# UTILITY OF THE FUTURE

## PERSPECTIVE FROM A LDC

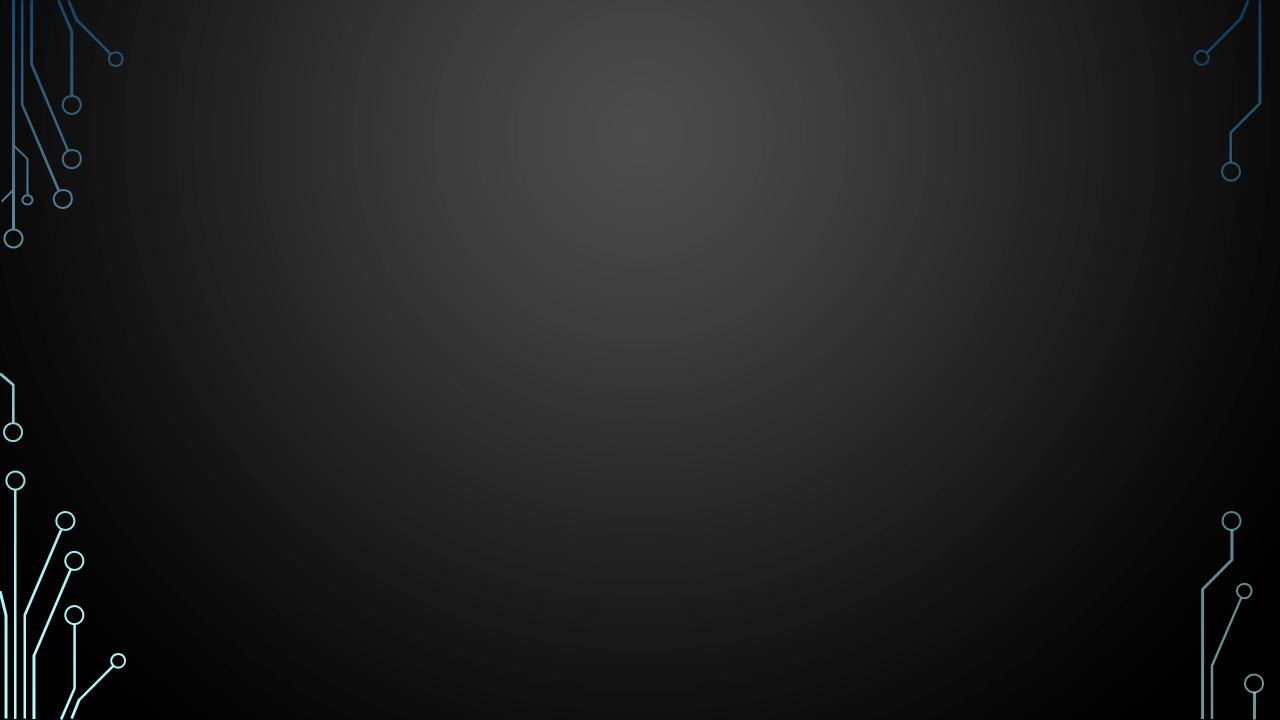


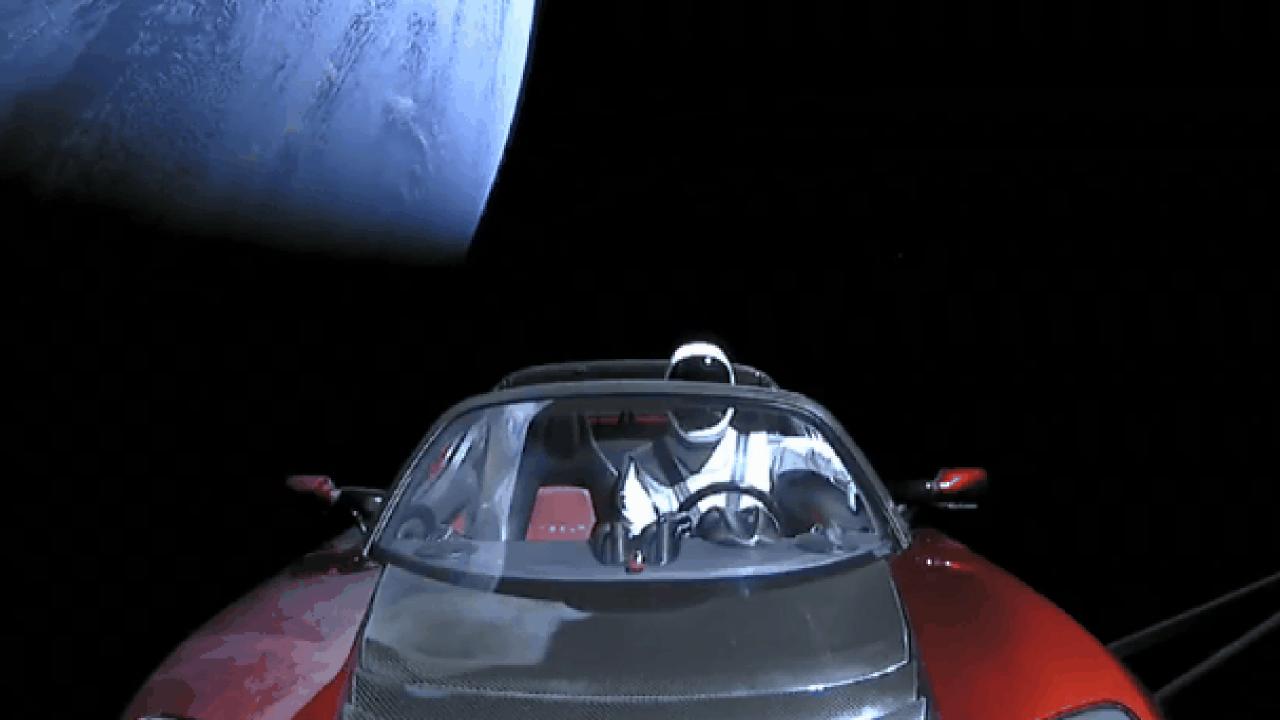


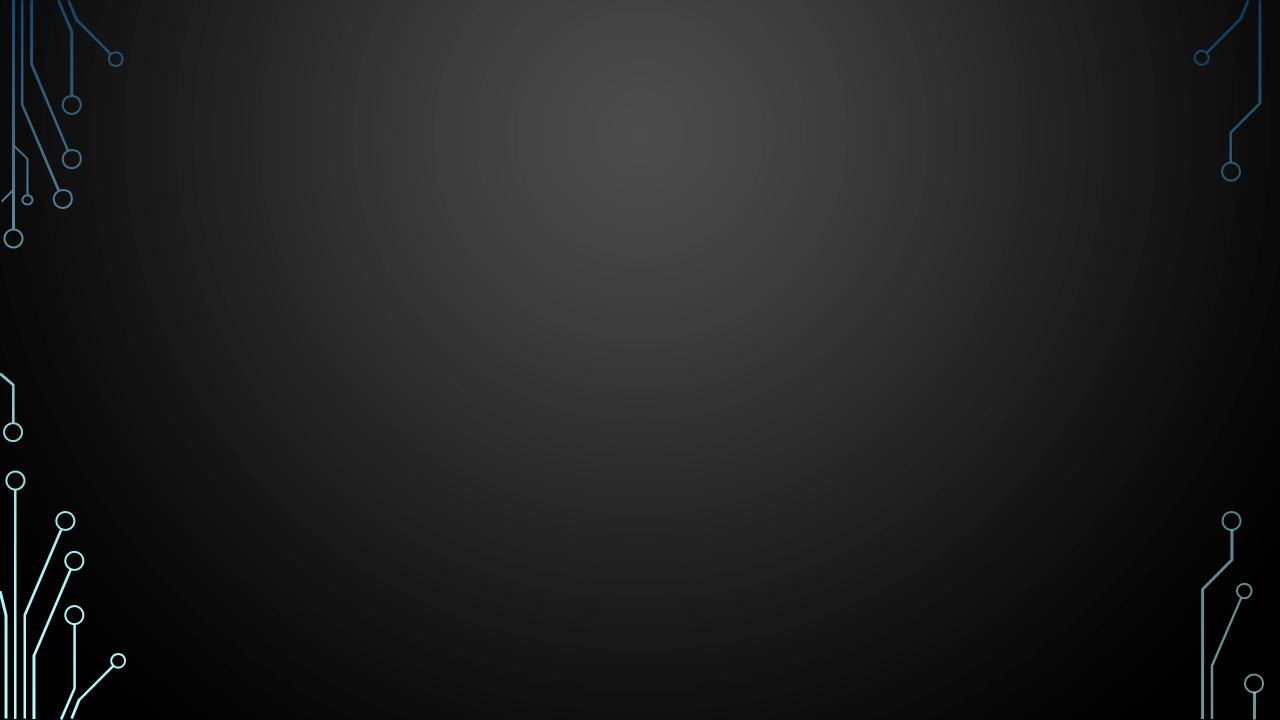
April 24, 2019

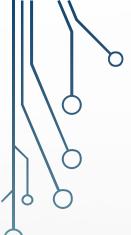
Umar Waqas, P.Eng, CEM











# WISE FINE ENERGY+ INC.

#### AGENDA

- 1. Overview of Energy+ Inc.
  - 2. Industry Transformation
  - 3. EDA's Power to Connect Roadmap
  - 4. Advisory Committee on Innovation Report to the OEB
- 5. LDC Perspective

# OVERVIEW OF ENERGY+ INC.





Overview of Energy+ Inc.

