

UTILITY OF THE FUTURE

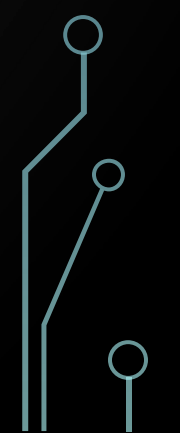
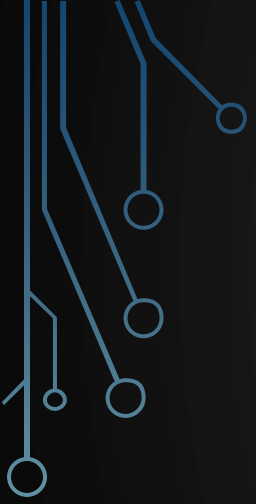
PERSPECTIVE FROM A LDC

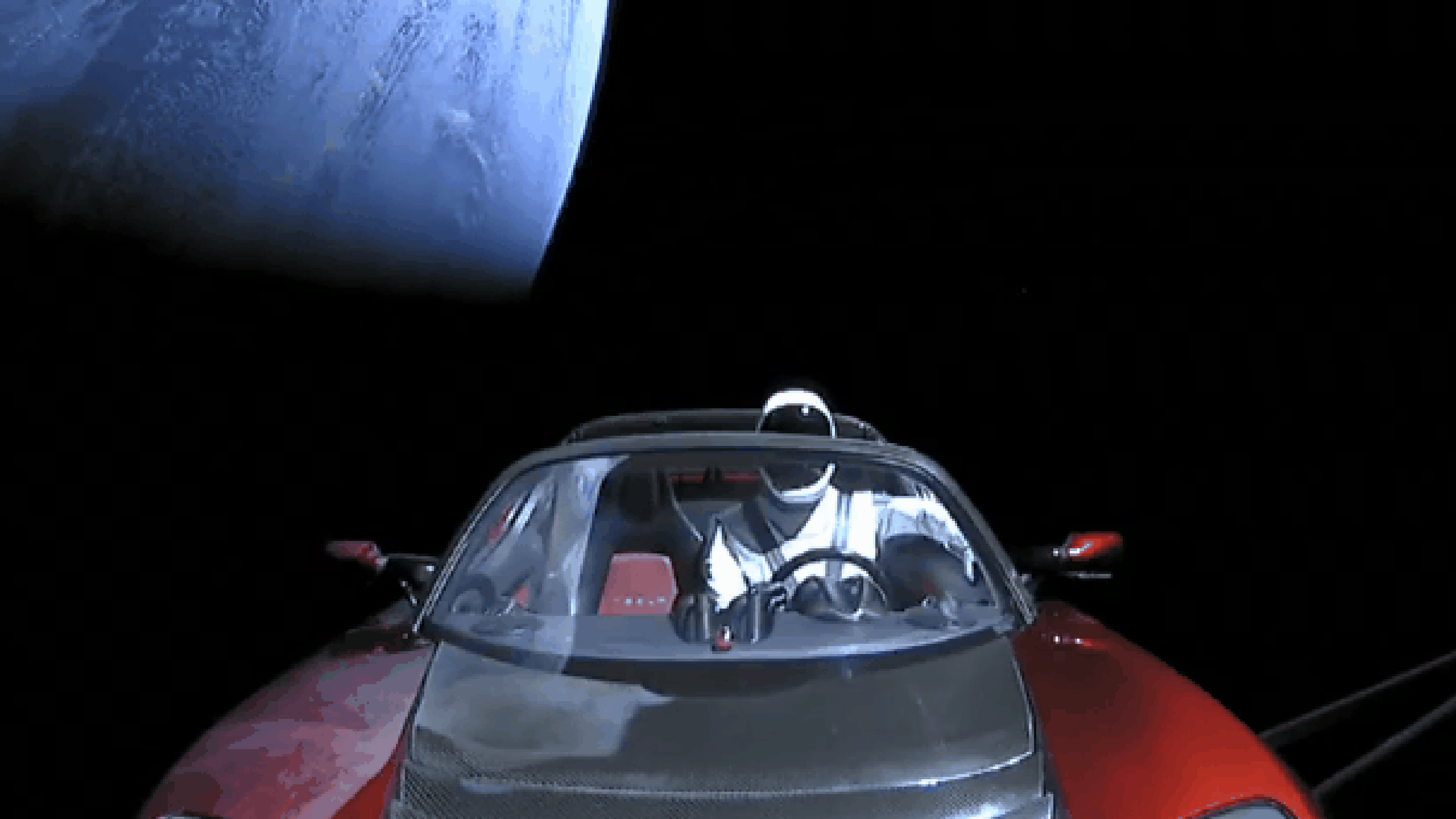


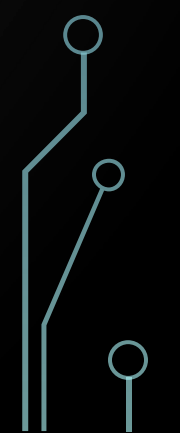
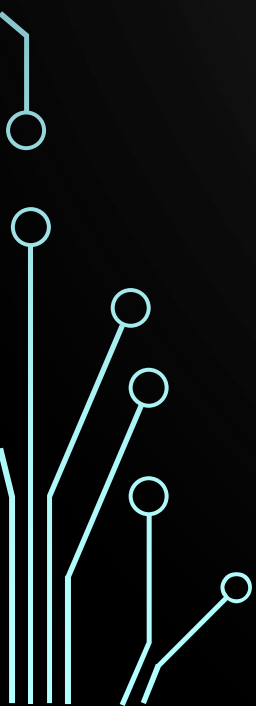
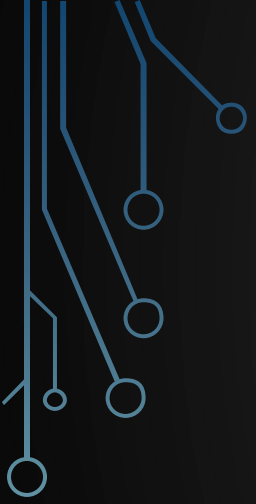
April 24, 2019

