

# Ontario Smart Grid Forum – Report back from the WORKING GROUP

Tuesday, June 21<sup>st</sup> 2011



## **Recent deliberations by the working group:**

- North American Energy Standards Board (NAESB) draft standard for third party access to smart meter-based information
- Review 3<sup>rd</sup> third party access use cases from the Corporate Partners Committee
- Storage integration framework as per the Forum's recommendation in their report.

## **Deferred from May 2<sup>nd</sup> Smart Grid Forum:**

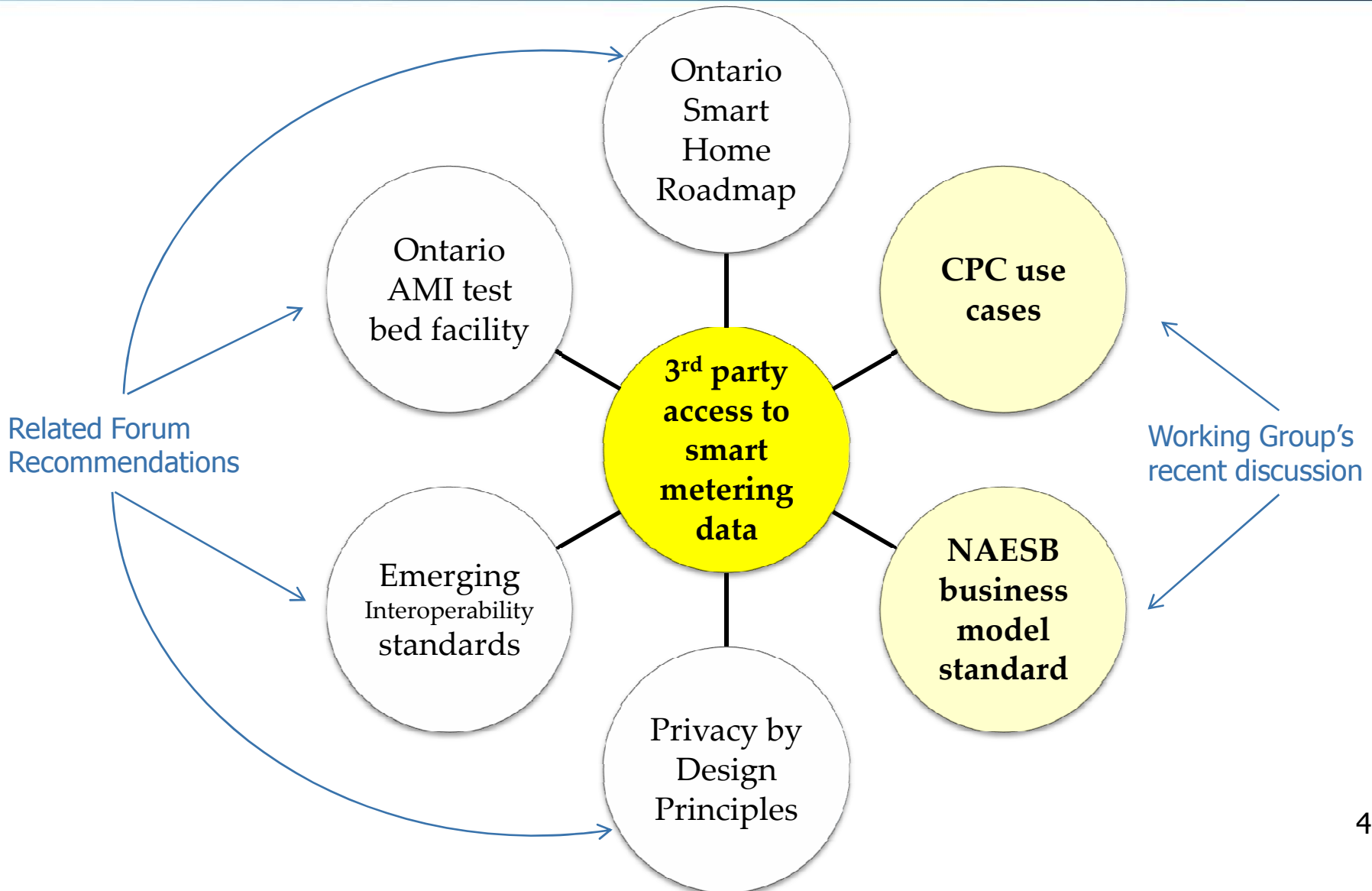
- Review of work plan priorities.



