

# Energy Storage Industry Learnings Forum Kick-Off

May 20, 2020

- Welcome and introduction
- Background on Energy Storage Industry Learning Forum (ESILF)
  - Why are we here
  - Roles and expectations
  - Transparency
- Energy Storage Initiative Overview
  - AESO overview
  - Background on Energy Storage Roadmap
- Discussions
- Next steps

- Welcome
- Introduction

- The scope of the ESILF is for members to provide expertise and key learnings to the AESO on targeted matters related to the integration of energy storage in Alberta.
- The ESILF is an information gathering forum for the AESO, not a decision making body.
- Purpose of this session is to seek feedback and obtain alignment on:
  - Forum intent and method
  - Forum scope and focus areas
  - Action plan, priorities and timelines

- Roles and expectations of the AESO
  - The AESO Vice-President, Grid Reliability or the Director, Grid Planning and Operations Engineering will serve as Chair. The AESO will provide a facilitator and scribe(s) as required.
  - The AESO will provide administrative support to the forum in the form of meeting logistics, communications and documentation.
- Roles and expectations of ESILF members
  - The forum is expected to run for a term of 12-24 months beginning in May 2020. Forum members are expected to serve for the entire term.
  - All members will have an equal opportunity to share their learnings and discuss their perspectives.

The background of the slide is a blue-tinted photograph of two hands shaking in a firm grip. The hands are positioned in the center-left of the frame. The background also features a faint, geometric network of lines and dots, suggesting a digital or interconnected theme. The overall color palette is a range of blues, from light to dark.

*OUR ENGAGEMENT PRINCIPLES*

**Inclusive and Accessible**

**Strategic and Coordinated**

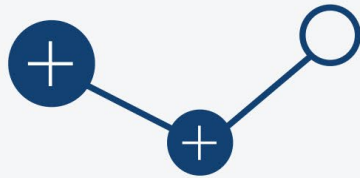
**Transparent and Timely**

**Customized and Meaningful**

- The ESILF recognizes not all of the AESO's stakeholders will be represented within the ESILF and to support the AESO's commitment to transparency, the following will be posted on the AESO website on [www.aeso.ca](http://www.aeso.ca):
  - Forum membership
  - Agendas
  - AESO or member presentations
  - Relevant discussion materials
  - Meeting summaries

# Energy Storage Initiative Overview

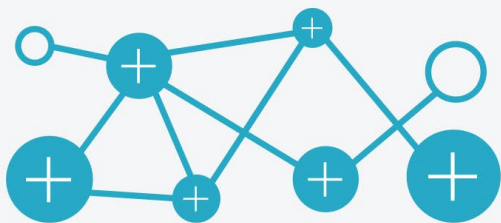




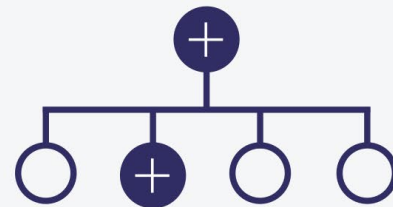
Connect  
**CUSTOMERS**



**PLAN**  
transmission



Operate the  
**GRID**



Plan and Operate the  
**MARKET**

- Responsible for safe, reliable, economic planning and operation of Alberta Interconnected Electric System (AIES)
- AESO is a not-for-profit, statutory corporation; independent of government and industry:
  - Governed by independent board appointed by Minister of Energy
  - Must operate in the public interest
  - No financial interest in any generation unit, transmission or distribution infrastructure
  - No government funding; costs recovered from Alberta ratepayers
- Highest visibility of Alberta electricity sector



- Published in August 2019 built on pre-existing work
- Represents energy storage connecting anywhere on the Alberta Interconnected Electric System (AIES)
- Improve the clarity required for market qualification and participation
- Enable efficient and effective connection of energy storage
- Monitoring and control of energy storage facilities when connected
- Short-term enablement under current framework
- Long-term integration of energy storage technologies into AESO Authoritative Documents

# Discussions

- Sets out the AESO's plan to facilitate the integration of energy storage
  - Improves clarity required for market qualification and participation, and enable efficient, effective connection, monitoring and control of energy storage facilities
- The short-term integration of energy storage into the AIES in the interim to meet in-service dates starting in mid-2020
  - Current framework and resulting Information Documents (IDs)
  - Software solutions
- The long-term integration of energy storage forms a key part of the Energy Storage Roadmap
  - Includes changes to AESO Authoritative Documents and longer-term AESO grid & market system changes

- The AESO will facilitate the integration of energy storage
- Energy storage will be approached as a unique asset type; it is neither a load nor a generator
- The AESO will be impartial to energy storage technology, configuration and point of connection

- Workshop 1
  - Economic modelling
  - Energy storage configuration options
  - Connection options

- Workshop 2
  - Market qualification parameters, process, models and data (SCADA) requirements
  - Sharing of experiences in commissioning and testing of new technologies or configurations
  - Storage as a transmission alternative (or a distribution alternative)
  - Process efficiencies within our existing framework
  - Markets opportunities in the energy and ancillary services markets, or other potential revenue streams



- Workshop 3
  - Sharing learnings from other jurisdictions on legislation, regulations and policy

- Priorities
  - Are the discussion topics in the right priority?
- Timelines

2020 Q1				2020 Q2		2020 Q3			2020 Q4		
J	F	M	A	M	J	J	A	S	O	N	D
				E		E		E		E	

- Workshop overview
- Updated documents:
  - Workshop summary
  - Workshop schedule – including dates and durations
  - Workshop agendas
- Outstanding questions
- **Please send your energy storage questions to:**
  - Email: [energystorage@aeso.ca](mailto:energystorage@aeso.ca)



- **Twitter:** @theAESO
- **Email:** [energystorage@aeso.ca](mailto:energystorage@aeso.ca)
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**Thank you**