

CGA Energy Nexus & Annual Technical Conference 2025

From Farm to Fuel: Lessons from the Award-Winning DLS Biogas J&L Walker Farms Biogas to RNG Facility

Chip Trimble



Fuelling the Future

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Safety Moment

- Children are more than twice as likely to be hit by vehicles on Halloween night.
 - Wear clothing that can be seen
- Most child pedestrian accidents happen between 6 and 7 pm.
- In Canada, think about a costume that goes with a snow suit!
- The largest spike in tree and nut allergy admissions on Halloween.
 - Double-check the ingredients in all your treats before allowing your kids to enjoy them.
- 70% of parents don't go trick-or-treating with their children.
 - Take your kids or have a trusted adult take them, especially if they are under age 12
- 85% of adults bring alcohol trick or treating. Since this night is about your kids, consider a non-alcoholic alternative instead.



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Walker RNG

- Founded in 2021 as a joint venture with Walker Farms and Dairy Lane Systems
- Completed Phase one in July 2023
- Project of the Year Award 2023 from Canadian Biogas Association



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Walker RNG Construction

- Before Construction started



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Walker RNG Construction

- Construction of the Digesters



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Walker RNG Construction

Construction of the
Digesters



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Walker RNG Construction

- Construction of the Digesters



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Walker RNG Construction

- Delivery and Placement of the Grid injection station



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Walker RNG

- Manure input 100,000 tons / year
- Organics input 40,000 tons per
- Design 1070 m³/hr Biogas
- Design 630 m³/hr Bio-Methane



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Walker RNG

- 1800 head of cattle
- Sand used as bedding in barns
- Manure slurry collected holding tank
- Off farm organics stored in collection barn
- Organics thermal pretreatment tank, feed stock slurry



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- Digesters are a continuous process
- Maintained at 38 °C
- Constant mixing



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Walker RNG

- Biogas Composition
 - 58% CH₄
 - 40% CO₂
 - 0.4% O₂
 - 1.6% Inert gases
 - 500 ppm H₂S
 - 500 ppm VOC
 - Water vapor



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- 5% material is biogas
- 365 t per day of digestate returned to waste storage on farm
- Used for fertilizer



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- Biogas Upgrading Unit
 - Chiller to remove water Vapour
 - Activated Carbon filter to remove H₂S and VOC's
 - Compressed to pass through 3 stage filter process to remove CO₂



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Walker RNG

- Biomethane
 - 98-99% CH₄
 - 1-2% CO₂
 - Less 5 ppm H₂S
 - Moisture dew point - 90C



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- Grid Injection Station
 - Measurement and Regulation
 - Off Spec Gas diversion
 - Gas Quality Measurement



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- Grid Injection System
 - Filtration
 - Diversion control
 - Back pressure to digester
 - Redundant regulation runs with back pressure
 - Flow Control to Grid



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- Grid Injection System
 - Odourization



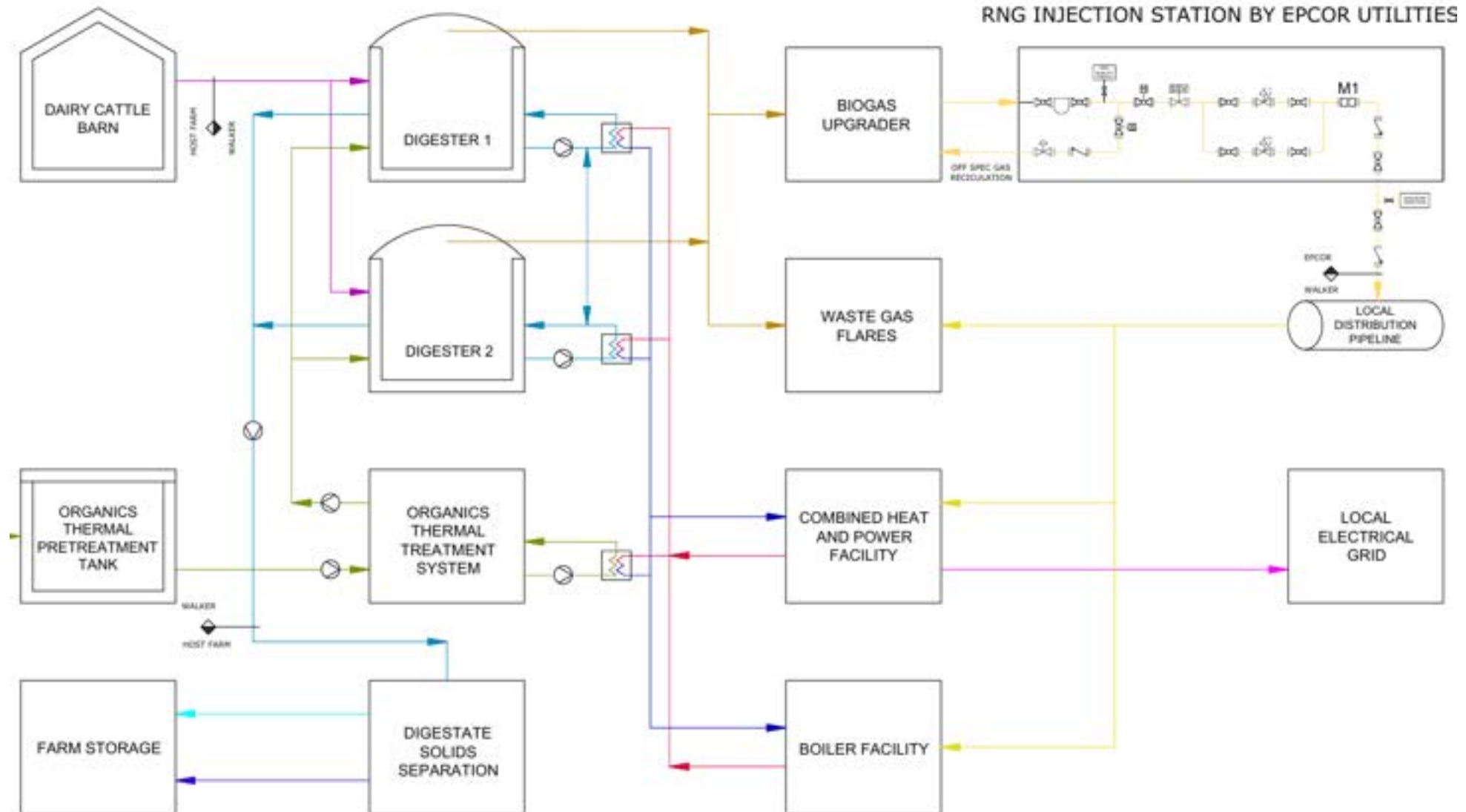
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Walker RNG

- Lesson learned
 - Need somewhere for gas to go



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Questions?