North American Energy Standards Board (NAESB)

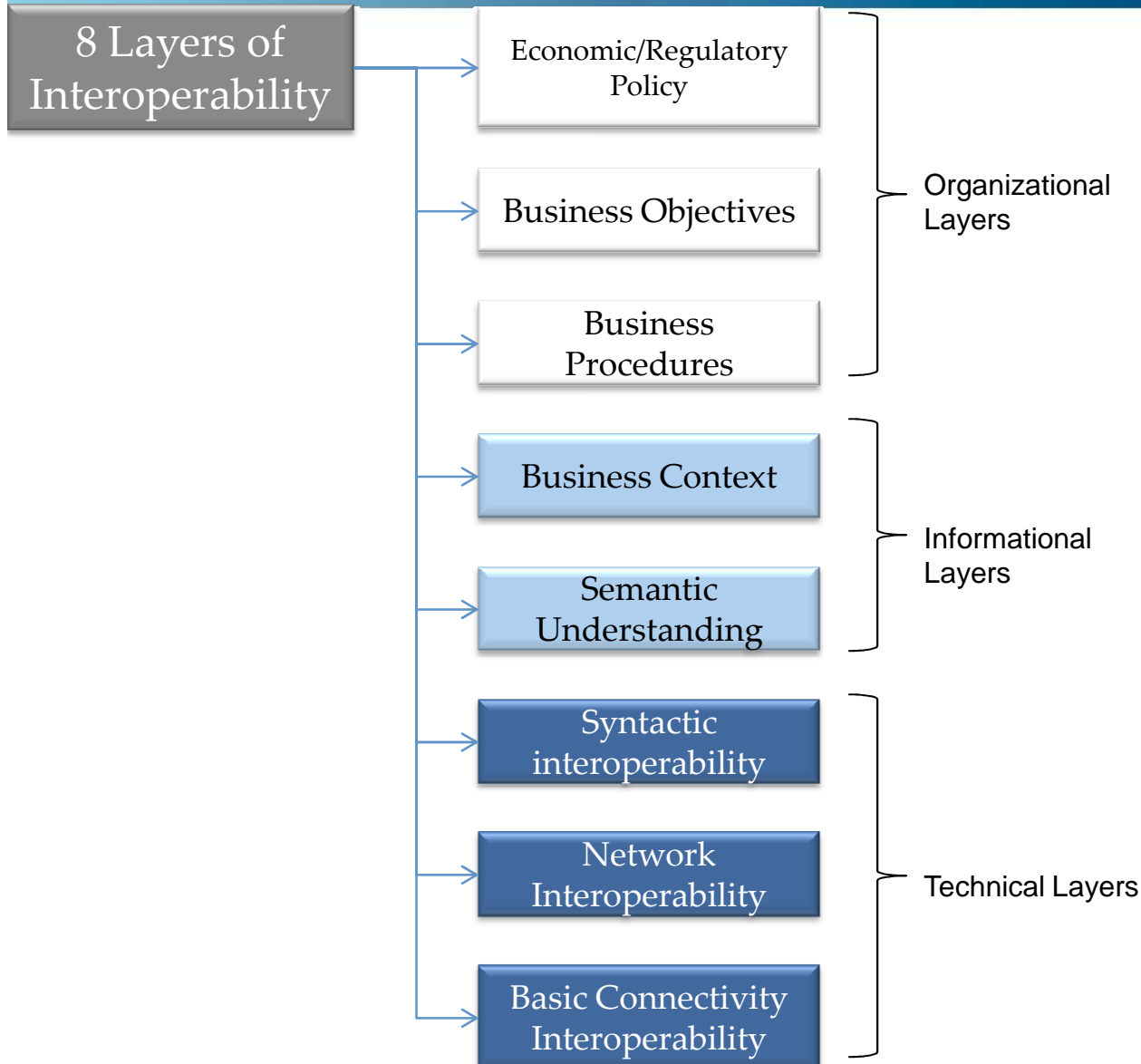
Request No.: R10012

# **“Third Party Access to Smart Meter- based Information”**



- A set of proposed, voluntary “Model Business Practices” grouped into the following areas:
  - Management and Accountability
  - Notice and Purpose
  - Choice and Consent
  - Collection and Scope
  - Use and Retention
  - Individual Access
  - Disclosure and Limiting Use
  - Security and Safeguards
  - Accuracy and Quality
  - Openness, Monitoring, and Challenging Compliance

# Where the NAESB document fits in....



Recall:  
The Gridwise  
Architectural Council  
interoperability model  
("The GWAC Stack")

# Where the NAESB document fits in....

Economic/Regulatory  
Policy

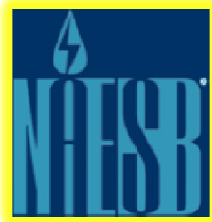


- Ontario Privacy Commissioner's Privacy by Design Principles.