Umar Waqas, P.Eng, CEM









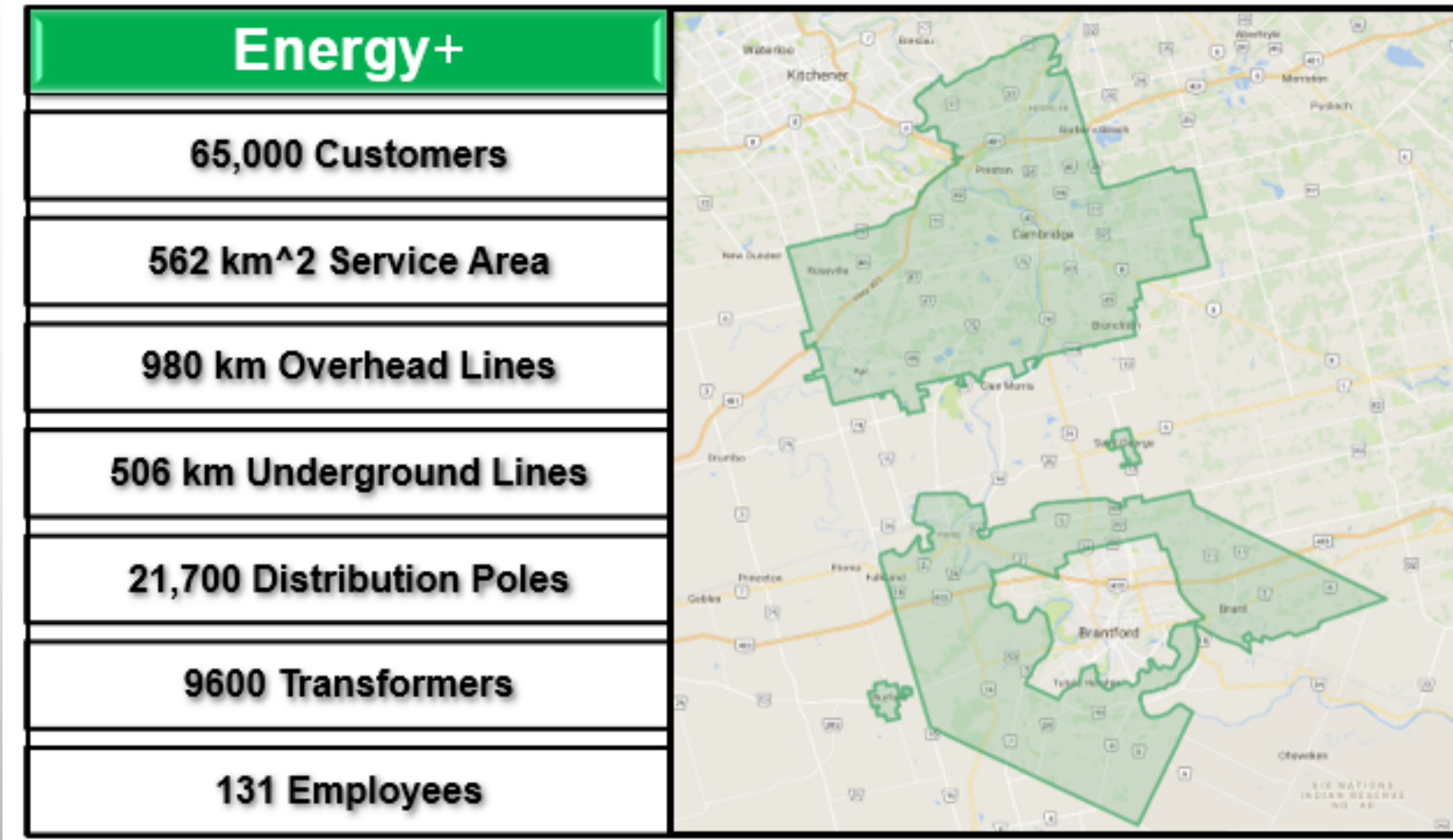
AGENDA

