Manure Rights Contracting

The Art of the Manure Deal

NOVILLA RNG

Webinar Series #4

Mark Hill
January 25, 2021

Novilla RNG assists developer and farmers in creating profitable RNG projects that work for both parties

NOVILLA RNG

Farmer Representative for Awarding of Gas Rights

- Financial modeling of an RNG project at your farm
- Technical due diligence of whether an RNG project is feasible at your farm
- Creating a project proposal package to send out to the most qualified RNG developers in the industry
- Contract review and negotiations with RNG developers

Acquisition and Greenfield Due Diligence

- Technology review
- Maintenance schedule with OPEX and downtime estimates
- Production estimates, including gas curves, downtime, and parasitic loss
- Financial modeling of Project
- Metering setup review and CI score optimization
- Employee skill set interviews

Disclaimer

NOVILLA RNG

This presentation is meant for discussion purposes. Novilla RNG is not responsible for any errors or omissions, or for the results obtained from the use of this information. All information in this presentation is provided "as is", with no guarantee of completeness, accuracy, timeliness or of the results obtained from the use of this information. It is recommended you use legal counsel before entering into any agreement

Good contracts go beyond getting a good lawyer. Being able to anticipate operational problems and aligning interests are key to long term success

NOVILLA RNG

- Mutually understood responsibilities
- Fair payouts that benefit both parties (no games that can benefit one party)
- Anticipation of what can go wrong
- Clarity in contracting, with operations buy-in on responsibilities

Agenda

NOVILLA RNG

Royalty structures to align interests

Division of responsibility in an RNG Project

Requirements of the Developer

Requirements of the Farmer

How to contractually anticipate things going wrong (they will)

Several forms of royalty structure exist in the marketplace today

NOVILLA RNG

Structure	Advantages	Disadvantages
Fixed Annual Payment	Simple, reliable payment to farmer	No incentive to farmer to provide quality manure for digestion or to increase the quantity of manure
Per Cow Annual Payment	Simple calculation, encourages growth	No incentive to farmer to provide quality manure for digestion. Illogical – 10,000th cow is worth far more than the 1,000th cow
Per MMBtu Produced Payment	Protects farmer against plant down time, encourages quality manure delivery	Developer is at more risk if the LCFS or RIN price drops. Farmer does not have incentive to supply data for calculation of CI score
Per MMBtu Sold Payment	Easy calculation based on monthly sales invoice from pipeline company	Farmer is affected by Producer's plant run-time. Farmer is not incentivized to supply data for calculation of CI score. Developer benefits from LCFS that increases value the fewer MMBTU's sold
Percent of Revenue	Simple calculation based on checks received by developer. Farmer incentivized to supply data for calculation of CI score and deliver quality manure	Farmer is affected by changes in LCFS and RIN prices
Percent of Net Income	Very strong alignment of incentives to maximize revenue	Farmer is affected by developer plant performance, costs, and changes in LCFS and RIN prices. Net income can be manipulated
Equity Share	Near perfect alignment	Farmer takes on liabilities and risks of RNG project

Novilla RNG prefers the sharing of revenue with floors in place to make sure the farmer receives enough revenue to cover costs associated with the project

NOVILLA RNG

Hypothetical Scenario:
Herd count: 10,000 MCE Holstein
Milk production: 90lbs/day
CI Score: -200
Digester retention time: 20 days
Methane loss and downtime: 10%
Broker and transportation fees: 18%
Revenue sharing with Farm: 12.5%
Royalty Floor of $750,000/year

Modeled Annual Output:
Digester production: 225,000 MMBtu's/775 SCFM Biogas
MMBtu's sold: 202,000 MMBtu's
Flared Biogas: 23,000 MMBtu's

January 21 RIN/LFCS pricing
D3 RIN @ $2.30 = $29.87/MMBtu
LCFS @200.25 = $56.56/MMBtu
Henry Hub @ $2.60/MMBtu
Revenue Received per MMBtu after broker fees = $73

Royalty to farmer (Millions USD)