Business Objectives

Business  
Procedures

Business Context



- The NAESB document spans the business procedures and context layers of the GWAC stack. It also makes certain inferences about privacy principles as well.

Semantic  
Understanding

Syntactic  
interoperability

Network  
Interoperability

Basic Connectivity  
Interoperability

**NIST**



- Standard Energy Profile (SEP2)
- ANSI C12
- NISTR 7628 (cyber security)
- IEC 62351
- Zigbee/HomePlug/OpenHAN, etc.

- *“For Retail Customers to realize the benefits of Smart Grid products and services offered by Third Parties, Smart Meter-based Information should be made available in a timely manner to Third Parties who are Authorized by the Retail Customer to receive such information.” (page 2)*
- *“Therefore, any obligation to use these voluntary Model Business Practices, including any modified form thereof, would be established by Governing Documents and Applicable Regulatory Authority rules and regulations.” (page 2)*

- **REQ.22.3.3.1.1** *Except as required by law, a Distribution Company may not disclose Smart Meter-based Information to a Third Party unless a Retail Customer's Authorization has been obtained and/or verified in accordance with the Governing Documents and any requirements of the Applicable Regulatory Authority*

- *“Once a Distribution Company or a Third Party has disclosed Smart Meter-based Information to another party, in accordance with these Model Business Practices and the Governing Documents, the disclosing party is not responsible or liable in any way whatsoever after the disclosure of that information for the security of such information, the use or misuse of such information or the subsequent disclosure by other parties.”* **REQ.22.1.8**

- During the discussion, it was generally felt that NAESB business model is consistent with Ontario's Privacy by Design Principles.
- The NAESB document provides a good outline of the ground rules that will be required, but much Ontario-specific detail would need to be added. For example:
  - Scope and volume of data transfers
  - Demarcation points between LDC and 3<sup>rd</sup> party systems
  - Jurisdiction of enforcement, adjudication, etc.

- Another practical matter that would need to be dealt with is how such business practices would actually be enforced.
- Many of the third parties involved are not licenced by the OEB. However, there are other ways such a framework could come into force. For example:
  - via legislation/regulation
  - Through an industry code that could be made legally binding between an LDC and any unlicenced 3<sup>rd</sup> party that wished to receive smart metering data.

## CPC Use Cases

- At this stage the CPC document is appropriately dealing with the first-order question as to **why** 3<sup>rd</sup> parties should have access to smart meter data.
- Scope of the use cases is currently unclear however. Does this document pertain to real-time smart meter data and/or billing quality data from the MDM/R? The issues are different depending on the context.
- Many questions remain as to if and how the CPC use cases involve the LDCs.


- CPC should continue to detail the use cases and their specific contexts. This will be a useful mechanism to focus discussion on the 2<sup>nd</sup> order questions as to how 3<sup>rd</sup> party access can and should be facilitated.
- The document needs to separate the discussion of the value proposition from the notion of “use cases” and further detail the latter of these two ideas.

