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Livestock Enteric Protocol Stakeholder Meeting

Ontario & Quebec Adaptation
May 26th, 2017

Agenda

1. Background & Introductions
2. Process Overview
3. Candidate Protocol Review
4. Stakeholder Questions/Discussion
5. Next Steps



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Item 1

BACKGROUND

Ontario & Quebec have retained the Reserve and Partners to develop 13 offset project protocols to support cap-and-trade

1. Landfill Gas Destruction
2. Mine Methane Destruction
3. ODS Destruction
4. Fertilizer Management
5. Livestock (Enteric)
6. Anaerobic Digestion (Organic Waste and Manure)
7. Organic Waste Management
8. Forest
9. Afforestation/Reforestation
10. Urban Forest
11. Grassland
12. Conservation Cropping
13. Refrigeration Systems

Background

- **MOECC** = Ontario Ministry of Environment and Climate Change
- **MDDELCC** = Quebec Ministry of Sustainable Development, Environment, and Fight Against Climate Change

Climate Action Reserve



- Nonprofit founded in 2001
- Developed GHG inventory & verification protocols for commercial and industrial entities
 - Operated a public registry for hundreds of entities in California
- Launched online offset project registry in 2008
 - Developed or adapted 18 project protocols for the US and Mexico
 - Work directly informed the CA and QC compliance protocols
 - Registered hundreds of voluntary and compliance projects, generating >92M tCO₂e in GHG reductions
- Partners: Viresco Solutions, Brightspot Climate, Cap-Op Energy, Green Analytics, and EcoRessources

Livestock Enteric Protocol Adaptation Team (PAT)



Organizations	Names
Viresco Solutions	<ul style="list-style-type: none">• Karen Haugen-Kozyra (<i>Enteric Fermentation Team Lead and Technical Coordinator for Project</i>)• Candace Vinke• Tanya Maynes
Brightspot Climate	<ul style="list-style-type: none">• Aaron Schroeder (<i>Assistant Project Director</i>)
Climate Action Reserve	<ul style="list-style-type: none">• Sami Osman• Andrew Craig
EcoRessources	<ul style="list-style-type: none">• Mathieu Dumas

Livestock Enteric Technical Task Team (TTT)

Andrew VanderZaag	Research Scientist	Agriculture and Agri-Food Canada (AFAC)
Brandon Gilroyed	Assistant Professor	University of Guelph Ridgetown Campus
Doug MacDonald		Environment Canada
Ermias Kebriab		University of California, Davis
Hambalou Balde		Agriculture and Agri-Food Canada
Josh Lamont		MacAgro Company
Keith Reid	Soil Scientist	Agriculture and Agri Food Canada
Ray Desjardins		Agriculture and Agri-Food Canada
Roland Kroebe		Agriculture and Agri-Food Canada
Sean McGinn		Agriculture and Agri-Food Canada

Livestock Enteric Technical Task Team (TTT)

Sheilah Nolan	Climate Change Specialist	Alberta Agriculture and Forestry
Tim McAllister	Principal Research Scientist	AAFC
Ward Smith	Physical Scientist - Lead, Agri-Environmental Modeling; P. Eng	AAFC
Amadou Thiam	Engineer, Air Quality	OMAFRA
David Coates	Project Manager	MOECC
Dushan Jojic	Senior Program Advisor	MOECC
John Hutchison	Senior Policy Advisor	MOECC
Marc-André Ouellet	Direction des pratiques agroenvironnementales Ministère de l'Agriculture, des Pêcheries et de l'Alimentation	MAPAQ
Phil Dick	Business Resource Specialist	OMAFRA
Sara Peckford	Sr. Policy Advisor	OMAFRA
Shelley Hyatt	Sr. Analyst	MOECC
Sophie Houplain	Direction du marché du carbone, Direction générale de la réglementation carbone et des données d'émission	MDDELCC

Livestock Enteric Protocol Stakeholder Team

- Targeted group to provide feedback during the adaptation process
- >75 stakeholders from diverse sectors
 - Government
 - Industry
 - Consulting
 - Academia
 - NGOs



