

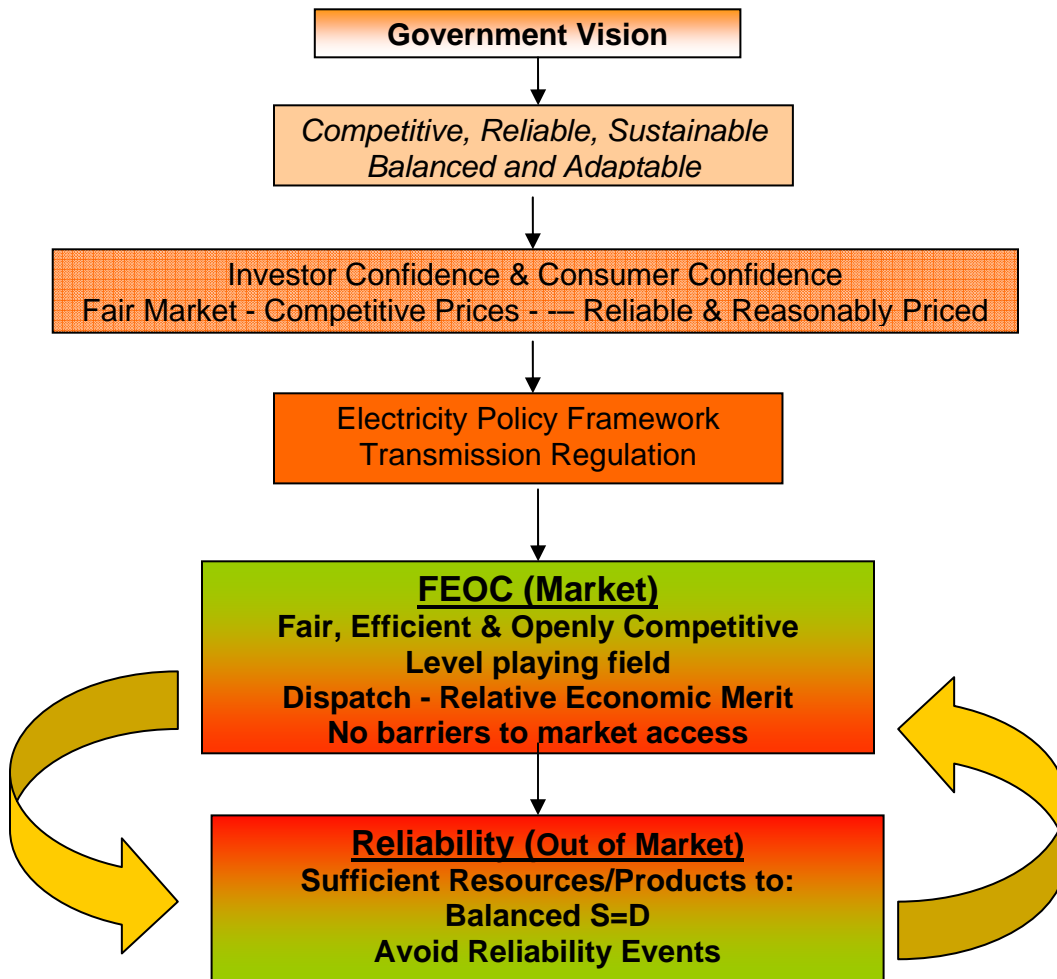
# AESO

## Demand Response Work Group (DRWG)

### Terms of Reference

#### 1.0 CONTEXT & GUIDING PRINCIPLES

The Alberta government's vision for the electricity market is illustrated below:



Specifically, the following are the relevant policy, legislation and regulation that guide the AESO and market participants in how they implement and execute their responsibilities.

1. Electric Utilities Act 2003 (EUA);
2. Transmission Regulation 2007 (T-Reg) - S15, S16, S17 and S18 in particular;
3. Alberta's Electricity Policy Framework 2005 (Market Policy);
4. Transmission Development Policy 2003 (TDP); and,
5. Future government legislation, regulations and market policies.

