

# Energy Law Forum

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May 5, 2022

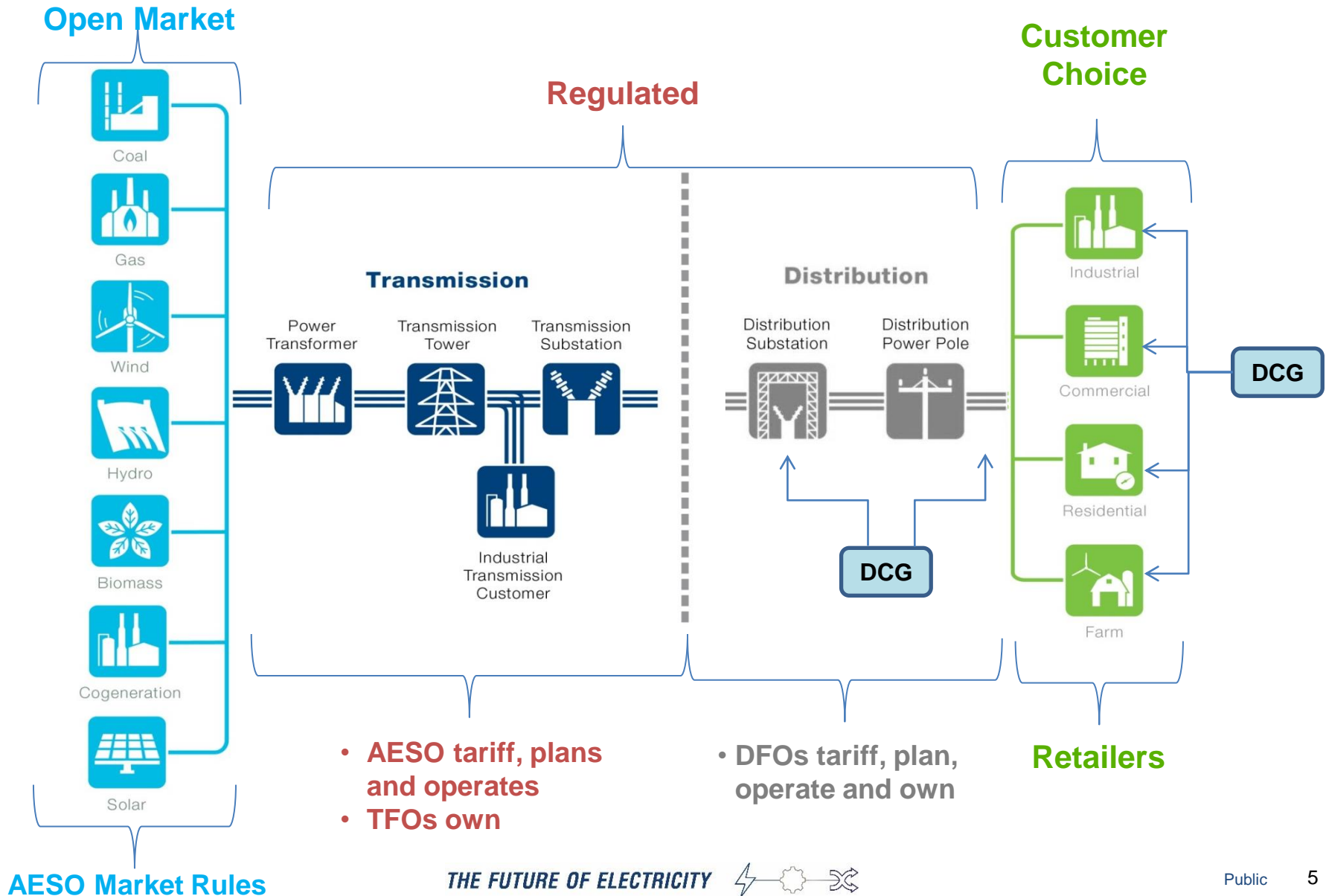
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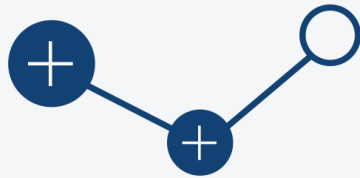
- Introduction to the AESO
- The Changing Grid
- Energy storage: A case study in regulatory change
- What does the future hold?