Low Price Case $40	
Revenue	$ 8.1
Royalties	**$ 1.0**

Current Prices $73	
Revenue	$ 14.7
Royalties	**$ 1.8**

High Price Case $95	
Revenue	$ 19.2
Royalties	**$ 2.4**

Because of the unique nature of CARB's LCFS program, the CI score for a project gets better the less gas that is sold into a pipeline

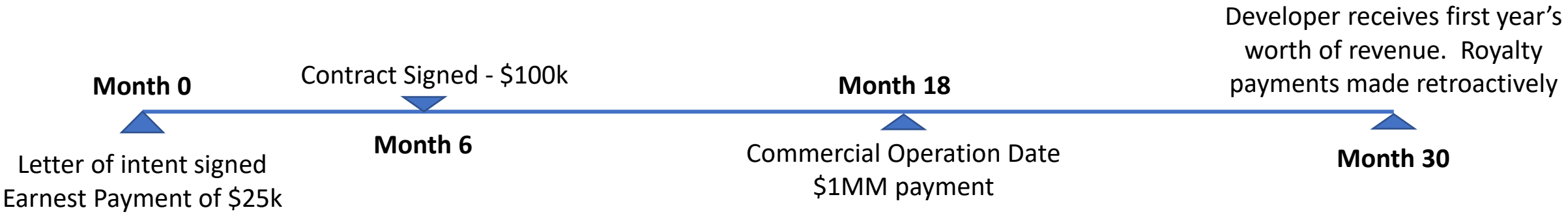
NOVILLA RNG

Hypothetical $10,000,000 LCFS pool on 200,000 MMbtu's of RNG production and no flaring = $50/MMbtu

Hypothetical $10,000,000 LCFS pool on 100,000 MMbtu's of RNG production and 100,000 MMbtu's of flaring = $100/MMbtu

Because of this issue, contracting royalties based on revenue rather than MMBtu's produced will result in a more equitable royalty across a range of plant issues. It is recommended not to use CI scores in contracts due to the complexity of the calculation

Because of the long construction time and up to a year of operation before the developer receives revenue, a series of defined payments makes sense



Without a series of contractually defined fixed payments, the farmer may have to wait two and a half years before receiving a royalty payment. For the sake of transparency and good relations with the farmer, it is best to lay out this timeline during initial conversations.

Contracts should anticipate future expansions of the dairy as well as new affiliated dairies nearby.

- The 10,001st cow is far more valuable than the 1st cow since most of the fixed infrastructure is already in place (this is also why a per cow royalty makes no sense)
- Expansions should be anticipated and a higher rate of royalty given for them
- New affiliated dairies within the manure conveyance range should be included in the contract, potentially at a higher royalty rate

Agenda

NOVILLA RNG

Royalty structures to align interests

Division of responsibility in an RNG Project

Requirements of the Developer

Requirements of the Farmer

How to contractually anticipate things going wrong (they will)

A typical RNG project will have the following components

Manure conveyance system

Sand removal (for sand bedding)

Anaerobic Digester

Fiber separation (optional)

Lagoon

RNG Upgrading Plant

Interstate Pipeline

CNG Filling Station

The division of responsibility should concentrate on strengths of the farmer and RNG developer, while avoiding finger pointing if things go wrong

NOVILLA RNG

Manure conveyance system

Sand removal (for sand bedding)

Consider: Sand Into Digester, Mastitis Outbreaks

Anaerobic Digester

Consider: Is this a legacy digester?

