

Obstacles to Storage Principles Development

MMM DD, YYYY



Market Renewal Principles

- **Efficiency** - lower out-of-market payments and focus on delivering efficient outcomes to reduce system costs
- **Competition** - provide open, fair, non-discriminatory competitive opportunities for participants to help meet evolving system needs
- **Implementability** - work together with our stakeholders to evolve the market in a feasible and practical manner
- **Certainty** - establish stable, enduring market-based mechanisms that send clear, efficient price signals
- **Transparency** - accurate, timely and relevant information is available and accessible to market participants to enable their effective participation in the market

IESO Strategic Plan Goals	DER Strategy Guiding Principles
Be recognized as a trusted advisor, informed by engagement	Leadership: Lead the transformation of the electricity sector in Ontario as it relates to the integration of DERs, by working with sector partners and integrating DERs in areas of IESO responsibility
Deliver superior reliability performance in a changing environment	Operability: Continue to deliver superior reliability performance across all DER adoption scenarios by establishing standards, informing policy, developing operational tools and extracting services from DER
Drive to a more efficient and sustainable marketplace	Competition: Bulk system-level and distribution-level services provided by DERs should be secured through technology-neutral, competitive markets and be operated through economic and control mechanisms in an open-access grid
	Integration: To realize the potential value of DERs, a whole-system architecture perspective is needed, including increased integration of electricity system planning, electricity markets and system operations
	Granularity: To recognize the value of DERs, granular and accurate valuation and compensation of services is required, as well as granular and accurate cost allocation
Invest in our people and processes to meet the needs of the sector	Disruption: The IESO is a focused and flexible organisation that is open to technology and system architecture with disruptive potential that creates value for electricity customers

OEB Smart Grid Advisory Committee Storage WG Principles Summary

- charges and regulatory treatment of energy storage should align with the services being provided by the energy storage assets and not the ownership/operation/contractual arrangement that governs the assets
- system benefits, values and services that result from energy storage should be included in the cost causation principles and the allocation of costs and benefits associated with energy storage services in the overarching regulation and regulatory changes
- the system should encourage ongoing innovation in energy storage, the ability for energy storage to optimize the efficiency of existing Ontario energy assets, infrastructure investments, energy markets, and conservation in the Province
- energy storage is unique; While it may at times have characteristics of a generator or a load, (or a distribution/transmission asset class), or further as a customer or utility conservation and demand management tool - its inherent flexibility, benefits, and differences may warrant unique, but equitable treatment

DRAFT – Principles for identifying Obstacles for Energy Storage in Ontario

- Definition of an Obstacle:
 - An occurrence or issue that unfairly creates a disparate level in which a participant is expected to compete with other participants
- Create opportunities for Energy Storage to compete in a marketplace that is technology agnostic, that values optimization of existing (and new) assets and that encourages efficient design
- Energy Storage in the Ontario market will continue to evolve, so must the treatment of Energy Storage facilities
- Identify the charges that would be applied to Energy Storage facilities that would be considered as an obstacle based on the definition