



WMABC Conference and AGM 2023

Organics & Compostables

23 February 2023

Leading Positive Change

This presentation aims to outline who Convertus is, where our fit is in the industry and organics landscape and provide insight from our operations to contribute to the discussion around compostable packaging and products.

As one of the largest processors of organic waste in Canada, our aim is to act as a meaningful contributor to the circular economy through our operations, stakeholder engagement and community support.



WE GIVE RESOURCES NEW LIFE

Operated Facilities: Locations





WE GIVE RESOURCES NEW LIFE

Operated Facilities: Technologies

Anaerobic Digestion



Surrey BC
CANADA



York ON
CANADA



Ottawa ON
CANADA



London ON
CANADA



Nanaimo BC
CANADA

Pelletizing Plant



Saint Francois NB
CANADA

Packaging Plant



Miramichi NB
CANADA



Unity ME
U.S.A.

In-vessel Composting



WE GIVE RESOURCES NEW LIFE

Operated Facilities: Technologies

Windrow Composting



Clarendon NB
CANADA



Fredericton NB
CANADA



**Memramcook
NB**
CANADA



Miramichi NB
CANADA




East River NB
CANADA



Belledune NB
CANADA

CONVERTUS GROUP

Operated Facilities




Surrey BC

Anaerobic Digestion
+ Tunnel Composting

Built: 2016
Size: 5 ha
Composting tunnels: 7
AD/Hybrid tunnels: 10

| Category | Value |
|--------------------|-------|
| Current Output | 100k |
| Operating Capacity | 95k |
| Permitted Capacity | 115k |




Ottawa ON

Tunnel Composting

Built: 2010
Size: 10 ha
Composting tunnels: 6 → 8

| Category | Value |
|--------------------|-------|
| Current Output | 81k |
| Operating Capacity | 100k |
| Permitted Capacity | 150k |




Nanaimo BC

Tunnel Composting

Built: 2003
Size: 2.3 ha
Composting tunnels: 4
Maturation Base: 3

| Category | Value |
|--------------------|-------|
| Current Output | 18k |
| Operating Capacity | 35k |
| Permitted Capacity | 60k |



London ON

Tunnel Composting

Built: 2006
Size: 5 ha
Composting tunnels: 12

| Category | Value |
|--------------------|-------|
| Current Output | 81k |
| Operating Capacity | 93k |
| Permitted Capacity | 150k |



Get organized!

Set up handy sorting bins

SURREY BIOFUEL

PORT















Feedstocks and Offtakes

As a processor, the inputs of materials received directly impact the quality of finished product.

Incoming contaminants can hinder efficiency, compromise product integrity, increase operational expenses and limit overall circularity.

Organics Diversion By Weight

Total Intake Across All Canadian Facilities (Metric Tonnes)

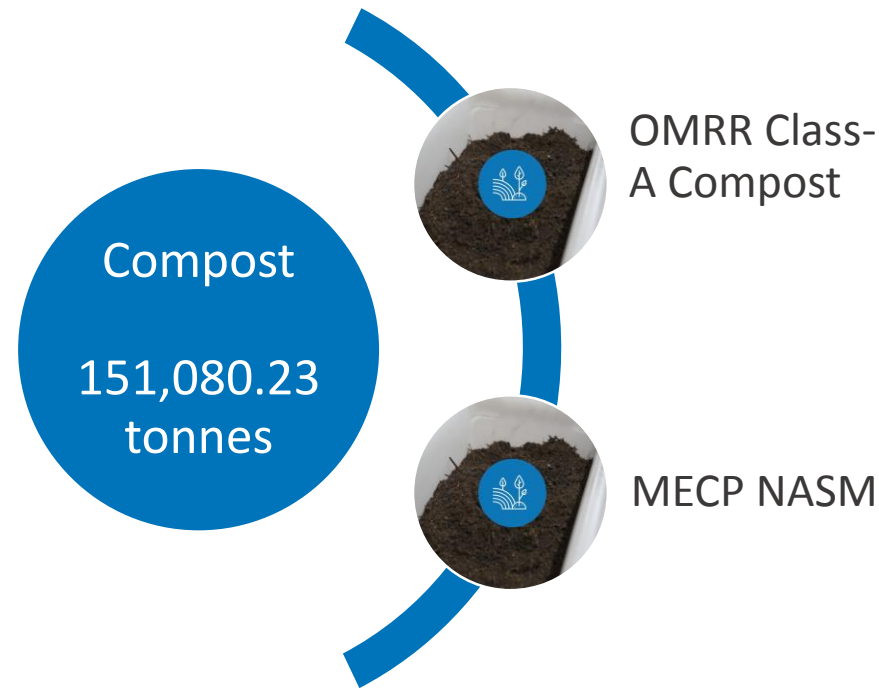
| Year | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2020 | 19155.70 | 17845.06 | 19012.73 | 27904.12 | 31017.01 | 31529.24 | 28144.12 | 24325.13 | 26613.27 | 24856.55 | 24085.96 | 19372.92 | 293861.81 |
| 2021 | 16841.51 | 13522.30 | 19292.15 | 24786.89 | 26868.21 | 24727.59 | 23889.62 | 22484.76 | 24631.70 | 23772.39 | 26528.44 | 17363.24 | 264708.80 |
| 2022 | 17,209.14 | 15,342.30 | 17,948.29 | 22,151.56 | 25,056.36 | 27,474.96 | 21,699.96 | 22,725.67 | 22,419.89 | 20,311.42 | 22,706.16 | 16,179.68 | 251223.66 |