## Storage integration framework



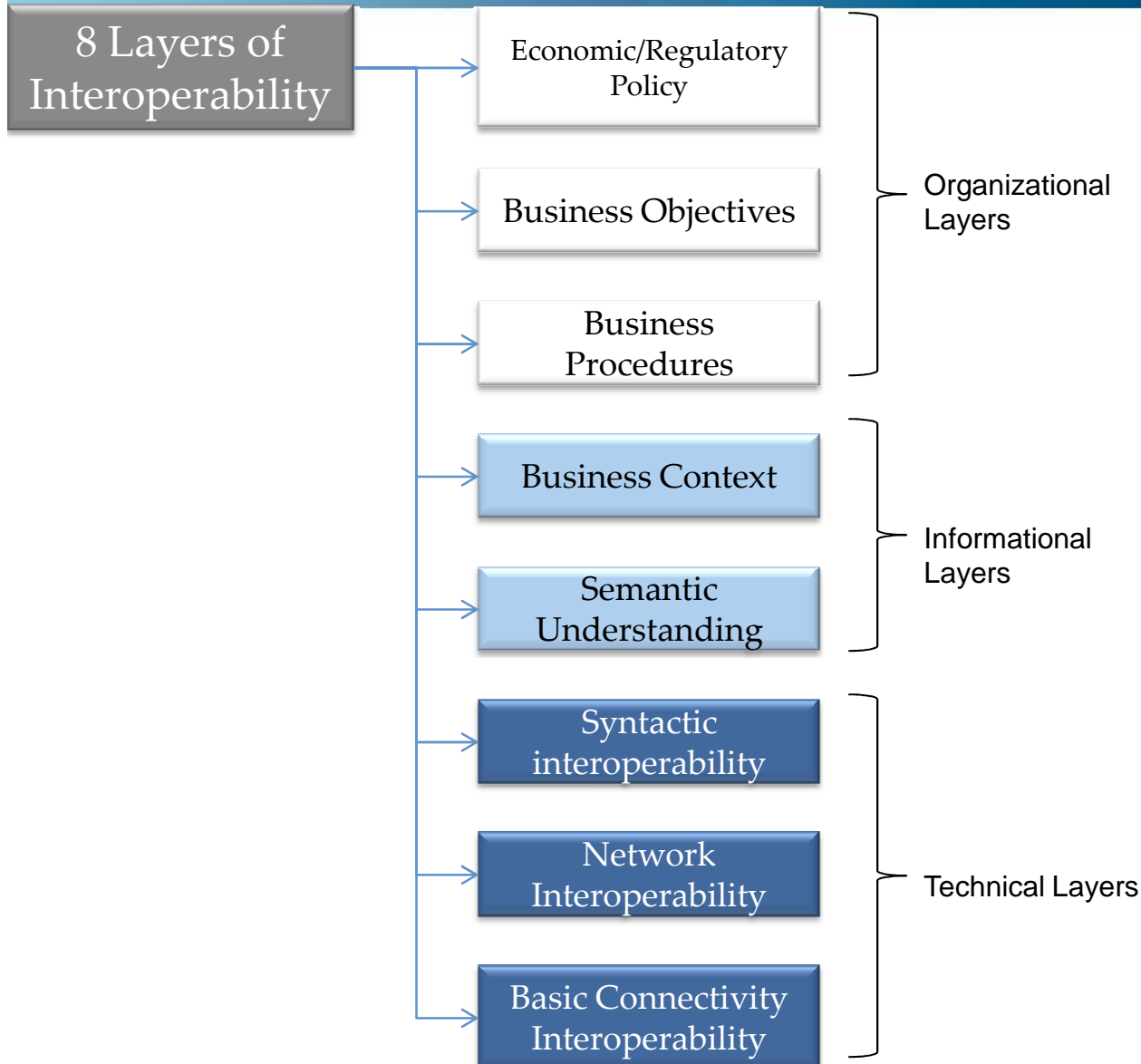
## Modernizing Ontario's Electricity System: Next Steps