**Industry Transformation** 

EDA's Roadmap

Advisory Committee, Report



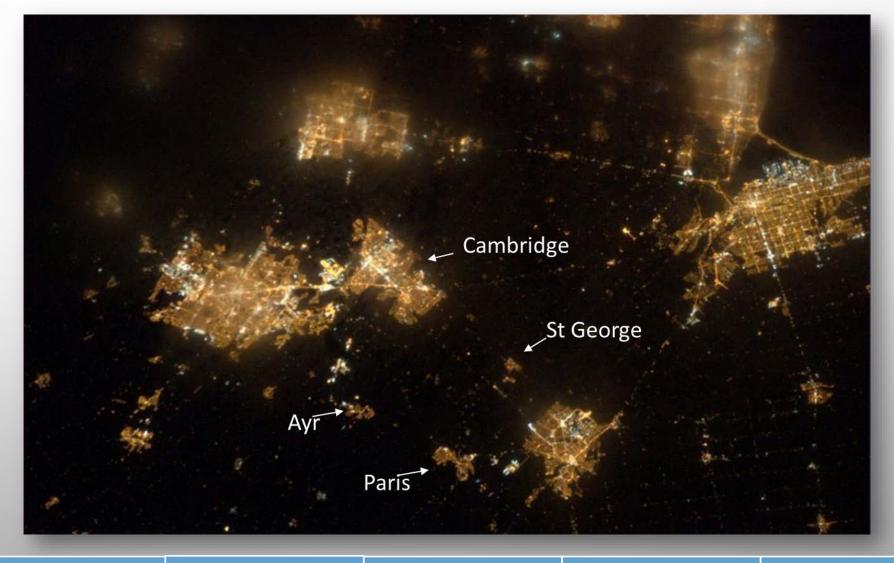


| Energy+                   | Widefige  Kritchener  Without State Company  |
|---------------------------|--|
| 65,000 Customers          | Protection (a) (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c  |
| 562 km^2 Service Area     | here hades Roserda 80 00 00 00 00 00 00 00 00 00 00 00 00  |
| 980 km Overhead Lines     | To the More  |
| 506 km Underground Lines  | Institute 6 10 10 10 10 10 10 10 10 10 10 10 10 10   |
| 21,700 Distribution Poles | Cobbs Colors (A) Color |
| 9600 Transformers         |  |
| 131 Employees             | Chayekes  Six Notions  In Dan Michael Six Notions  And all   |



# ENERGY+ INC. AT NIGHT





Overview of Energy+ Inc.

**Industry Transformation** 

EDA's Roadmap

Advisory Committee, Report

### DINDUSTRY TRANSFORMATION

WISE FINE ENERGY+ INC.

Energy Cloud Concept – Traditional vs. Emerging Power Grid



Overview of Energy+ Inc.