# Introduction to the AESO

# How the system works

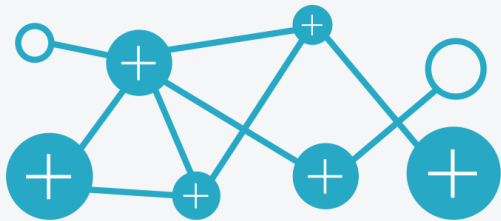




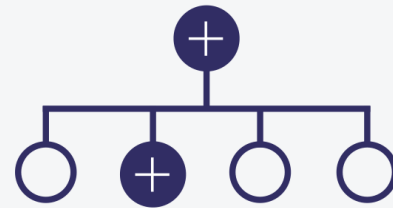
Connect  
**CUSTOMERS**



**PLAN**  
transmission



Operate the  
**GRID**



Plan and Operate the  
**MARKET**

# The Changing Grid

## Transition

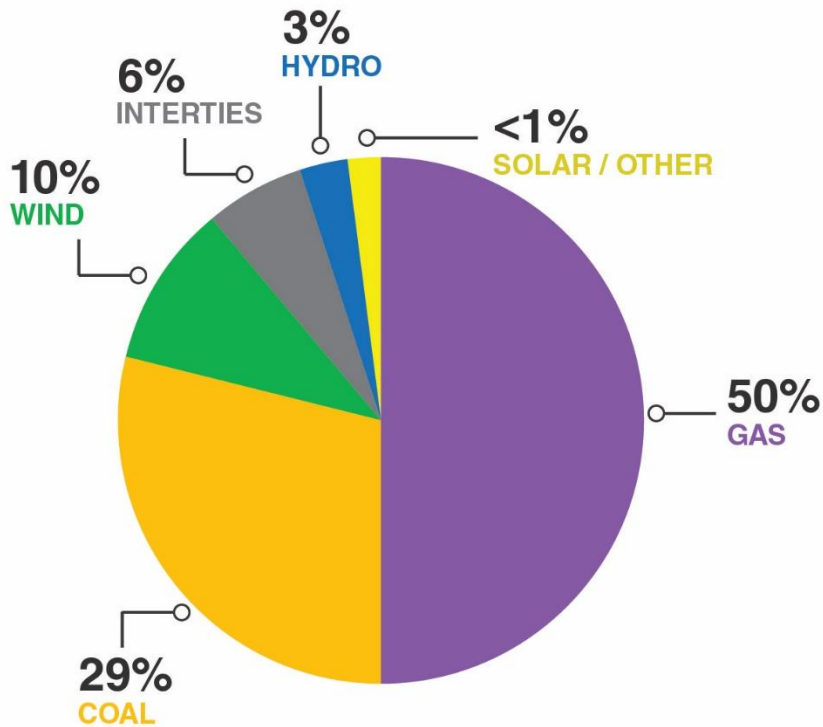
- Energy-only market sustainability and evolution
- Coal-to-gas and renewables transition
- Transmission planning (LTP)
- Tariffs & cost allocation
- DER & distribution

## Transformation

- How electricity is produced, consumed and exchanged
- Consumer expectations
- Industry disruptors & beyond
- Technology advancement