Second Report of the Ontario Smart Grid Forum  
May 2011



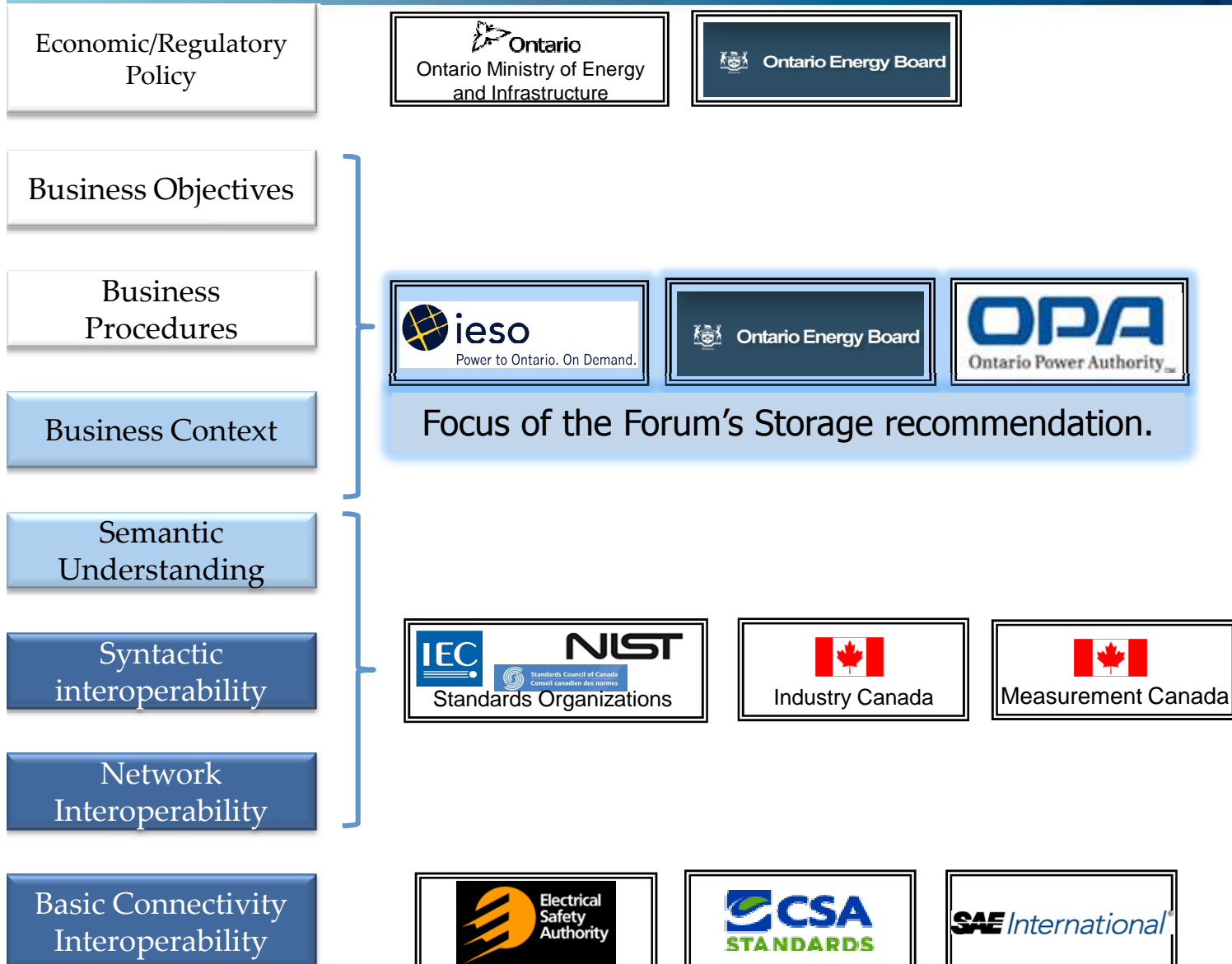
*“The Ontario Power Authority (OPA) and Independent Electricity System Operator (IESO), in consultation with industry and the Ontario Energy Board (OEB), should jointly develop a framework to promote the integration of distributed energy storage with the grid where it is cost-effective.”*

# Elements of a Framework



**Recall:**

The Gridwise Architectural Council interoperability model ("The GWAC Stack")



- The Working Group's felt is membership is well-suited to assist in some areas of the framework
- Next steps:
  1. **Research.** Drawing from pilot programs and case studies within Ontario and in other jurisdictions.
  2. **Use Case development.** As with the 3<sup>rd</sup> party meter data access questions, use cases will be a useful tool to understand how and why the utilities sector might want to utilize various types of storage assets.


- Building the framework - early topics to focus on:
  - Understanding the varying capabilities of different types of storage technologies.
  - Development of a well-defined scope for the framework with a clear boundary between those of the asset owner/customer vs. the utility.
  - Produce a set of use cases that are pertinent to the work of the organizations that are the subject of the Forum's recommendation.

## SGF Report Recommendations and potential Working Group priorities

(slides from the May 2<sup>nd</sup> SGF meeting –  
DEFERRED)

