

Ontario Smart Grid Forum Report Back from the WORKING GROUP

Tuesday, December 7th, 2010



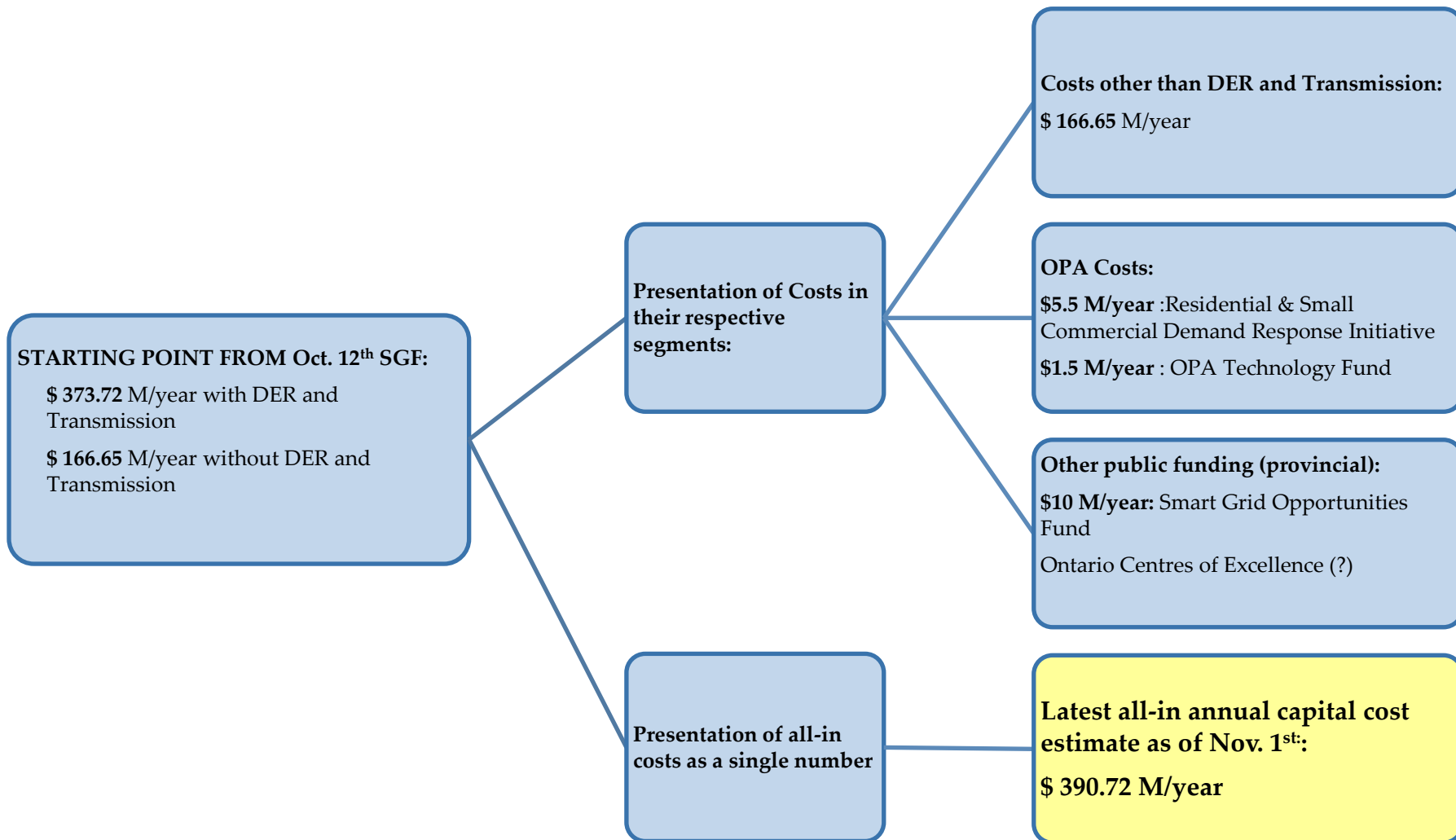
- On November 29th, the Working Group met to continue its ongoing examination of smart grid benefits to connect with the capital cost expenditure estimates developed over the past 5 months.
- As of today, there are no further changes to the cost estimates last presented on November 9th

Smart Grid Benefits

- **Recall: 2009 SGF Report (“*Enabling Tomorrow’s Electricity System*”):**
 - *“Preliminary cost projections prepared by Forum members and extrapolated to cover Ontario’s entire grid sector (distribution, transmission and the IESO) estimate that incremental annual capital spending on a smart grid would average about \$320 million over the initial five years.*”*

