



National Bioenergy Day

Thoughts on Renewable Natural Gas

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Rose Gage, CEO
Ag Energy Co-operative Ltd.



Contribution, Caring and Cooperation

Ag Energy is Unique



- Our purpose is to meet the common needs of our members through aggregation and collaboration.
- We provide competitive energy prices and products that suit our members' risk tolerance.
- We are connected to the co-operative, agriculture, agri-tech and agri-food communities through association memberships, participation and support.
- We collaborate and cooperate with the co-op, ag, agri-tech, agri-food and other sectors to make a meaningful difference for Ontario – today and tomorrow.

Ponderables:

- Why Renewable Natural Gas (RNG) is good for Agriculture, Forestry and Ontario
- Ag Energy's past experience with Ontario's Green Energy Programs
- Ag Energy's recommendations for delivering Green Energy Program for the RNG market. "Getting it Right".

Why RNG is good for Agriculture, Forestry and Ontario?



Opportunities:



“Converting the wood residue from Ontario forest operations could provide up to 20% of Ontario's Natural Gas Demand in the form of Renewable Natural Gas.”

Source: Sinopa Energy Inc.



Opportunities:

“Converting the grain and soybean residue from Ontario agricultural operations alone could provide up to 11% of Ontario's Natural Gas Demand in the form of Renewable Natural Gas.”

Source: University of Copenhagen Department of Geosciences and Natural Resource Management Mobilizing agricultural crop residues for energy and higher value bio-product

Opportunities:

- Forestry and agricultural biomass energy has the potential to supply a significant portion of Ontario's energy needs, up to 30%, while revitalizing rural economies, increasing Canadian energy independence, and reducing pollution.
- Farmers would gain a valuable new outlet for their products.
- Rural communities could become entirely self-sufficient when it comes to energy, using locally grown crops and residues to fuel cars and tractors and to heat and power homes and buildings.

Opportunities:

- Create a unique producer investment model that includes agriculture producers
- Canada: Potential for 55 million tonnes of agricultural crop residues
- Ontario: Potential for 3 million tonnes of crop residue
- Supply chain under development for corn stover use in Southwestern Ontario
- COMET Biorefining – new sugar processor in 2018

Source: University of Copenhagen Department of Geosciences and Natural Resource Management Mobilizing agricultural crop residues for energy and higher value bio-product

Renewable Natural Gas Definition

- The definition of Renewable Natural Gas should be an inclusive. Use sources from various sectors including agricultural, forestry and waste management industries.
- A broader definition of Renewable Natural Gas will allow Ontario to convert a variety of purpose grown crops and bioenergy waste streams into useful energy while supporting Ontario's circular economy.
 - It will also aid to support the rural economies all the while of reducing our dependence on fossil fuels.

Past experience with Green Energy Programs

Government Green Energy Programs work, however....

Past experience with Green Energy Programs

- Poor Public Perception
 - Programs that award energy producers long-term contracts with rates as high as 40-times the fair market value of electricity is doomed to fail.
- Focus on Energy and the realistic conversion to greener solutions
 - Programs should be about the energy, not political gains.
- Confusing
 - Programs have been difficult to participate in and ever changing.
- High Market Instability
 - High uncertainty of programs, timing, participation, etc has all been created by government.

Examples

- MicroFIT and FIT ever changing program
 - Poor stakeholder engagement pre-program release
 - Hydro One and constrained areas
 - Ever changing program to manage public opinion
- Suggest that there is consistency, particularly as it pertains to community programs
 - Guelph Energy Co-operative
- Favour programs for Ontario or Canadian content versus that of Foreign Investment
 - Samsung Deal

Delivery Recommendations Green Energy Program for the RNG market

“Getting it Right”

Understand the Nuances



Consider Various Models

In order to achieve the ambitious goals for RNG adoption, doing things differently is a must...

- Cost sharing model i.e. 30% user; 70% Green ON or other available funds for a greener Ontario
- Seek a business model that is criteria based and understand that not all can participate or should
- Assess sustainability and production goals prior to launch and adoption
- Ensure there is a clarity and consistency in program adoption and definition
- Look at shared costs, district energy, user pay with carbon offset or co-operative models

Ag Energy's recommendations

- Level playing field. No special deals for major corporations that removes a large portion of program (i.e. \$7 B Samsung deal for solar/wind energy).
- Focus on developing a sustainable competitive energy market over a realistic timeline.
- Pricing MUST be fully flushed out in advance and reasonable to the market (i.e. formal studies). High prices per Gj will penalize adoption and limit sustainable market development. There needs to be proof of the cost and the logic to support.
 - If the cost to the burner tip is \$4.00 then the cost for RNG needs to be relatively close to that or married to other incentives such as Cap & Trade credits, etc.
 - If not, it will create poor public relationships.
- Identify all limitations to infrastructure in advance of the program launch. MUST work with infrastructure operations prior to launch to mitigate launch challenges and program adoption