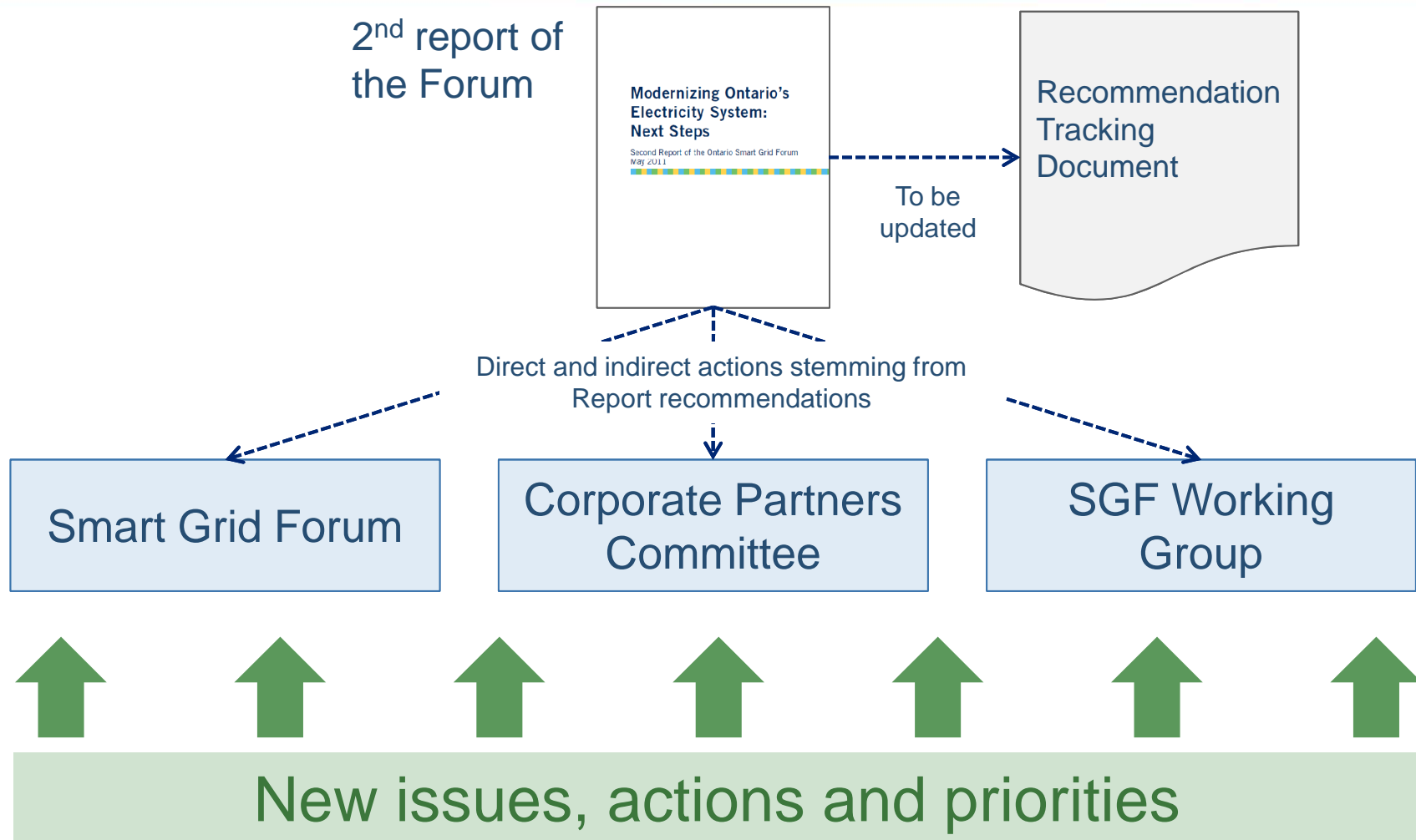
## Modernizing Ontario's Electricity System: Next Steps

Second Report of the Ontario Smart Grid Forum  
May 2011



- The second report of the Forum contains 15 recommendations in 8 categories.
- Many of these recommendations imply both direct and indirect actions for the Forum and the Corporate Partners Committee
- **The questions discussed:**  
Where and how can the Working Group assist?  
What are the top priorities? <sub>23</sub>

# The emerging need for coordination...



- Factors taken into consideration in setting work plan priorities:
  - Specific actions within the recommendations themselves
  - Work of the Corporate Partners Committee and other, external organizations
  - Desire to leverage previous work
  - Areas of expertise of the Working Group – particularly within the distribution domain

# Summary: Where the Priorities are...

Category	Recommendation	Working Group Priority
Privacy and Security	PbD Recognition	n/a - Ongoing Activity
	Complaints tracking	Low
Third-Party Access	Remove barriers to access	High
	AMI test bed tacitly	Medium
Consumer Engagement	Smart Home Roadmap	Medium
	LDCs and 3 <sup>rd</sup> party service providers	Medium
	Aggregators framework	Medium
	Identify knowledge gaps	n/a - Ongoing Activity
	Consumer Engagement Survey	Medium (initial input recently provided)
Electric Vehicle (EV) Integration	Track EV registrations	Medium
	Track Charging Stations	Medium
Storage Integration	Develop Integration Framework	High
Standards	Use existing interop. Standards	n/a - Ongoing Activity
Innovation & Economic Development	New Task Force	TBD
Measuring Smart Grid Success	Success Metrics	Medium

- Increasingly, the Forum, the Working Group and Corporate Partners Committee will be working on issues/recommendations of mutual interest to all three groups.
- A growing body of work between the three groups on specific topics areas, stemming from both this year's Forum report and the 2009 report.
- This may increase the need for a joint issue management process between the three groups.