## Guiding Principles

- Must be consistent with FEOC principles;
  - Rules/requirements must be *fair* (comparable/reciprocal/symmetric) but not necessarily identical treatment
  - Must drive *efficient* dispatch and operations
  - Must facilitate *open competition, reduce barriers* to entry, enable increased participation, reduce concentration and, in turn, improve market liquidity;
- Must maintain or enhance system reliability – *first through competitive market outcomes followed by out-of-market outcomes*, when needed
- Must follow meaningful and transparent consultation and
- Must be flexible and adaptable to accommodate future market

## 2.0 PROBLEM STATEMENT

### Market 'Problem'

The Alberta electricity market is to “promotes the fair, efficient and openly competitive exchange of electric energy [s. 17 a]” and “give[s] all market participants in those markets and to exchange electric energy a reasonable opportunity to do so.”

With the exception of certain out of market ancillary service products, load has not actively participated in the real time market. Unintended barriers to market entry include but are not limited to:

- Benefit - Compensation,
- Technical standards/requirements,
- Products' design (not suited to demand resource providers),
- Insufficient price signal (transparent, timely, etc) to warrant a real time response,
- Lack of visibility of DR opportunities and unclear process for participating and
- Unintended outcome of market design

The primary objective of this project is to determine how demand resources can address/support market and system operations in a manner consistent with market objectives and guiding principles. Ultimately, the project will deliver rules and processes needed to remove barriers to demand response participation and facilitate fair, efficient and openly competitive outcomes.

***Problem: How can we ensure load is able to participate in Alberta's electricity markets, to the extent they are interested and able to do so?***

### Reliability Problem:

Alberta's electricity market has evolved with regulatory, technological and financial environment. Historical and projected changes suggest that:

- Demand will continue to grow with increasing risk it will outpace supply

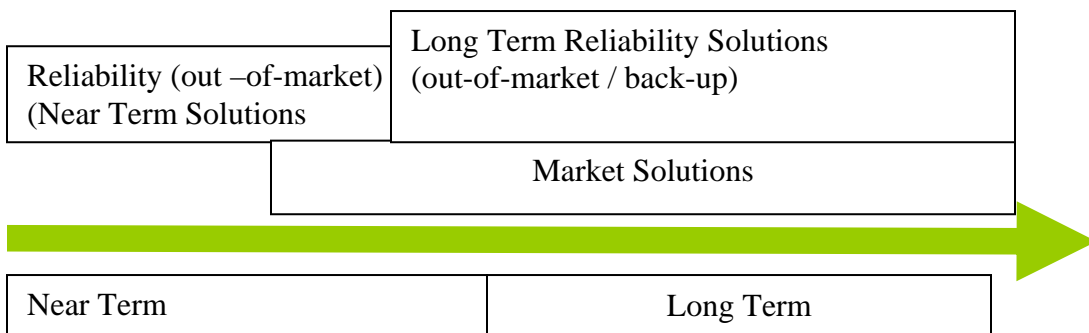
- Delays in transmission planning and regulatory processes increase the risk of congestion particularly regional congestion isolating pockets of local demand,
- Wind power and associated variability and fast ramps are increasing adding to operational risk and resource requirements such as:
  - too fast up - managed with supply reductions including wind curtailments when the system and market are unable to accommodate forecasted wind, and
  - too fast down - managed with supply additions and then by load reduction – voluntary preferred to involuntary.

Load is well suited to contribute to the electricity markets as well as can play an important role in reliability. Underdeveloped resources, however, occur for a variety of reasons including, but not limited to, inadequate compensation and/or barriers to entry. The recent Transmission Regulation includes language (s. 18) to ensure appropriate use of demand options.

***Problem: How to acquire sufficient voluntary demand response and maintain system reliability over the next X years in manner consistent with legislation and regulation.***

The needs and associated solutions differ from one another. The urgency of the problems varies as will the solutions. For example, current system conditions and resource capability present a rather immediate or timely requirement that, in absence of changes to the market design and rule, will need to be supplied through out of market mechanisms.

Market participation and its associated benefits including system reliability will likely come about later. Once market solutions are introduced and ‘tested’ in market, revisions to previous out-of-market reliability products will result where needed.