Products By Weight

Total Compost Produced Across All Canadian Facilities (Metric Tonnes)

| Year | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|------|---------|----------|---------|---------|---------|---------|---------|---------|-----------|---------|----------|----------|----------|
| 2020 | 4026.52 | 2050.17 | 2433.1 | 4548.72 | 8130.37 | 8292.74 | 5653.02 | 6053.77 | 5587.66 | 5693.43 | 3599.92 | 5047.56 | 61116.98 |
| 2021 | 3265.4 | 1956.23 | 4004.42 | 3534.36 | 5199.99 | 5217.44 | 3751.61 | 4053.44 | 3643.11 | 3936.71 | 4400.23 | 2464.56 | 45427.50 |
| 2022 | 3231.31 | 2372.19 | 2596.92 | 2963.49 | 4339 | 4744.26 | 4171.04 | 4766.78 | 3143.6 | 5001.32 | 3529.62 | 3706.22 | 44535.75 |



Products By Weight

Total Waste Residual Across All Canadian Facilities (Metric Tonnes)

| Year | January | February | March | April | May | June | July | August | September | October | November | December | Total |
|------|---------|----------|---------|---------|---------|---------|---------|---------|-----------|---------|----------|----------|----------|
| 2020 | 2864.41 | 2652.21 | 3295.1 | 3235.22 | 2715.97 | 3308.66 | 2304.55 | 1862.01 | 2341.41 | 2508.91 | 1825.81 | 1484.82 | 30399.08 |
| 2021 | 1046.81 | 1150.87 | 1645.05 | 1909.67 | 1833.81 | 1836.17 | 1043.71 | 1590.89 | 2392.78 | 2135.56 | 2197.96 | 2106.02 | 20889.3 |
| 2022 | 3546.25 | 1943.73 | 3038.64 | 2992.8 | 2620.41 | 2441.22 | 2053.94 | 2858.05 | 2992.36 | 2621.56 | 2577.93 | 1295.10 | 30811.85 |



Stakeholder Engagement

Consultations with industry are happening in Canada, including an ongoing engagement by Environment and Climate Change Canada aimed at strengthening rules related to recycling and composting of plastics.



Pending Changes

Restriction of the use of the chasing-arrows symbol on products unless **80-percent of Canada's recycling facilities** can manage them.

Some items require a TBD approach as the proposed changes also include **minimum levels of recycled plastics** in certain products and **new investments in innovation and recycling infrastructure**.

10%

Approximately 10% of material received is **contamination within the organics stream**.

This limits the products that can be achieved and **compromises circularity** by limiting end markets.

\$117/t

Across Canada the **average tipping fee per tonne of solid waste** is \$117 per tonne.

Processors diverting material from landfill are left **paying the cost to dispose items they should not receive**.

Pros and Cons

1

Innovation

Changes to these guidelines create opportunities for new products, solutions and ideas to enter the compostables space.

2

Investment

New products can mean new manufacturing and sorting techniques, creating opportunity for economic investment and growth.

3

Improved Outputs

Truly compostable products could remove harmful plastics from consumer use, create cleaner composting streams and yield further potential benefits.