* “Comparisons between this estimate and the smart grid spending estimates for other jurisdictions are not meaningful because of the different spending categories included in various figures and the different starting point for each jurisdiction. For example, the above cost estimate does not include the cost of renewable energy resources or any smart meter costs. “

Recall: the costs projections



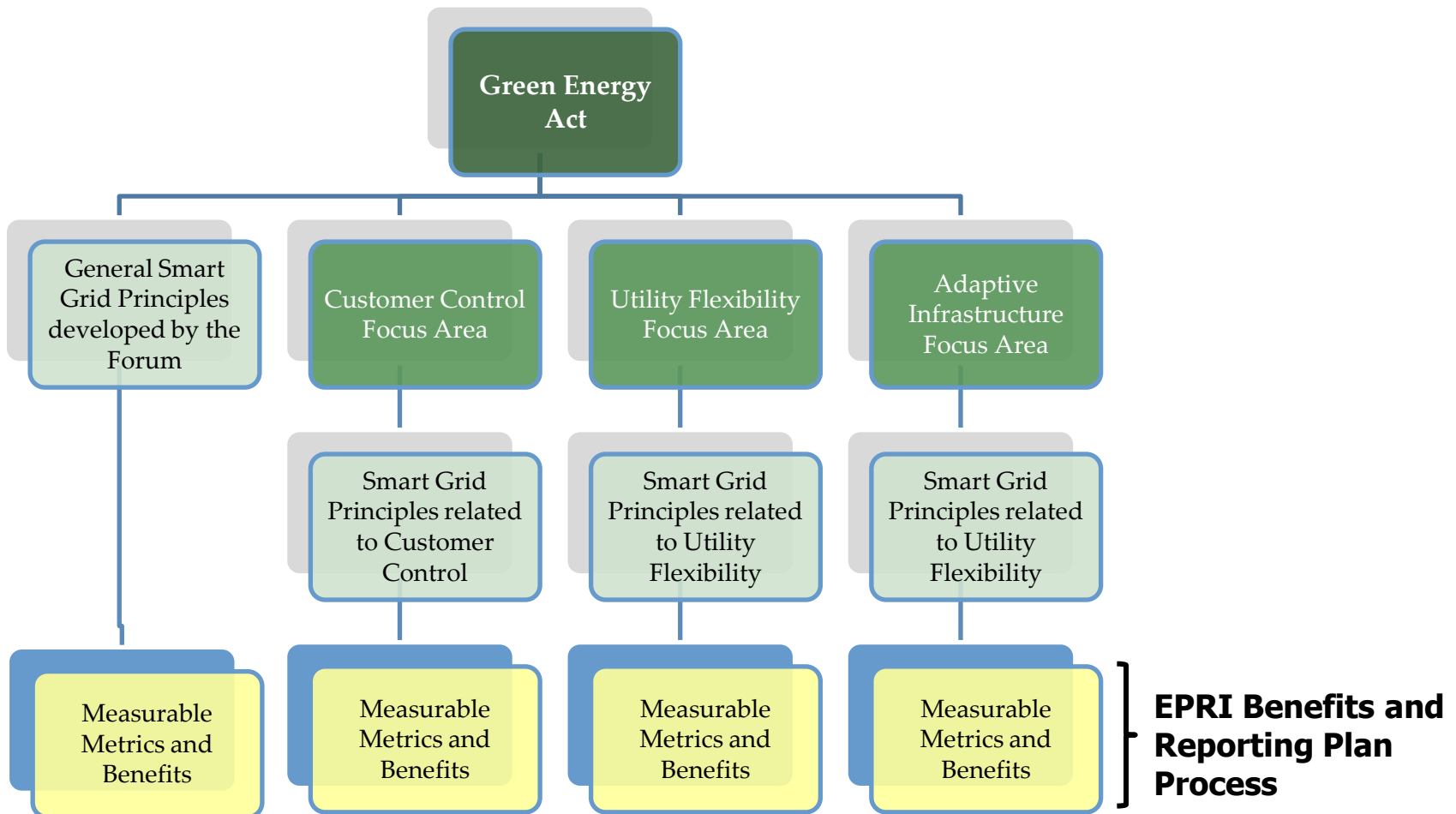
Detailed Summary of changes presented to estimates:

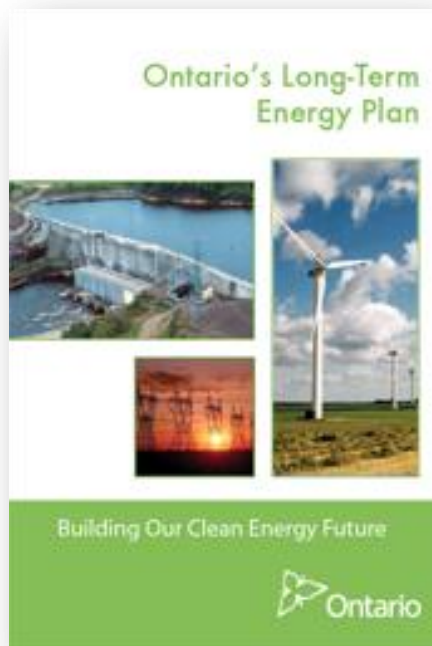
(all figures in \$ millions/year)

	As of Sept. 7, 2010	As of Oct. 12, 2010	As of Nov. 9, 2010
Consumer Technologies	3.86	10.52	17.52
Distribution	133.91	141.76	141.76
Distributed Energy Resources	196.38	198.22	198.22
Transmission	6.36	8.86	8.86
Communications	8.08	8.84	8.84
Electric Vehicles	2.59	4.06	4.06
Innovation and the Economy	0.83	1.46	11.46
Totals:	352.01	373.72	\$ 390.72

- **Recall – Priority Benefits Areas identified by the Working Group:**
 - Lowering barriers to adoption
 - Operating resiliently against attack and natural disaster; (security-related)
 - Fault detection, isolation and restoration (FDIR) (reliability-related)
 - Continuous commissioning and proactive maintenance (reliability-related)
 - Enable active participation by consumers
 - Enabling new products, services and markets
 - Optimizing asset utilization and efficient operation
 - Avoided cost of capacity and reduced operation of inefficient peaking plants (relates to efficiency, CDM and customer value principles)
 - “Power quality for the digital age”

Hierarchy of the Smart Grid benefits framework:





Questions discussed by the Working Group: *How does the Long-Term Energy Plan (LTEP) affect the Smart Grid benefits landscape in Ontario?*

- In general terms, group members did not see a dramatic shift to the benefits landscape as a result of the LTEP



Ontario

Executive Council
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Questions discussed by the Working Group:

Now that the OEB has been directed to account for the high-level smart grid principles (O-I-C. 1515/2010) , what should the immediately priorities be?

- Some suggestions by working group members to achieve early gains included:
 - Digital fault indicators and broader Fault Detection Isolation and Reconfiguration (FDIR) projects
 - Electric vehicle charging projects

Questions discussed by the Working Group: *Does the EPRI model guide how the high-level smart grid principles can be translated into tangible/measurable benefits?*

Working Group Comments:

- There is probably a need for a common cost benefit analysis approach in the province of Ontario
- A joint working session between EPRI, OEB and the LDCs would be very helpful. Possibly a role for the SGF to assist in facilitation (?)

Questions discussed by the Working Group:

What should be the appropriate “end point” for evaluating smart grid benefits? At the meter? Behind the meter? Some other logical abstraction of smart grid assets?

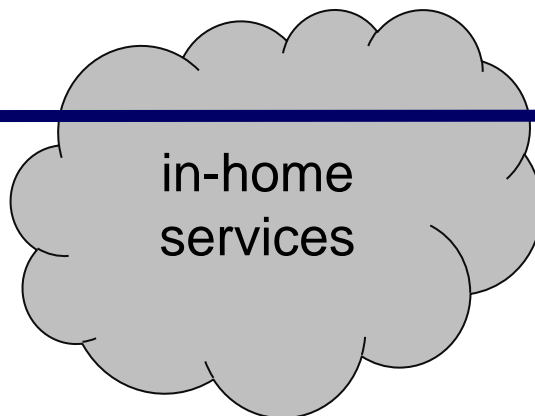
Working Group Comments:

- Benefits for consumers and benefits for LDCs need to be brought together into a single picture and the meter point should not be factor in preventing a holistic view of benefits picture.
- Electric Vehicle impact is a significant example of where this joint evaluation will be critical.

The competition question: *Where should competition play a role behind the meter?*

Open competition between LDCs
and 3rd party service providers

Natural Monopoly of the LDC



Examples:

- Field devices
- Hardware and software components
- Installations in new housing developments

Examples:

- Smart Metering
- Advanced Metering Infrastructure
- Maintaining and upgrading existing infrastructure in older dwellings and multi-unit buildings.

Thank you.