**3.0 PURPOSE:**

The purpose of the DRWG is to identify and/or develop opportunities for demand response to participate in the electricity market in a manner that facilitates (i) a fair, efficient and openly competitive electricity market and, together with out-of-market options, (ii) ensures system reliability. Where ever feasible, competitive outcomes are preferred over administrative outcomes.

Resources, including demand resources, are available over different time frames and offer different capability ranging from in-market energy and operating reserves (OR) to out-of-market contractual or regulated demand response. Demand resources can provide alternative resources which may be equally or more effective for these purposes.

The primary objective of this project is to determine how demand resources can address/support market and system operations in a manner consistent with market objectives and guiding principles. Ultimately, the project will deliver rules and processes needed to remove barriers to demand response participation and facilitate fair, efficient and openly competitive outcomes.

## 4.0 DELIVERABLES

The following outlines key deliverables for the Demand Response Initiative and the Demand Response Work Group:

### 1. **Current Situation Analysis:**

- “What” - Current Need
  - Describe current operations and reliability requirements
  - Describe current market including demand response resources
- “How” - Current Use (market and/or out of market)
  - Current Suppliers - what ‘services/products’ and for what purposes
  - Load Participation – description of contribution relative to other suppliers
  - Describe current barriers to participation

### 2. **Performance Measures:**

- Develop criteria/measures for success for (i) demand response work group/project and for (ii) demand response in Alberta.
- define performance measures for system reliability
- define measures for market performance

### 3. **Gap Analysis:**

- Evaluate the effectiveness of current tool/resources in meeting the operational and/or market requirements,
- Evaluate how current resources are or will become inadequate or insufficient

### 4. **Future Scenario(s) - Trend Analysis**

- Identify changes in the market including technology which may affect opportunities and challenges for demand response resources participation.
- Evaluate current requirements for additional resources such as demand response and future

### 5. **Options and Recommendations:**

- develop/refine options to “filling the gap”
- validate that options are consistent with market principles and are not inconsistent with policy, legislation, regulation
- Identify / note market rules or operating procedures/ practices
- Evaluate options for relative effectiveness and for which purpose/need including examination of other jurisdictions where appropriate.

### 6. **AESO Discussion Paper:**

The work and outputs noted above will be evaluated and will inform the AESO in the development of the AESO discussion paper that will subsequently be used to initiate full industry consultation on this topic.

## 5.0 GOVERNANCE & FUNCTION

### 1. Function:

- a. DRWG is not a decision-making body and, as such, there is no need for a voting structure.
- b. The AESO will make decisions consistent with its mandate and the policy framework and the rationale for decisions will be communicated.
- c. DRWG will act as 'sounding board', providing preliminary stakeholder input and feedback intended to inform and assist the AESO in developing discussion or recommendation papers.

### 2. Consultation:

- a. DRWG discussions are not intended to, and will not, supersede or preclude the need for broader industry consultation,
- b. The DRWG will not address issues from other initiatives and consultations unless the work is interrelated or interdependent, upon which reasonable effort will be made to ensure alignment/consistency.
- c. A member of the DRWG will not be precluded from participating in AESO consultation, rule making or ultimately any related Alberta Utilities Commission (AUC) process.

### 3. Transparency/Confidentiality:

- a. Discussions and deliberations within work group activities are made without prejudice and will not form any part of the record on this initiative
- b. All documentation will be assumed to be **not** confidential unless communicated otherwise
- c. The final DRWG terms of reference and any other *significant* documents developed as part of this work group activity will be posted on the AESO website. "Significant" documents will be discussed and deemed as such prior to completion.

### 4. DRWG Commitment/Composition:

This work group was an open invitation however ultimately the AESO to ensure:

- diversity and balanced representation among supply, load and other participants;
- interest and/or expertise in the Alberta market model and other deregulated markets;
- investment in, and/or commitment to, the success of the Alberta market model;
- ability to consider public interest as well as represent and promote self-interest.

Members must be:

- able to dedicate enough time to prepare for, and participate in, working group, and
- able and willing to provide input and commit resources when appropriate so that they can participate in a meaningful way