4

Existing Challenges

These guidelines don't change the contamination entering the organics stream. Education and consumer understanding is convoluted and risks being further impacted.

5

Only 80%

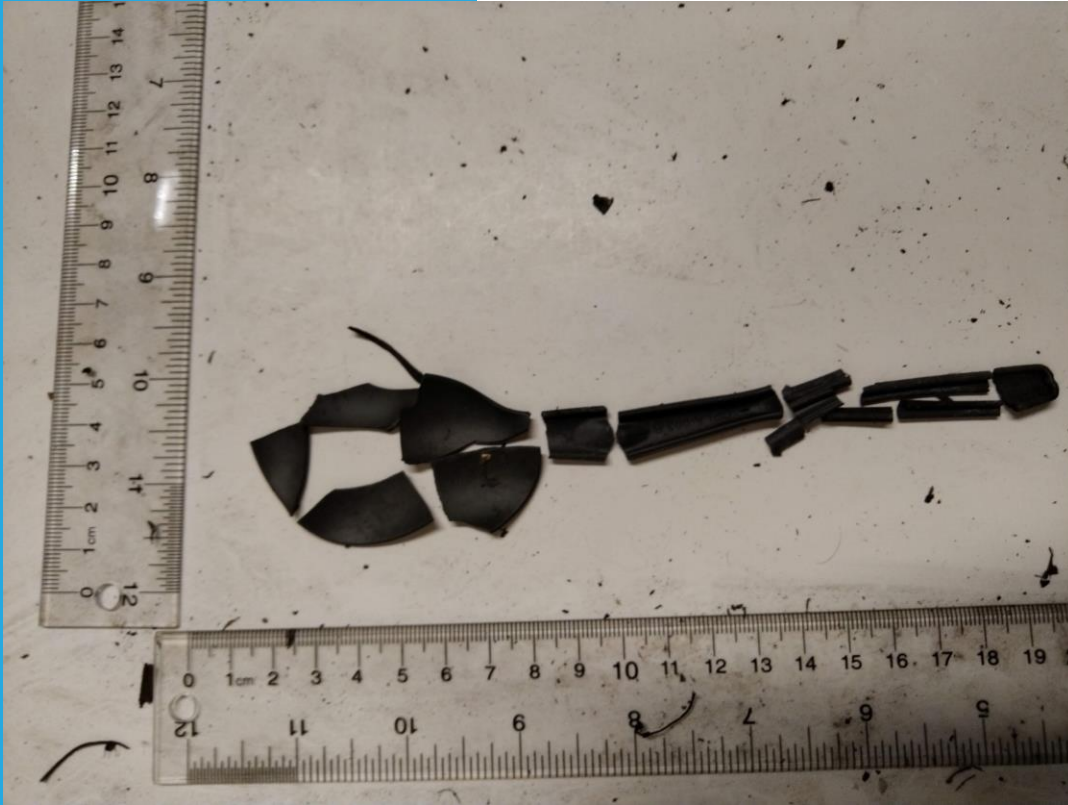
If the requirement is to be acceptable by 80% of industry facilities, a grey area of acceptability still exists potentially compromising 1 in 5 processors.

6

Uncertainty

Transition period impacts to processors and producers. The requirements for acceptability are still unclear as are the thresholds for

Thresholds



- Barriers to entry can limit potentially innovative ideas from entering the market.
- Existing processors and technologies vary widely. 80% acceptance in windrow versus AD is not the same.
- Understanding thresholds for producers and processors is critical.
 - What are the testing benchmarks?
 - How many days to completely breakdown?
 - Are chemicals released in the process such as PFAS?
 - What are labelling criteria and nomenclature?

100% Biodegradable



KFC Compostables

The chain rolled out compostable packaging and cutlery that would break down completely in **18 months**.

CMA Field Testing

Some of the most comprehensive in the industry. **2500+ samples tested** in sites across the United States with **25 Processing Partners**.

Biodegradable Products Institute

Provides guides for materials manufacturers can use to **ensure end-of-life opportunity** of compostables products.

Compostable.ca

Industry is **already responding to consumer demand** and marketing products specifically geared to replace traditional packaging.

Practical Practice

Compostables in theory can present a viable means for removing much of the plastic used by consumers from waste streams and the environment.

Development of policy to regulate products and guide processors is imperative for success.

Understanding these requirements frames development for entrepreneurs and established firms alike.





Thank You

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