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

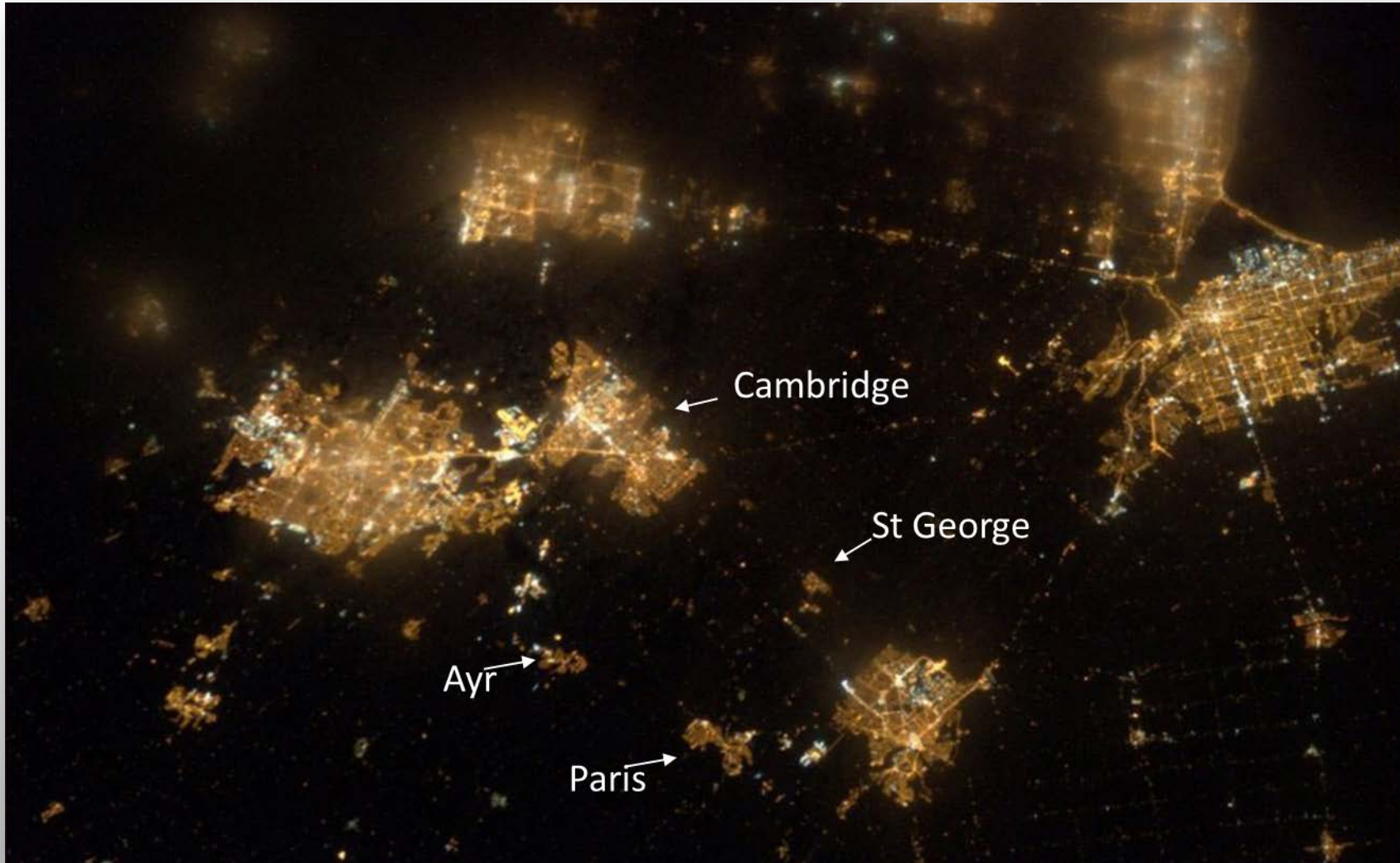
OVERVIEW OF ENERGY+ INC.