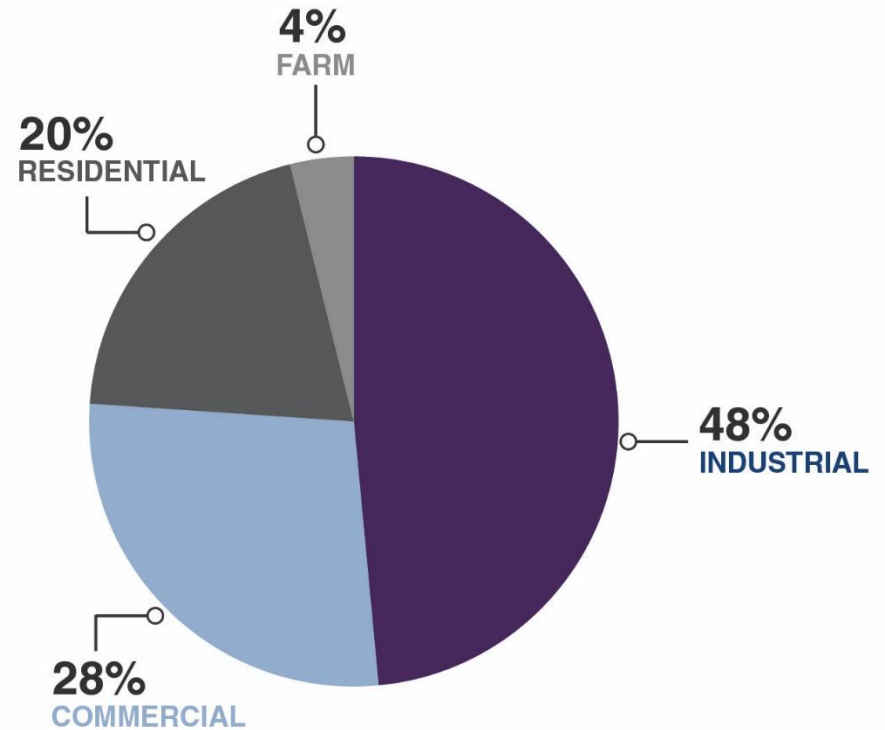
## Net-to-Grid Generation



Source: AESO 2021 Annual Market Statistics ([www.aeso.ca](http://www.aeso.ca))

This data does not include electricity that is generated behind the fence.

## Power Use in Alberta



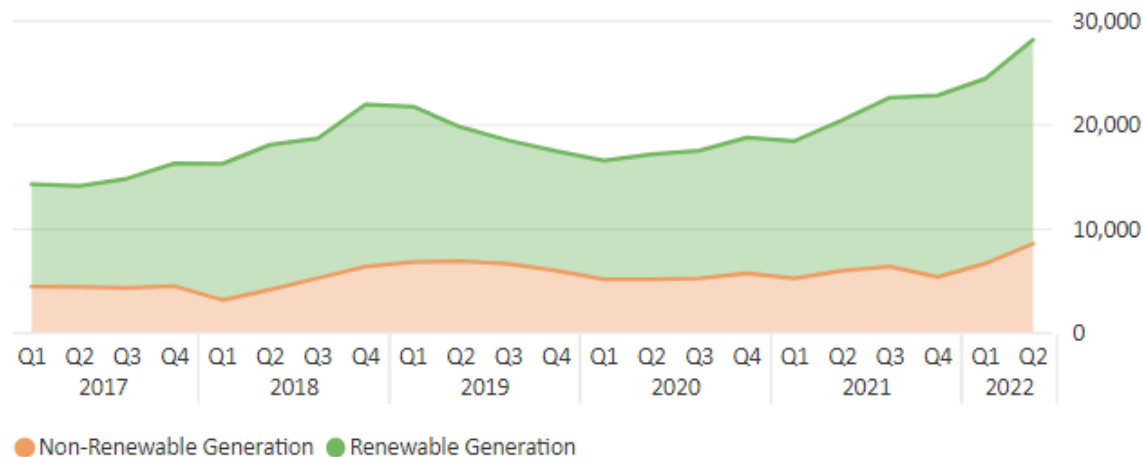
Source: Monthly Sales and Customers 2020.xlsx ([www.auc.ab.ca](http://www.auc.ab.ca))

This data does not include electricity that is consumed behind the fence.

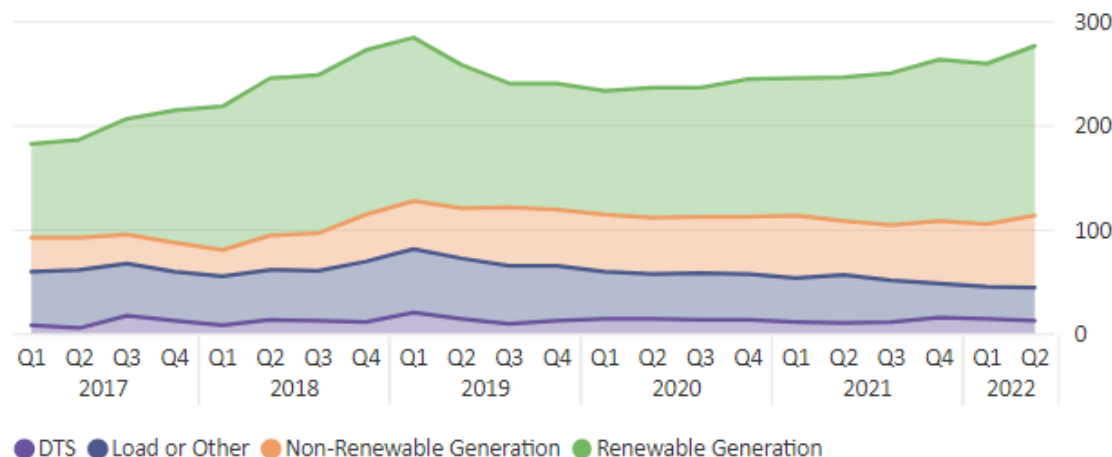
# ~30,000 MW in Connection Process Solar and Storage Accelerating