Ag Energy's recommendations

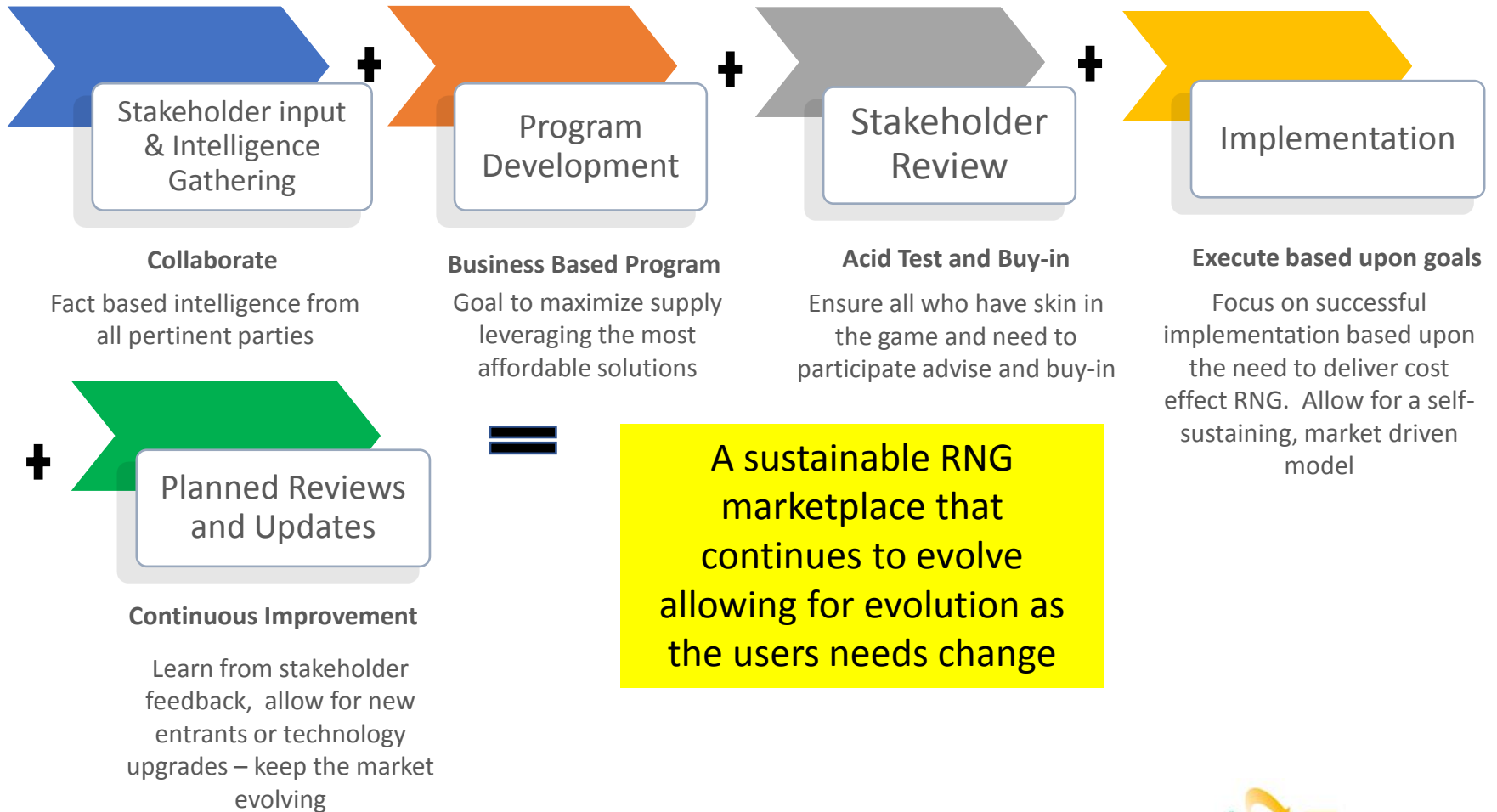
- Ensure users require **minimal** infrastructure updates for RNG adoption
- Stay the course. No dramatic changes or guessing games once program has launched. Review program after original stated window, modify at the prescribed tollgates.
- Establish clear, stable energy policies and regulations (i.e. keep them simple).
- Programs should support a viable, competitive energy market, not drive up the cost of energy unrealistically. Do not apply costs to GAL or a similar cost deferral program.
- Communicate simply and often
- Think outside of the box:
 - District Community RNG
 - CNG stations and delivery
 - Hybrid RNG technology: Forestry, Agriculture & Municipal Waste
 - Consider Co-operatives as a viable business model for success