ENERGY+ AT A GLANCE



ENERGY+ INC. AT NIGHT



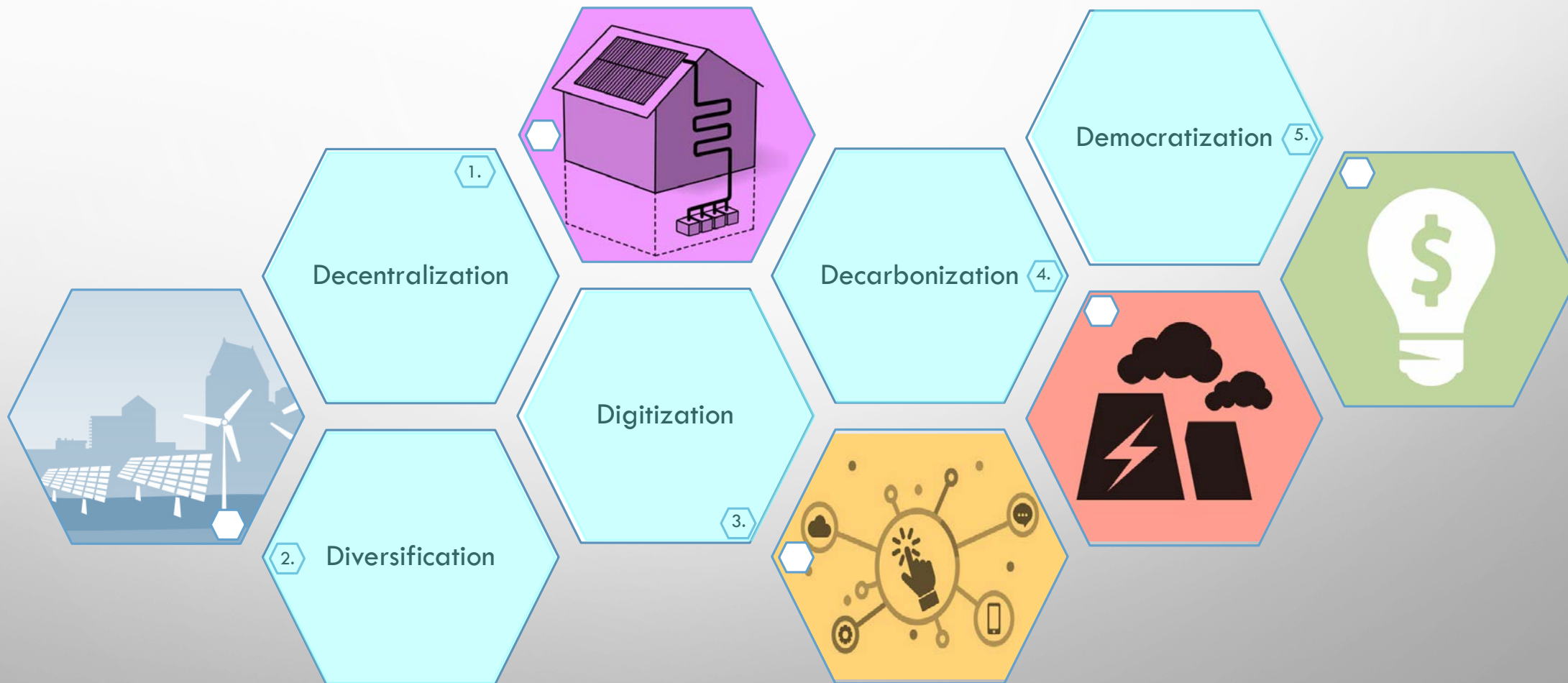
INDUSTRY TRANSFORMATION

Energy Cloud Concept – Traditional vs. Emerging Power Grid

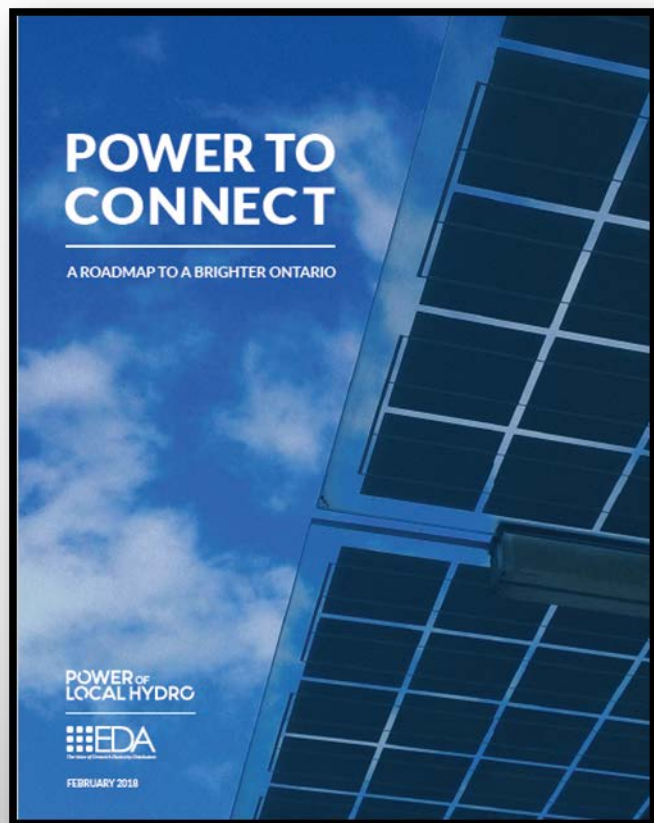


INDUSTRY TRANSFORMATION

COMMON THEMES



EDA'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;