- Bring the Recommendation Tracking document up to date with final recommendations from the Report of the Forum
- Augment the Recommendation Tracking document and/or create an issue management mechanism to track progress and activities of the Forum, Working Group and Corporate Partners
- Periodic review of major developments, new work priorities and coordination issues by the Forum

## APPENDIX:

# Specific activities associated with each Forum Report recommendation



**Modernizing Ontario's  
Electricity System:  
Next Steps**

Second Report of the Ontario Smart Grid Forum  
May 2011

*Recognizing that the 7 Privacy by Design principles developed by the Ontario Information and Privacy Commissioner provide valuable guidance with respect to compliance with applicable privacy laws and protecting consumers, these principles should be considered as best practice in the implementation of the smart grid in Ontario for both regulated and unregulated service providers.*

Category:	Privacy and Security
Specific Actions for the Forum:	None
Specific Actions for the Corporate Partners Committee:	None – but ties in with ongoing work on 3 <sup>rd</sup> party access.
<b>Possible actions for the Working Group:</b>	None – but ties in with ongoing work on 3 <sup>rd</sup> party access.
Recommended Priority:	n/a

*The Ontario Information and Privacy Commissioner should begin tracking smart-grid related consumer complaints with respect to how utilities and third parties use their information.*

<b>Category:</b>	Privacy and Security
Specific Actions for the Forum:	None.
Specific Actions for the Corporate Partners Committee:	None
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>- Possibly offer help to the privacy commission as what information should be tracked</li> <li>- but possibly review statistical data on complaints at a later date.</li> </ul>
Recommended Priority:	Low

*Barriers to facilitating third-party access to electricity consumers and their real-time consumption information should be addressed. The Forum and its Corporate Partners Committee will work with industry to resolve outstanding access issues, consistent with the Smart Grid Objectives set out in the government's directive to the Ontario Energy Board.*

Category:	Third Party Access
Specific Actions for the Forum:	None.
Specific Actions for the Corporate Partners Committee:	Sub-group on use cases
<b>Possible actions for the Working Group:</b>	Assist CPC work on use cases – particularly from the standpoint of LDC's
Recommended Priority:	HIGH

*A test bed environment should be established devoted to furthering interoperability between emerging products and services, as well as the various proprietary Advanced Metering Infrastructure (AMI) systems deployed across the province as part of the Smart Metering Initiative. The Forum and its Corporate Partners Committee will work with industry to investigate the best path forward.*

Category:	Third Party Access
Specific Actions for the Forum:	None.
Specific Actions for the Corporate Partners Committee:	Test bed sub-group.
<b>Possible actions for the Working Group:</b>	Interest of the working group is directly dependent on the scope of the test bed facility. Anything involving LDC network access is of high interest to the Working Group
Recommended Priority:	MEDIUM

*Industry and government should work toward meeting the development timelines established in the Smart Home Roadmap to bring greater control, choice, market participation and other benefits to electricity consumers. The Forum will facilitate timely development.*

Category:	Consumer Engagement
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Facilitation of government and industry dialogue.</li> <li>• Possible issue management role?</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Potential consultations with government as per recommendation.</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Help articulate the role of the LDC with respect to the Smart Home</li> <li>• Strong tie-in with CPC use case work</li> <li>• Detailed look at timelines</li> </ul>
Recommended Priority:	MEDIUM

*The interactions between LDCs and third-party service providers in each area of the smart grid value chain, including support for electric vehicles, should be examined with an eye to removing barriers to consumer service adoption. The Forum and its Corporate Partners Committee will work with industry to facilitate this effort.*

Category:	Consumer Engagement
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Facilitation of industry dialogue.</li> <li>• Possible issue management role</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Potential consultations with Forum as per recommendation</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Strong tie-in with CPC use case work</li> <li>• Examine LDC role.</li> <li>• Develop technical recommendations for consideration by the Forum.</li> </ul>
Recommended Priority:	MEDIUM

*The role that aggregators can play in delivering benefits to consumers via the smart grid should be investigated and, where appropriate, specific recommendations should be developed to facilitate their participation in the market. The Forum and its Corporate Partners Committee will work with industry to address this issue.*

Category:	Consumer Engagement
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Facilitation of industry dialogue.</li> <li>• Possible issue management role</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Potential consultations with Forum as per recommendation</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Provide insight into LDC role.</li> <li>• Develop technical recommendations for consideration by the Forum.</li> </ul>
Recommended Priority:	MEDIUM

*Gaps in knowledge specific to the development of the smart grid in Ontario should be identified and, where applicable, research should be advocated aimed at filling those gaps. The Forum will work closely with industry to identify and close knowledge gaps.*

