H_2CO$

$H_2O$

$CO_2$

$PM_{2.5}$

natural gas

ash

metals salts -

bio char

ag product -

soil amendment product

could  
be  
blended  
w/ soils

or  
?

concrete  
industry

Operational

fuel stock testing ongoing

to who else?

- o Colwood
- o North Saanich
- o Esquimalt
- o

presentations to CRD ✓

- o opinions back from their consultants

A.S.

- o bio char and ash
- o Temperature

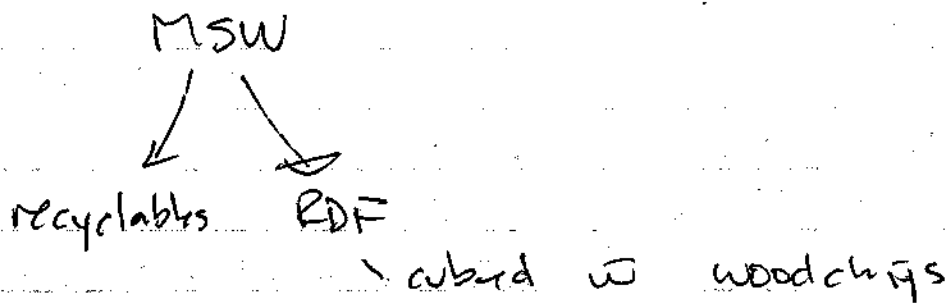
↓ 50°C

~~450~~ 1050°C

Don Fast

- GHG benefits
- less hauling
- ~~no~~ landfilling

↓ 63,300<sup>tonnes</sup> CO<sub>2e</sub>/yr



## Process (A.S.)

### > SWMP

- amendment by CEO
- approved by MHP
- consultation

### > Private waste hauler

- under contract

### > apply < pre-application > step 1

- reports needed
- air
- disposition ash
- binder

- public consultation
- may choose to combine w SWMP process

### EMA

- 3RS ✓
- residual management



comfortable  
w technology

### A.S.I

using

DC

process

consultations

- decision makers
- assessment of technology

Gasification

16-12-14

(3)

K.O. update info for CRD (and their engineering firms)

G.B. MSW defn

- K.O. review Part 3 of EIA
- check out SWMP Guidelines
  - CRD composition analysis

(\*)

send lists

↳

CRD website

[ 2012  
2013-2014  
2015 (?) ]

Stage 1

A.J. status of SWMP amendment process

- check w CRD

G.B. IFM task force has been created

by CRD  
year 2020

↖

after biosolids anaerobic digestion

G.B. How long does SWMP amendment plan take?

MV 2009-2012 (Major) WTE

↑

permissible activity  
under EIA

A.J. Depends on scope and how consultation  
- perception - NGOs

Verifiers

Be Hydro  
Heat

users

- EA
- SWMP?
- Local govt.
- 3rd generation gasifier
  - little or no emissions
  - not quite ready to launch
- material no going to landfill
- move to 50% MSW
- research lab in California
- getting test data

West Bio Fuels - guaranteed performance

2017 breakout year

Gr. Bethell GM for Corix

managed district energy system - dockside

s.17, s.21

- Circle draft gasifier - 500 kW output  
 built in units

- Reports are old

- 8th square @ base
- Potential 4 megawatts
- Start in woodchips
  - processed msw grinder + pelletize

- output

- ↳ Syngas H<sub>2</sub> + CO + water
- ↳ airlock system
- ↳ passes through genset
- ↳ gas cleaning system
  - bioscrubber
  - catalyzed scrubber

biochar + ash

↓  
agricultural  
product

↘ metals

no liquid or air emissions

genset emissions - combustion - water + CO<sub>2</sub>

Date

Columwood, North Saanich, Esquimalt  
Saanich

CRD - several presentations  
- CRD engineers  
- started, harshfield, urban  
systems  
- all reports reference systems  
come from 1990's

MSW

→ not biosolids  
→ garbage stream  
plastics, wood, paper etc.

- System to remove ash + large char  
Screen.

1050 bottom

100 @ top

350 @ pyrolysis zone

GTG → char sequestration  
→ transportation reduced

→  
Refuse derived fuel product - mixed  
with wood chips



Autar

→ letters of support

→ Process will need to be included in SWMP.

1) → CRD will need to amend plan + approved by Minister

→ Solid Waste Mgt Plan

→ describes process

→ haulers are included.

→ Regardless of private or not.

→ collection to disposal.

OL

- pre-application meeting

- meet w meteorologist

- Solid waste folks

- will advise of complete reports

- air emission modelling

- agricultural Soil amendment

- Send links to Graham

→

- CRD Plan started amendments to Plan + put Plan on hold.