(as of Apr 20, 2022)

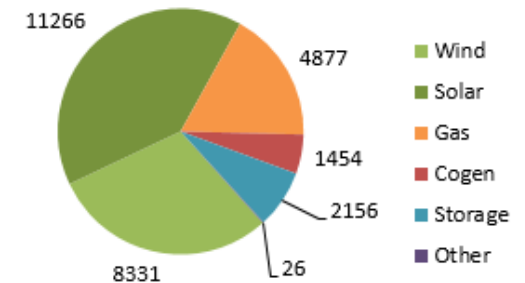
## Generation MW in the Project List



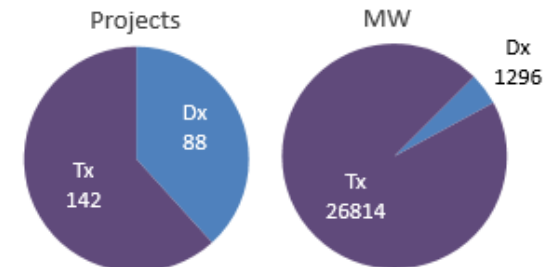
## Projects in the Project List



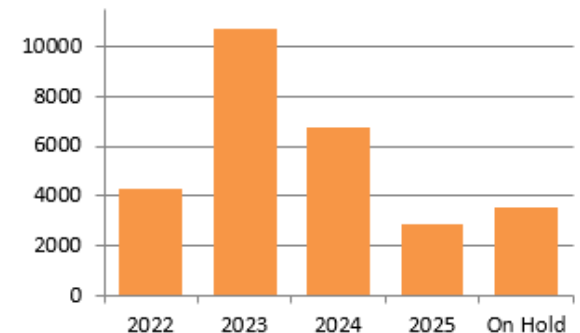
## Generation MW by Type



## Generation by Connection



## Generation MW by ISD

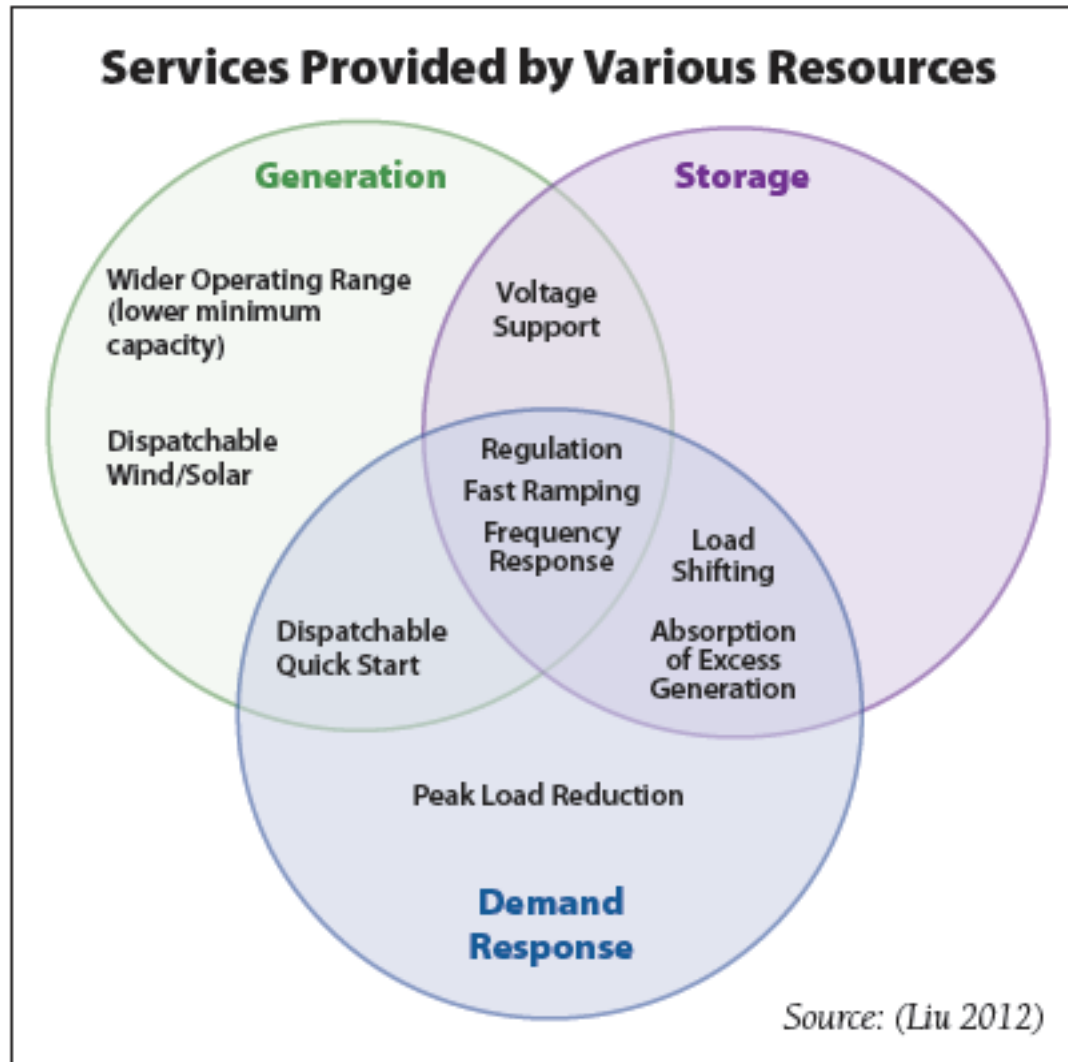


- The *AESO 2021 Technology Forward Publication* is a product of in-depth research and thinking within the AESO, in conjunction with industry consultation
- Published in November 2021, the document provides clarity around the work the AESO is doing to understand:
  - various technologies
  - where they're going
  - implications to achieve a net-zero emissions electricity sector in Alberta
- Go to [aeso.ca](https://aeso.ca) and follow the path:
  - Grid > Grid-Related Initiatives > Technology Integration > Materials > [AESO 2021 Technology Forward Publication](#)



## **Energy storage: A case study in regulatory change**

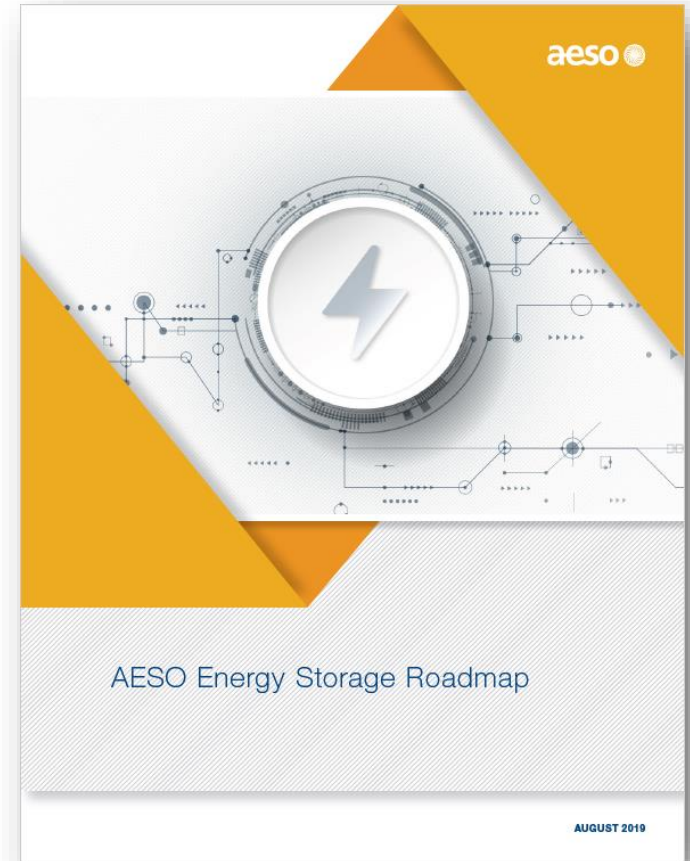
# Where Energy Storage Fits in the Big Picture



Source: <https://www.raonline.org/wp-content/uploads/2016/05/synapse-hurley-demandresponseasapowersystemresource-2013-may-31.pdf>

# AESO Energy Storage Roadmap

- *AESO Energy Storage Roadmap* published in August 2019
- Sets out the AESO's plan to facilitate the integration of energy storage technologies
  - Improves clarity required for market qualification and participation, enable efficient and effective connection as well as monitoring and control of energy storage facilities
- Go to [aeso.ca](https://aeso.ca) and follow the path:
  - Grid > Grid-Related Initiatives > Energy Storage > ES Roadmap Materials > [ES Roadmap](#)