**Industry Transformation** 

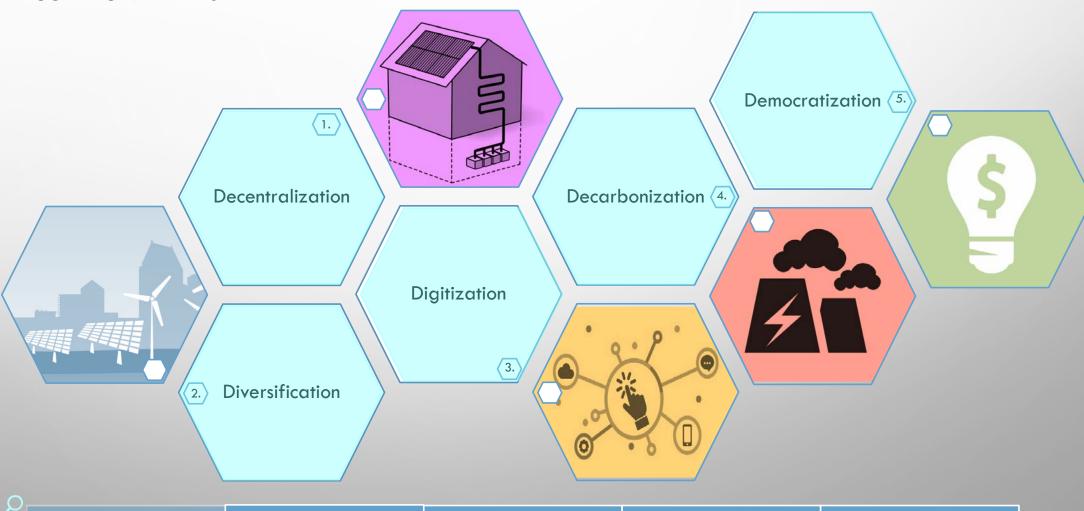
EDA's Roadmap

Advisory Committee, Report

# > INDUSTRY TRANSFORMATION



**COMMON THEMES** 



Overview of Energy+ Inc.

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EDA's Roadmap

Advisory Committee, Report

# DEDA'S POWER TO CONNECT - ROADMAP





Recommendations



Level the playing field

Improve definition of DERs

Improve Distribution System Planning

Remove restrictions on utility ownership of DERs

Introduce guidelines for rate-basing DER assets

Coordinating and decentralizing procurement of resources and DERs

Allow LDCs to operate/control DER assets;

Shared services by LDCs

**Development of Locational Marginal Prices** 

LDC's to assume the role of Fully Integrated
Network Orchestrators (FINOs) to facilitate
Ontario's Energy transition.

Source: https://www.eda-on.ca/Advocacy/Research-and-Reports/Power-to-Connect-A-Roadmap-to-a-Brighter-Ontario

Overview of Energy+ Inc.

**Industry Transformation** 

EDA's Roadmap

Advisory Committee, Report

## EDA'S POWER TO CONNECT - ROADMAP



2) LDC + DERs

Year 5

- Alternative regulatory framework established
- · Initial integration of DER into DSPs
- · DER enabling platform at limited scale

Year 10

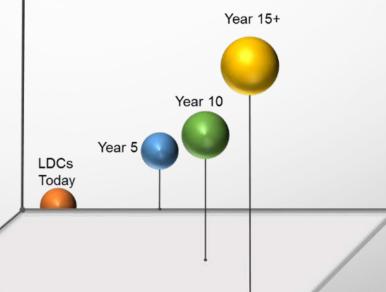
- DER enabling platform at increased scale
   Initial integration of DER into markets and
- Initial integration of DER into markets and operations
- Evaluation of new business models

Year 15+

- DER enabling platform at full scaleLimited value-added DER products and
- Limited value-added DER products and services
- · Some real-time visibility at distribution level
- Limited integration of DER into markets and operations

3) LDC + DER Control & Operations

Source: EDA's Power to Connect Roadmap Report, February 2018



1) LDC + DER Enabling Platform

Overview of Energy+ Inc.

Industry Transformation

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#### Recommendations



Improve transparency and consistency of the distribution system connection process

Establish clear rules for DER integration

Establish guidelines for commercial arrangements governing performance of non-traditional resources so utilities can rely on them as alternatives to traditional investment

Re-examine regulatory restrictions on utility business activities and review segregation of regulated and competitive services in light of new technologies

#### Published November 2018

Source: https://www.oeb.ca/about-us/who-we-are/stakeholder-and-consumer-groups/advisory-committee-innovation

Overview of Energy+ Inc.

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Advisory Committee, Report

#### Opportunities Action Towards Transformation Risks



Next Generation of Customer Engagement



Investment in Traditional Assets

New Business Models



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LDC
Perspective
on a future
Utility



**Local Collaboration** 





Inabili Ada



Advocacy

GRE

**PAND RIVER ENERGY** 

**GridSmart City** 



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#### THANK YOU

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