Fiber separation (fiber bedding)

Consider: Mastitis outbreaks – where will fingers be pointed

Lagoon

RNG Upgrading Plant

Interstate Pipeline

CNG Filling Station

Regardless of responsibility, the developer should bear the costs of improvements needed for an RNG project (which can be included in the royalty payments)

NOVILLA RNG

Typical necessary improvements to the dairy for an RNG project

- Sand Removal System or Fiber bedding arrangement
- Manure and digestate line installation
- Change from barn flush to scrape or vacuum system
- Air permits and manure storage permits
- Upgrades to existing digesters
- Removal of any water intrusion

Agenda

NOVILLA RNG

Royalty structures to align interests

Division of responsibility in an RNG Project

Requirements of the Developer

Requirements of the Farmer

How to contractually anticipate things going wrong (they will)

The Farmer should hold the Developer to industry accepted standards

NOVILLA RNG

Construction of Site

- Should be constructed to industrial standards, not agriculture standards. Let's not kid ourselves – this facility is taking toxic biogas, processing it into natural gas, compressing it, and possibly putting it into a CNG trailer at 3600 psi
  - Class I Div II Facility
  - Codes and standards are too lengthy to list off here – but farm should review them with their own engineers
  - E-stops need to be put in a place where farmer can initiate them. Audible and visual warnings of upsets at the plant

Information

- Contractually require access to digester and RNG plant performance data so farmer can bring in their own experts.
- Monthly production reports and team meetings to discuss performance of site
- Transparent process for confirming revenue received by developer and royalty issuance

Milestones are essential to keep the Developer on track

NOVILLA RNG

Developer milestones after signing LOI

- Regulators should be met with to discuss air permits, manure storage permits, construction permits, etc. Note – permits will likely not be received by the time the developer signs the contract, and there may need to be outs if permits are not received by a certain date
- Meetings with township to discuss conditional use permit/zoning
- Confirmation of lease area and utility right of ways.
- Funding of project

Developer milestones after signing contract

- *Have a COD date defined in the contract with substantial penalties for exceeding the target date that match expected royalties*. Developer should have waivers if delays are due to farm missing milestones (such as installing a sand removal system).
- Construction start date should be included in contract
- Commercial operation should defined. Novilla typically defines it as a set MMBtu amount injected into a pipeline in a calendar month.

Agenda

NOVILLA RNG

Royalty structures to align interests

Division of responsibility in an RNG Project

Requirements of the Developer

Requirements of the Farmer

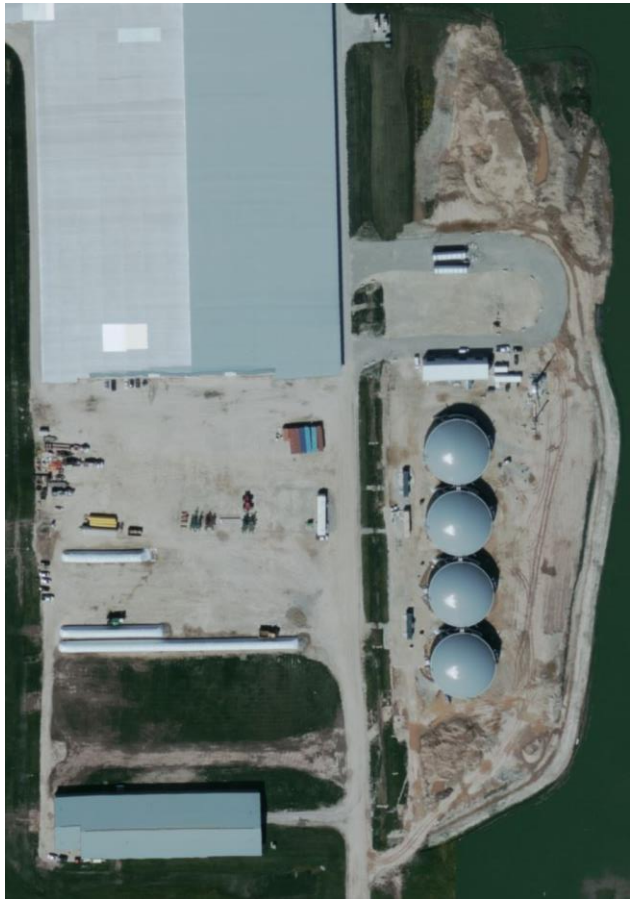
How to contractually anticipate things going wrong (they will)