# Working in Tandem with Other Agencies and Industry



Minister of Energy  
Appoints AESO Board, MSA & AUC Chair

*Electric Utilities Act*

*Alberta Utilities Commission Act*



Generators

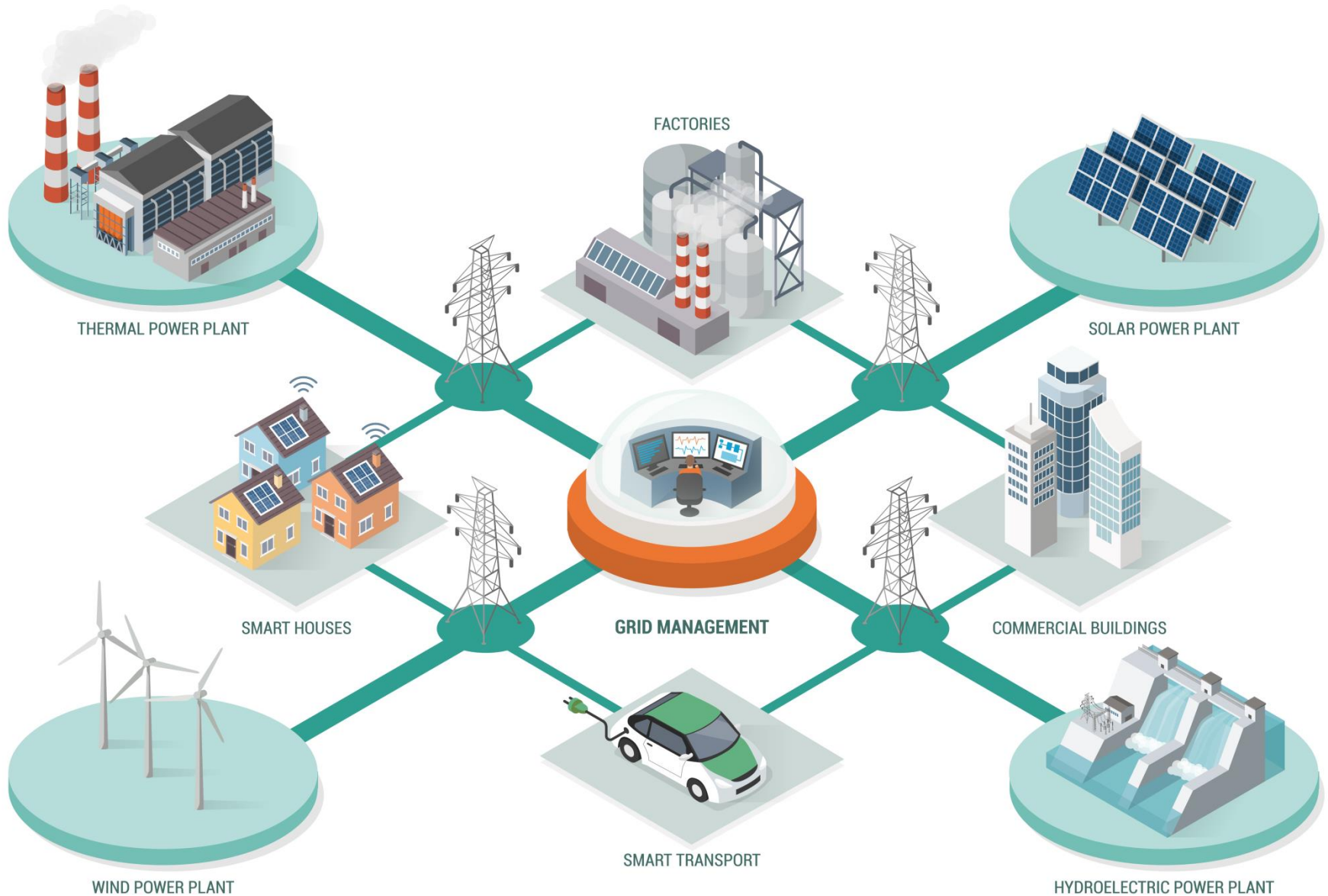
Transmission  
Facility Owners

Distribution  
Facility Owners

Retailers & Self-  
Retailers

# What Does the Future Hold?

# Grid of the future



# Contact the AESO



Twitter: **@theAESO**

Email: **stakeholder.relations@aeso.ca**

Website: **www.aeso.ca**

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Thank you