Item 2

PROCESS OVERVIEW

Process Overview

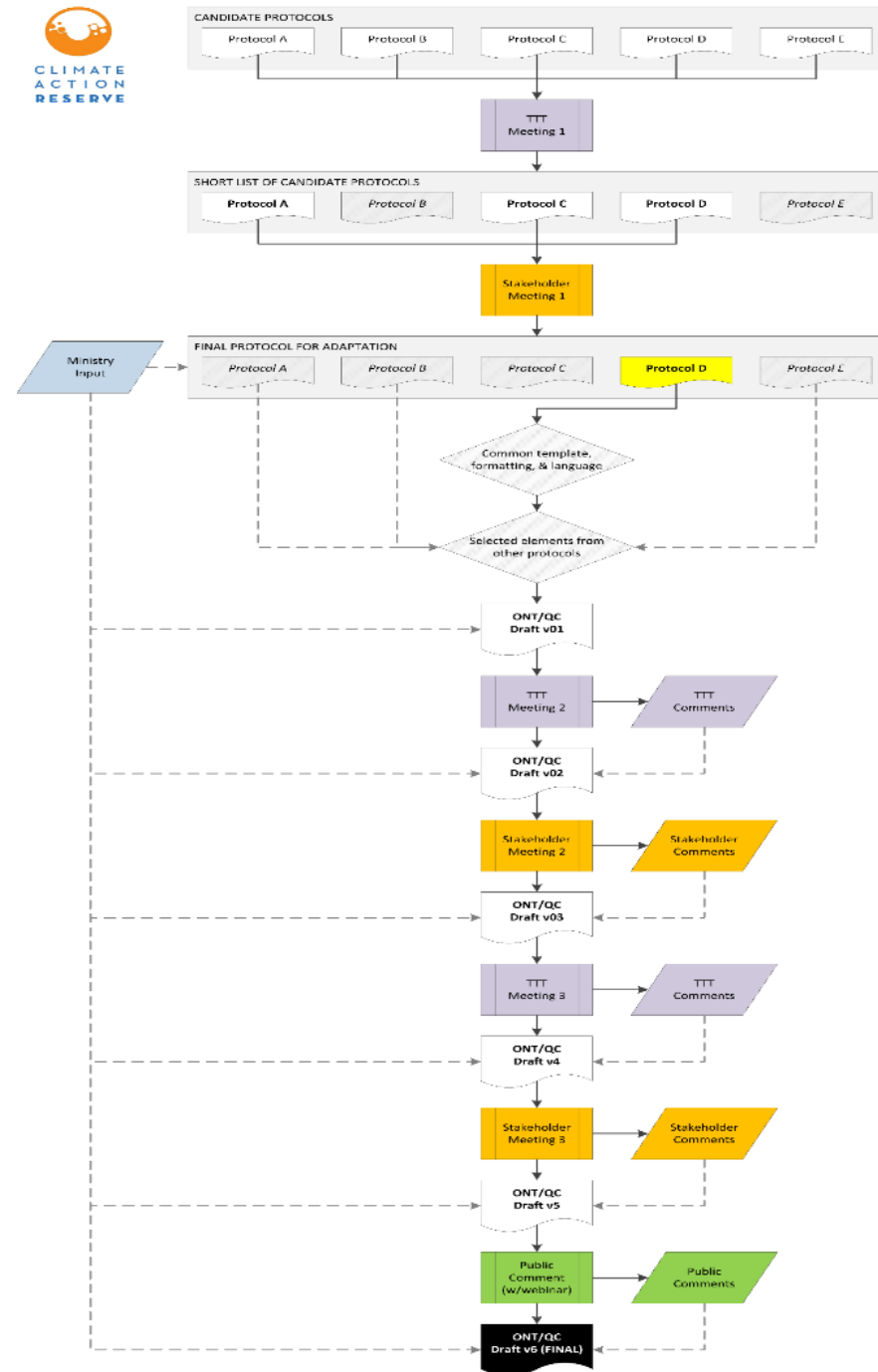
- High level review of all livestock enteric protocols
- Narrow down list to 1-3 candidate protocols as starting point for adaptation
- Stakeholders asked to review and comment on candidate list & short list
- All protocols will use a common template
- Key issues to be identified prior to drafting
- Stakeholder drafts will incorporate feedback from Technical Task Team (TTT)
- After Stakeholder review, additional comments/feedback will be reviewed and incorporated

Work Plan

Timeline (expected)	Task
April	PAT worked with Ministries to develop task teams and coordinate outreach
April 27	Initial meeting (webinar) of this TTT. PAT outline process, present protocol candidate list, outline key issues and next steps. TTT members are asked to submit feedback and comments
May 5	PAT continues to work with TTT to identify and conduct research on key issues
May 17	Short list of candidates & initial screening sent to TTT
May 17-24	TTT to review screened protocols, present feedback and comment
May 26	Initial meeting (webinar) with the broader group of interested stakeholders. TTT members are encouraged to attend.
June 9	Stakeholder feedback on candidate list due
June 12	Protocol recommended for adaptation sent to MAT