Recommended farmer requirements

NOVILLA RNG

Manure

- Between 7% and 8.5% Total Solids at greater than 75% VS for a digester
- 99% sand removed from the manure (if sand removal system). Owner will use appropriately sized sand for maximum sand removal
- Free of debris
- No other organic substances than manure in feed to the digester
- No other water than parlor water or slop water
- No chemical, antibiotics, or biocides in stream
- Consider minimum temperature of manure and range of quantity
- Specify which barns the digesters should receive 100% of the manure from



Permitting and Construction

- Changes to the manure management plan for digestion and sand removal system
- Lease area, utility ROW easement, construction laydown area (nearly same size as lease area)

Recommended farmer requirements (continued)

NOVILLA RNG

Information needed for LCFS and RIN verification

- Herd count for LCFS
- Attestations for LCFS verification

Mutual Help

- Assistance with permitting and local relations
- Safety coordination for response to emergencies

FIGURE 1

Milking report for 12/ 6/16 Milking 3 at 08:55 AM 72NE! 12 29 1

PEN	Total Milk	Milk /Hr	Milk /Cow	Cows	Cows /Hr	Total Time	Start Time	Stop Time	Avg #/m	Avg Dur	Avg Dev	Not ID
2	5230	4023	30	175	134	1:18	21:19	22:37	5.8	5.4	-1	2
20	148	22	11	13	1	6:39	21:22	4:01	2.9	4.2	-4	64
1	5187	3346	30	174	112	1:33	22:25	23:58	5.8	5.3	-1	1
6	737	1842	24	31	77	0:24	23:37	0:01	5.2	5.1	0	-4
7	486	428	19	25	22	1:08	23:56	1:05	4.9	4.0	0	4
3	6025	3227	33	180	96	1:52	23:57	1:50	6.2	5.6	-2	-3
4	5719	3689	35	164	105	1:33	1:28	3:01	5.9	6.2	-2	8
5	3585	2172	32	111	67	1:39	2:06	3:45	5.5	6.1	-4	12
9	2310	1400	23	102	61	1:39	2:47	4:27	4.4	5.3	-2	-10
8	62	413	31	2	13	0:09	4:14	4:23	5.0	6.1	-5	0
Total	29489	4143	30	977	137	7:07	21:19	4:27	5.6	5.6	-2	74

Agenda

NOVILLA RNG

Royalty structures to align interests

Division of responsibility in an RNG Project

Requirements of the Developer

Requirements of the Farmer

How to contractually anticipate things going wrong (they will)

Bad things will happen in an RNG project. Below are some scenarios to think about

NOVILLA RNG

<u>LCFS and RIN prices crash or project becomes ineligible for LCFS and RIN</u>

- In a revenue-based royalty scenario the royalty will automatically adjust

- In the event of a bankruptcy on the part of the developer, it typically makes sense for the farmer to take ownership of the digesters (they aren't going to be relocated from the site)

- If the developer "pauses" operation of the site to keep optionality, there needs to be a maximum amount of time

<u>Force Majeure Event</u>

- Often contracts have "breakdown of critical machinery" in the force majeure language. Farmers should be weary of this language as it can be over-used and caused relationship issues

- A reasonable time limit should be in place for force majeure events, with the ability of the Producers to hold off breach by paying a penalty

Make sure to put teeth into a contract, if something is in a contract, but has not recourse, it is not really in the contract

NOVILLA RNG

<u>For farm non-performance</u>

- Step-in rights to fix the problem after a set period, with reductions in royalties for expenditures to fix contractual breach

- Royalty structure designed to encourage alignment of incentives

<u>For developer non-performance</u>

- Removal of manure rights agreement after reasonable period

- Clear designation of where equipment goes (digesters typically to farm)

<u>Changes in ownership</u>

- Farmer should consider whether they want approval in changes in ownership, particularly in the first few years. It has been a common theme in the industry for a small developer to sign a contract with a farm, then flip the contracts to a larger developer for a cash payment

Despite bad things happening in RNG, Novilla RNG helps farmers and developers make transparent agreements for long term success

Contact us at:

info@novillarng.com

www.novillarng.com

Questions?