

# NIST/Ontario roadmap snapshot comparison

Ontario Smart Grid Forum  
Tuesday, February 9<sup>th</sup> 2010



- This presentation complements a discussion paper separately circulated to the Smart Grid Forum entitled, *“Comparing the developing Ontario Policy Roadmap to the NIST Interoperability Framework”* – revised February 5, 2010

- Around the world, numerous standards bodies are currently reviewing, developing and recommending interoperability standards for various smart grid components.
- Many of these standards will ultimately affect the development of the Ontario Smart Grid.



International Electrotechnical  
Commission



The Standards Council of Canada



The Institute of Electrical and  
Electronics Engineers



U.S. National Institute of  
Standards and Technology



U.S. National Institute of  
Standards and Technology



- At the last Smart Grid Forum Meeting, it was noted that the U.S. National Institute of Standards and Technology (NIST) had recently published a working document outlining an emerging set of recognized, interoperability standards.
- Direction was given to the **Smart Grid Forum Working Group** to examine this development alongside the Ontario policy roadmap which is currently being jointly reviewed and refined by the Ministry, the SGF and the Ministry's own smart grid working group.

## NIST

U.S. National Institute of  
Standards and Technology

- “*NIST Framework and Roadmap for Smart Grid Interoperability Standards*” published January 2010
- Priority Action Plans in progress with expected delivery over the course of 2010 and early 2011
- Foundational Legislation:
  - *Energy Independence and Security Act, 2007*
  - *American Recovery and Reinvestment Act, 2009*



- Ontario smart grid policy roadmap in currently in progress.
- Four topic areas:
  1. “Broad Principles of the Smart Grid”
  2. “Consumer Control”
  3. “Utility Flexibility”
  4. “Adaptive Infrastructure”
- Foundational Legislation:
  - *Ontario Green Energy and Green Economy Act, 2009*

## NOTE:

- The version of the Ontario Policy Roadmap used in the discussion paper reflects roadmap as it stood on January 28<sup>th</sup> following a meeting of the Ministry Working Group.
- Since then, both the Ministry Working Group met again on February 5<sup>th</sup> and the roadmap continues to evolve from the version reflected in the discussion paper and these slides.

<b>Consistent</b>	<ul style="list-style-type: none"><li>• Ontario roadmap policy statements seem to be directionally consistent with NIST framework - at least at a high level.</li></ul>
<b>Unclear</b>	<ul style="list-style-type: none"><li>• Not enough information available within either the Ontario roadmap policy statements or the NIST framework to assess a level of cohesion at this time.</li></ul>
<b>Divergent</b>	<ul style="list-style-type: none"><li>• Ontario roadmap policy statements seem to be diverging with the relevant policy direction set out in the NIST framework.</li></ul>

# Comparison Summary "Broad Smart Grid Principles"

Unclear	CUSTOMER VALUE	<b>Divergence:</b> Ontario policy statement made explicit reference to cost effectiveness
Unclear	COORDINATION	<b>Divergence:</b> NIST has identified and established a permanent coordination body (SGIP)
Consistent	INTEROPERABILITY	
Consistent	SECURITY	
Consistent	PRIVACY	
Consistent	SAFETY	
Consistent	ECONOMIC DEVELOPMENT	
Unclear	ENVIRONMENTAL BENEFITS	<b>Divergence:</b> NIST report cited policy drivers that included specific smart grid contributions to GHG reduction targets.
Consistent	EFFICIENCY	

Unclear	ACCESS	<b>Divergence:</b> NIST report far more explicit about the role of non-LDC third parties
Consistent	VISIBILITY	
Consistent	CONTROL	
Consistent	PARTICIPATION IN RENEWABLE GENERATION	
Consistent	CUSTOMER CHOICE	
Unclear	EDUCATION	<b>Divergence:</b> NIST report does not specifically address this topic.

Consistent

DISTRIBUTED RENEWABLE GENERATION

Consistent

VISIBILITY

Consistent

RELIABILITY

Consistent

CONTROL AND AUTOMATION

Divergent

{power} QUALITY

**Divergence:** Ontario policy statement is specific about maintaining or improving power quality.

Consistent

OPERATIONAL SECURITY

# Comparison Summary “Adaptive Infrastructure”

Consistent FLEXIBILITY

Consistent FORWARD COMPATIBILITY, MODULARITY, SCALABILITY

Consistent ENCOURAGE INNOVATION

Unclear MANTAIN PULSE ON INNOVATION

**Divergence:** Outside the scope of the NIST paper (specific measures being carried out under the American Recovery and Reinvestment Act)

- Overall, a high degree of consistency between the *policy objectives* of the Ontario policy roadmap and the key policy drivers cited within the NIST Interoperability framework document.
- Where there were departures, there were no serious concerns raised by the Working Group...HOWEVER:
  1. The Working Group feels that while there is little, fundamental divergence at the *policy* level, there are potential areas of concern in the more detailed area of interoperability standards.
  2. The Forum should continue to monitor and, where necessary, address these areas as things unfold over the coming year.



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On Demand.

Thank you.