Work Plan for Ontario/Quebec Non-Priority Protocol Adaptation



Process Flow Diagram



Item 3

CANDIDATE PROTOCOLS

Protocol Scope

- Initially - Emission Reductions from Livestock protocol now split:
 - Anaerobic Digestion (Organic Waste and Manure)
 - Livestock Enteric protocol

Task Ahead of Us

- Task – if possible, protocol applies to all of Canada
- Follow Western Climate Initiative Offset Criteria (2010)
- Need to assess regulatory requirements in each province (additionality)
- May need additional definitions – terms consistent
- Update language based on ON / QC Offsets regulation
- Refresh equations, tables and diagrams – Canadian science and alignment with National Emissions Inventory
- Standardize emission factors

Terminology

Protocol Term	Ontario	Quebec
“Project”	Offset Initiative	Project
“Ministry”	MOECC	MDDELCC
“Regulation”	Regulation concerning The Cap and Trade Program, made under the Climate Change Mitigation and Low-Carbon Economy Act	Regulation respecting a cap-and-trade system for greenhouse gas emission allowances, made under the Environment Quality Act
“Project Developer”	Offset Initiative Operator and/or Offset Initiative Sponsor, as appropriate	Project Promoter

Each Ministry may make their own final edits when the adapted protocols are prepared for formal regulatory adoption

Candidate Protocols

Protocol/ Methodology	Voluntary or Compliance	Program	Jurisdiction	Link
Emission Reductions from Dairy Cattle V2.0 (revised version under review)	Compliance	Specified Gas Emitters Regulation	Alberta	To be circulated
Strategic feed supplementation in smallholder dairy sector to increase productivity	Compliance*	Clean Development Mechanism	CDM Project Countries	https://cdm.unfccc.int/UserManagement/FileStorage/FXD0E7PCUHG1JK5AST3L6QVB M2RZW9
Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows	Compliance*	Australia's Emission Reduction Fund	Australia	https://www.legislation.gov.au/Details/F2013L01554
FAO Smallholder Dairy Methodology	Voluntary	FAO and Gold Standard	Kenya	http://www.fao.org/3/a-i6260e.pdf

Candidate Protocols



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Protocol/ Methodology	Voluntary or Compliance	Program	Jurisdiction	Link
Reducing Greenhouse Gas Emissions from Fed Cattle	Compliance	Specified Gas Emitters Regulation	Alberta	http://aep.alberta.ca/climate-change/guidelines-legislation/specified-gas-emitters-regulation/documents/ReducingGHGEmissionsFedCattle-Feb25-2016.pdf
Reduced Age at Harvest of Beef Cattle	Compliance	Specified Gas Emitters Regulation	Alberta	http://aep.alberta.ca/climate-change/guidelines-legislation/specified-gas-emitters-regulation/documents/ProtocolReducingAgeHarvestCattle-Jul2011.pdf
Methodology to Reduce Enteric Methane Emissions in Beef Cattle using Organic or Natural Feed Supplements - DRAFT	Voluntary	Voluntary Carbon Standard	Global	http://database.v-c-s.org/sectoral-scope/15-livestock-and-manure-management
Reducing Greenhouse Gas Emissions by Feeding Nitrates to Beef Cattle Methodology Determination 2014	Compliance*	Emission Reduction Fund	Australia	https://www.legislation.gov.au/Details/F2015C00580

Protocol Evaluation Framework

- Quantitative assessment against WCI criteria
- Qualitative assessment, including any modifications necessary to fully meet WCI criterion
- Results of full assessment retained, noting elements useful for adaptation (notwithstanding protocol not short listed)
- Final recommendation made for 1-3 protocols to form basis of adaptation

Protocols were scored based on individual criteria and then weighted by overall category

1 = this protocol is useful for this item

0 = this protocol is somewhat useful for this item, but needs further work

-1 = this protocol either doesn't address this item, or addresses it very poorly

Summary: ALBERTA - Emission Reductions from Dairy Cattle V2.0 (revised version under review)

SHORT LISTED

- PROS:

- ISO Based, clearly identified and presented SSRs
- Applicable to diet modifications; reduction in heifers; timing of storage emptying and manure spreading
- Clear documentation required to support verification
- Based on National Emissions Inventory; Environment Canada weather stations - adaptable

- CONS:

- Project specific baseline (3 years average data)
- Background assumptions on additionality not presented in protocol; available in supporting information.