Ontario Benefits

- GHG emission reductions
- Diversified and sustainable energy supply
- Regional and rural economic development and employment opportunities
- Supporting agricultural and food- processing industries and forestry operations in Ontario
- Biofuels are biodegradable
- Energy reliability and security
- Support Ontario's Circular Economy

Path to Success

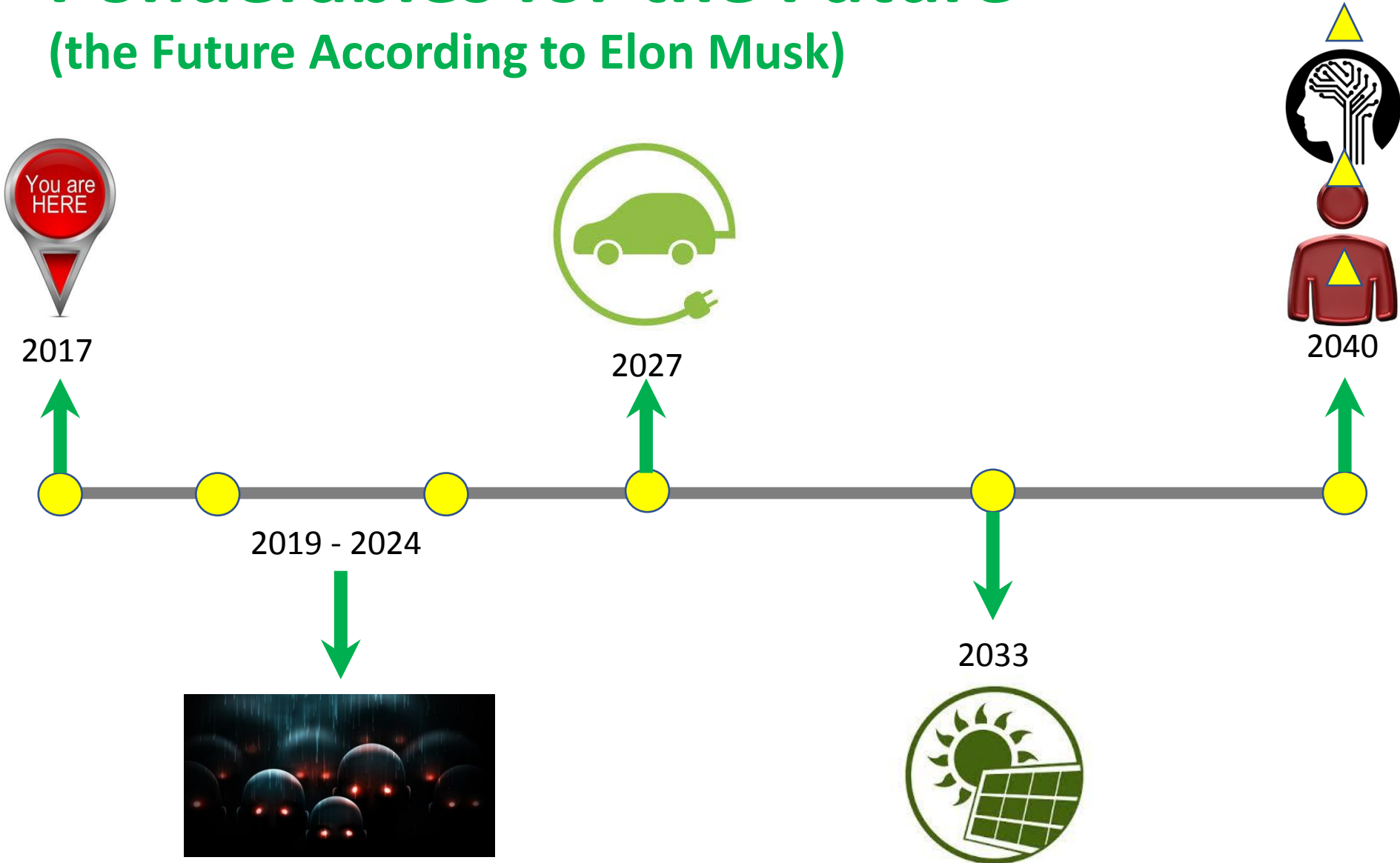
Pave the Path to Success by Ensuring Users see a seamless transition for RNG with limited refurbishment to their existing infrastructure.



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Ponderables for the Future

(the Future According to Elon Musk)



Summary

- A well defined and executed RNG program will benefit all of Ontario
- Please take the past “Lessons Learned” and don’t repeat the errors.
- Use RNG as a method to develop a stronger and more sustainable future using Ontario resources
- Ensure the development of a strong competitive renewable natural gas market that ensures all of Ontario to be sustainable and competitive.

Partners, Stakeholders & Associations



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Thank You!

Rose Gage,
CEO, Ag Energy Co-operative Ltd.
rgage@agenergy.coop



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