Category:	Consumer Engagement
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Possible issue management role</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Possible issue management role</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Possible issue management role</li> <li>• Revisit the demand response problem tree work from last year</li> </ul>
Recommended Priority:	Ongoing issue

*The Ontario Ministry of Energy should conduct an annual smart grid consumer engagement survey to gain insight into how smart grid products/services are benefitting consumers and influencing consumption behaviour. The results of this survey should be shared with industry.*

Category:	Consumer Engagement
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• None</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Possible contribution to the development of the survey</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Contribution to the development of the survey (started, April 26th)</li> </ul>
Recommended Priority:	<ul style="list-style-type: none"> <li>• MEDIUM</li> </ul>

*The Ministry of Transportation should track the registration of electric vehicles and ensure that necessary information is provided to the electricity industry in a meaningful and timely manner. Where necessary, legislation and regulatory changes that facilitate this information exchange and protect consumer privacy should be made.*

Category:	E.V. Integration
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• None</li> </ul>
Specific Actions for the CPC:	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Possible contribution to the development of the technical aspects of this recommendation (e.g. Form of info., timeliness, level of detail, etc.)</li> <li>• Possible joint meeting with Ministry of Transport and Energy</li> </ul>
Recommended Priority:	MEDIUM

*The source of accurate and timely information about the installation of Level 2 and higher charging stations should be identified and made available to assure the safe and reliable operation of LDC networks. The Forum will work with the automotive and electricity sectors to identify and recommend the appropriate parties and mechanisms for supplying this information.*

Category:	E.V. Integration
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Develop a detailed recommendation.</li> </ul>
Specific Actions for the CPC:	<ul style="list-style-type: none"> <li>• Assist Forum in development of recommendation.</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Possible contribution to the development of the technical aspects of this recommendation (e.g. form, timeliness, level of detail, etc.)</li> <li>• Possible joint meeting with Ministry of Transport and Energy</li> </ul>
Recommended Priority:	<ul style="list-style-type: none"> <li>• MEDIUM</li> </ul>

*The Ontario Power Authority (OPA) and Independent Electricity System Operator (IESO), in consultation with industry and the Ontario Energy Board (OEB), should jointly develop a framework to promote the integration of distributed energy storage with the grid where it is cost-effective.*

Category:	Storage Integration
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• None</li> </ul>
Specific Actions for the CPC:	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Possible identification of technical integration barriers insofar as the distribution system is concerned.</li> <li>• Identify areas that should be locally determined by the LDC vs. province-wide authorities.</li> </ul>
Recommended Priority:	HIGH

*Industry should take advantage of widely used interoperability standards for defining smart grid specifications. Attention should be paid to the upcoming national recommendations from the Canadian National Committee of the International Electrotechnical Commission and its Task Force on Smart Grid Technology and Standards (facilitated by the Standards Council of Canada), which is monitoring international standards discussions.*

Category:	Standards
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• None</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Related to work on Long-term architecture sub-group.</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Identify Ontario-specific interests and issues of concern to the Forum</li> </ul>
Recommended Priority:	Ongoing issue.

*A new Task Force should be established to foster smart grid innovation, technology commercialization and related economic development opportunities, capitalizing on the province's public infrastructure investment in grid modernization. The Task Force, facilitated by the Forum but not exclusive to its members, would seek the active participation of public- and private-sector organizations in a position to help Ontario realize the broader economic development potential, including export opportunities, related to the smart grid over the longer term.*

Category:	Innovation and Economic Development
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• None – but possibly contribute to the Task Force.</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• None – but possibly contribute to the Task Force.</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• None – but possibly contribute to the Task Force.</li> </ul>
Recommended Priority:	Dependent upon establishment of task force

*Industry and Government, in collaboration with the Forum, should facilitate the gathering of data to support the early benchmarking and ongoing tracking of smart grid “Success Metrics. These metrics will be used to assess, over time, whether smart grid investments are delivering promised benefits.*

Category:	Measuring Smart Grid Success
Specific Actions for the Forum:	<ul style="list-style-type: none"> <li>• Identify and recommend responsible parties</li> </ul>
Specific Actions for the Corporate Partners Committee:	<ul style="list-style-type: none"> <li>• Assist in ongoing work to identify and recommend responsible parties</li> </ul>
<b>Possible actions for the Working Group:</b>	<ul style="list-style-type: none"> <li>• Assist in ongoing work to identify and recommend responsible parties</li> </ul>
Recommended Priority:	MEDIUM

Thank you.