Score: 2.7

Summary: Australian Emissions Reduction Fund - Reducing Greenhouse Gas Emissions by Feeding Dietary Additives to Milking Cows



NOT SHORT LISTED

- PROS:

- Data requirements laid out; appears to be based on Edible Oils emission reduction mechanisms (based on Alberta's)

- CONS:

- Project specific baseline
- Not technology neutral (specific to the following practices: (a) canola meal; (b) cold-pressed canola meal; (c) brewers grain; (d) hominy meal; or (e) dried distillers grain.
- Project area located in Australia; assuming geographically relevant EFs
- No clear presentation of SSRs; Reliance on Calculators – unclear, non-transparent methodology

Score: 0.2

Summary: CDM - Strategic feed supplementation in smallholder dairy sector to increase productivity

NOT SHORT LISTED

- PROS:

- Applicable to project activities that use strategic supplementation to improve the digestibility of feedstuff fed to large ruminants (i.e. dairy cows and/or buffalo) in the smallholder dairy sector.
- Additionality based on CDM methodology; measures to control double counting

- CONS:

- Project specific baseline
- Designed for CDM Projects not applicable in Canada.
- SSRs not clearly presented; not ISO based
- Additionality based on CDM rules

Score: 0.1

Gold Standard: FAO Smallholder Dairy Methodology



SHORT LISTED

- PROS:

- Technology neutral – enables a variety of methods (based on Alberta's)
- Clearly presented and discussed SSRs; project boundary, emission factors – IPCC; Tier 2 (EF, manure)
- Discussion of leakage
- Protocol written transparently, data and sources identified resulting in verifiable project
- Standardized baseline methodology

- CONS:

- Additionality based on CDM

Score 2.9

Summary: Reducing Greenhouse Gas Emissions from Fed Cattle

SHORT LISTED

- PROS:

- Technology neutral – enables a variety of methods
- Clearly presented SSRs, methodology – ISO 14064:2 based
- Protocol lays out verification requirements – record keeping, project documentation
- Adapatable anywhere in Canada; based on National Emissions Inventory methods

- CONS:

- Project specific baseline (3 year average)
- Leakage assessed during protocol development

Score: 3.4

Summary: VCS-Methodology to Reduce Enteric Methane Emissions in Beef Cattle using Organic or Natural Feed Supplements



NOT SHORT LISTED – in DRAFT stage – seems to be stalled

- PROS:

- Based on Alberta's Protocol
- Global methodology with following requirement
- Data description good; outline sources – ensures verifiability

CONS:

- Protocol has requirement which limit technologies – feed supplements requirements; semi confined cattle (not applicable to Feedlots); no antibiotics; ionophores or B-agonists; NO GMOs.
- Project specific baseline

Score: 2.67

NOT SHORT LISTED

- **PROS:**

- **CONS:**
 - **Not technology neutral; project must be located in Australia**
 - **SSRs not clearly presented; reliance on Calculator**
 - **No discussion of regulatory requirements**
 - **Project specific baseline**

Score: -1.42

Livestock (Enteric)– Short Listed Protocols:

- **PROTOCOL SHORT LIST:**

- 1) Beef - Reducing Greenhouse Gas Emissions from Fed Cattle (3.4)
- 2) Dairy - Gold Standard: FAO Smallholder Dairy Methodology (2.9)
- 3) Dairy - Emission Reductions from Dairy Cattle V2.0 (revised version under review) – (2.7)

- **RATIONALE:**

- Represents the Dairy and beef sectors
- Development process based on ISO
- Clear methodology; quantification; SSRs – easier to understand and adapt
- Clear records outlined - verifiable
- Canadian context
- Discussions of leakage



Item 4

STAKEHOLDER QUESTIONS & DISCUSSION



Item 5

NEXT STEPS

Submit Comments

- Stakeholder Team to review candidate protocols and submit comments to the Reserve no later than:
 - **Friday, June 9th** (end of day)
 - tanya@virescosolutions.com

Next Meeting

- Next Stakeholder Team Meeting (to review draft protocol):
 - **This September**
 - Watch for email announcement with registration link
- Sharing documents and drafts with stakeholders on Reserve website:

<http://www.climateactionreserve.org/emission-reductions-from-livestock/>

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