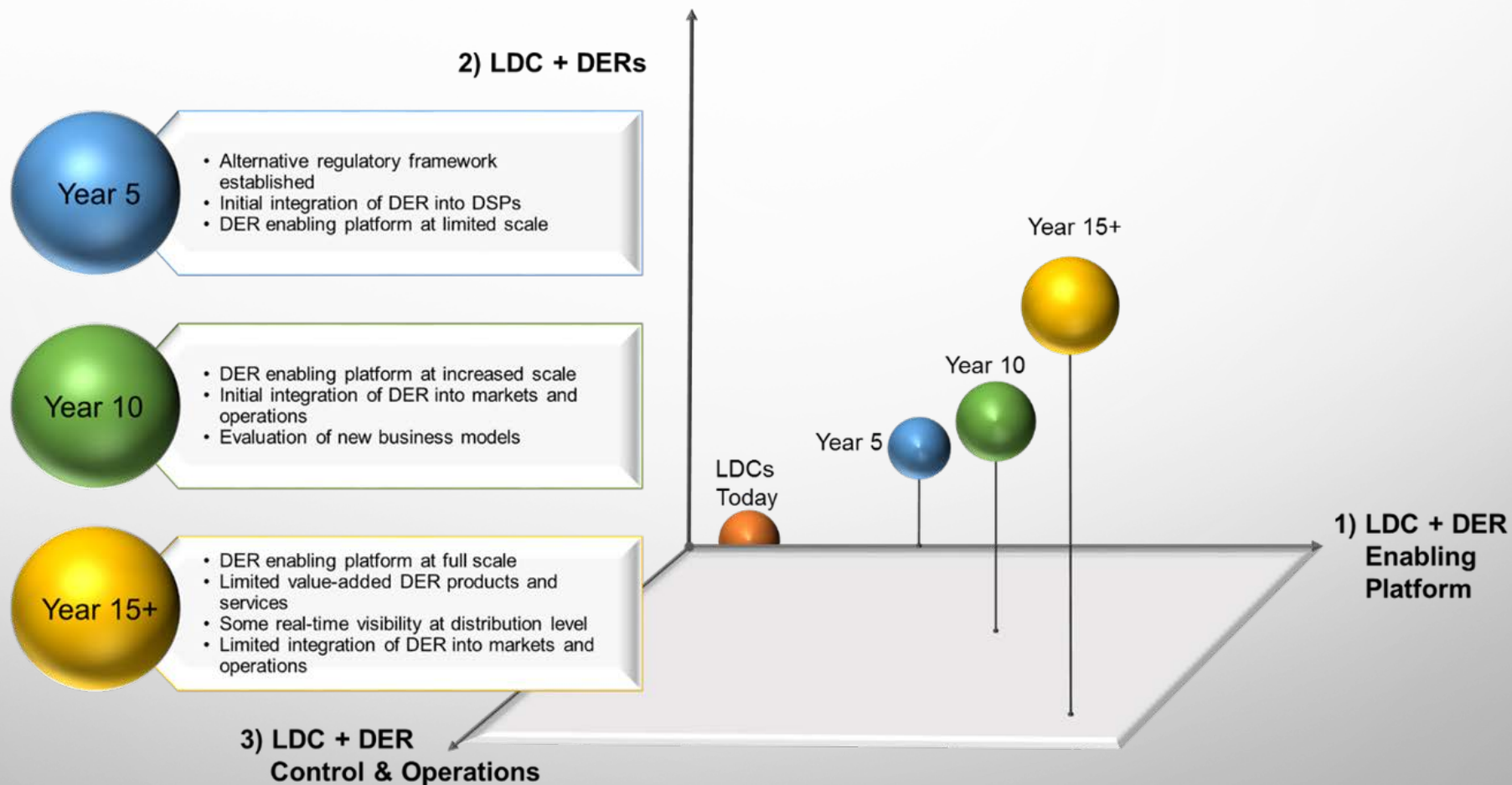
Shared services by LDCs

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>

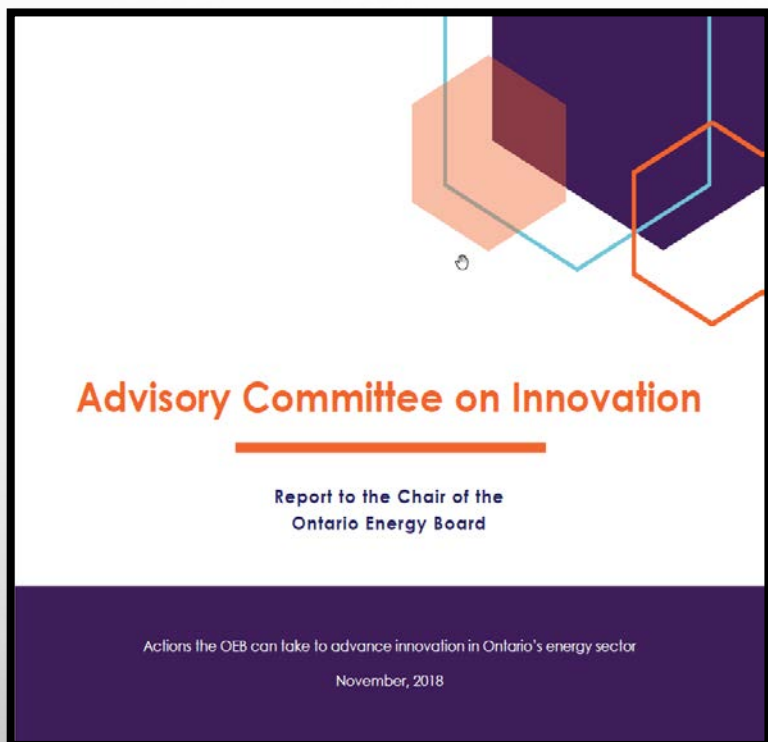
EDA'S POWER TO CONNECT - ROADMAP



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

ADVISORY COMMITTEE ON INNOVATION

Recommendations



Published November 2018

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

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

LDC
Perspective
on a Future
Utility

Next Generation of
Customer Engagement



Investment in
Traditional Assets



New Business
Models



Cybersecurity



Management of
Infrastructure



GRE



GridSmart City



Cultural Shifts



Local Collaboration

Inability to
Adapt



Advocacy

THANK YOU

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