

Summary of ENERGY Edits/Comments for the 2016/17 Energy Conservation Report – Volume 2

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
1	Ch. 2, pg. 1	Final paragraph	Electricity use has remained almost unchanged, though the supply mix has changed, with more generation from natural gas and small-scale renewable energy.	Suggested revision: Electricity use has remained almost unchanged, though the supply mix has changed, with more generation from natural gas and small-scale renewable energy. Comment: Increased generation from renewables can be attributed to both large-scale projects (e.g. wind farms) and small-scale projects (e.g. rooftop solar).	REFO
2	Ch. 2, pg. 2	Figure 2.1	Note: 2015 energy use data is preliminary, meaning it is likely to be revised (typically by 1-2%) within a year by Statistic Canada. ‘Other fuels’ is missing data for coke and coke oven gas, and is therefore underreported anywhere from 0-120 PJ. Biofuels used for transportation or as natural gas are not shown as their use is negligible. [Numbers for electricity subsectors are placeholders only – Numbers will be revised]	Comment: Report identifies that values for electricity subsectors are placeholders only and will be revised, however, no placeholder values have been included. As such, no commentary can be provided on these values.	REFO
3	Ch. 2, pg. 8	Final paragraph	the biggest increase being solar (see figures 2.8 and 2.9)	Suggested revision: Should reference figure 2.7 instead.	REFO
#	Ch. 2, pg. 10	First paragraph	Ontario electricity prices have been climbing steadily since 2008 (as shown in Figure 2.11). The main reason for this increase can be explained by the largest portion of customer electricity rates: the global adjustment.	Suggested revision: The main reason for this increase can be explained by the increase in the total cost of generation resulting from changes in the supply mix. Comment: Inaccurately suggests Global Adjustment (GA) is driving the increase in electricity prices when GA a recovery mechanism for electricity supply costs. While the section goes on to explain the dynamic of contracted costs, wholesale market and the role of GA, this first sentence is misleading. Please see IESO’s 10 Year Review for more information on the increase in system cost.	EPE

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4	Ch. 2 Page 10	Final paragraph	The global adjustment has been increasing because of major capital investments that have been made in recent years as a result of the province's decisions to refurbish nuclear plants, close coal plants (which required investments in new natural gas), and procure renewable energy.	Suggested revision: "The global adjustment has been increasing because of major capital investments that have been made in recent years as a result of the province's decisions to refurbish nuclear plants, close coal plants (which required investments in new natural gas and other generation), and procure renewable energy." Comment: Current wording may suggest that coal-fired generation was replaced only by natural gas generation.	REFO
5	Ch. 2, pg. 11	Figure 2.10.	Chart.	Comment: It is unclear based on the source materials for Figure 2.10 whether the values incorporate distribution connected generation (i.e. embedded generation). Recommend specifying whether distributed generation has been included, and if it is not currently included, recommend including it.	REFO
6	Ch. 3, pg. 1	Section 3.1.9	Changes to renewable electricity procurement , including a contract for hydroelectric imports from Quebec, a freeze on new large-scale renewable electricity projects, and a transition of small-scale solar projects to net metering.	Suggested revision: "Changes to renewable electricity procurement, including a contract for hydroelectric imports from Quebec, suspension of a freeze on a procurement for new large-scale renewable electricity procurement projects, and beginning the transition from centralized procurement to an updated provincial net metering based framework that can support opportunities for future for small-scale renewable electricity projects." Comment: This section implies that the deployment of small-scale solar projects was transitioned from centralized procurement to a net metering based model. This transition was begun but continues throughout 2017. The full transition will not be complete until 2018. As well, this transition is for all renewable fuels, not just solar. Suggest adjusting the description of the suspension of the Large Renewable Procurement program. Further, suggest adjusting the net metering description to reflect that the amended regulation that came into force on July 1, 2017 has removed the 500 kW project capacity size limit (subject to the system being used primarily for the generator's own use), which could	REFO

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				potentially enable larger sized projects, and that there are other renewable energy project types eligible to net meter (not just solar PV).	
7	Chapter 3, page 3	Long Term Energy Plan	The Ministry of Energy then began consultation	Suggested revision: The Ministry of Energy then began consultation_engagement Comment: Consultation has a specific meaning for Indigenous communities	SNAP, SPAB
8	Chapter 3, page 3	Long Term Energy Plan	will set the provincial direction for the energy sector for the next 20 years, including future procurements of energy supply.	Suggested revision: will set the provincial direction for the energy sector for the next 20 years, including future procurements of energy supply. Comment: Currently makes it sound like procurement of supply is a focus of this LTEP, which it is not. The Ontario Planning Outlook show that Ontario is in a good supply position. Procurement of supply will be more technology neutral than in past LTEPs and carried out by the IESO.	SNAP, SPAB
9	Chapter 3, page 3	Long Term Energy Plan	Public consultation ended in December 2016.	Suggested revision: Public and Indigenous engagement consultation ended in December 2016 January 2017. Comment: Metis Nations of Ontario session was held in Toronto on January 14 2017.	SNAP, SPAB
10	Chapter 3, page 3	Long Term Energy Plan	At the end of June 2017 the Ministry had not announced its next steps towards finalizing the LTEP.	Suggested revision: At the end of June 2017 the Ministry had not announced its next steps towards finalizing the LTEP. The Ministry is currently developing the next LTEP based on engagement feedback received fall/winter 2016/17. Comment: The Ministry's next steps are listed on the LTEP page http://www.energy.gov.on.ca/en/ltep/ . The Ministry of Energy is currently	SNAP, SPAB

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				working with its agencies and other Ministries in developing the LTEP and implementation directives to the Independent Electricity System Operator (IESO) and Ontario Energy Board (OEB). The Ministry hosted a First Nations wrap-up event on May 17 2017 to confirm the accuracy of the Ministry's record of feedback and to receive input on the Ministry's initial ideas for the LTEP. The Ministry published an interactive summary of the engagement process and feedback on June 23 2017.	
	Ch. 3, pg. 10	2 nd paragraph under 3.5	The Ontario Rebate for Electricity Consumers Act, 2016 rebates the 8% provincial portion of the Harmonized Sales Tax from the electricity bills of households, farms, and small businesses.	Suggested revision: The Ontario Rebate for Electricity Consumers Act provides an 8% rebate equivalent to the provincial portion of the HST on the amount before tax from the electricity bills of households, farms and small businesses.	EPE
	Ch. 3, pg. 10	2 nd paragraph under 3.5	In 2017, the Ministry of Energy took further action to reduce residential electricity bills through the Fair Hydro plan.	Suggested revision: In 2017, the Province took further action to reduce electricity bills through Ontario's Fair Hydro Plan. All households benefit, including as many as half a million small businesses and farms.	EPE
	Ch. 3, pg. 10	3 rd paragraph under 3.5	Second, the Ministry of Energy expanded the Industrial Conservation Initiative program for large industries by lowering the threshold for eligibility to one megawatt (MW) average monthly demand and adding several industrial customer types.	Suggested addition: Note: as part of the Ontario's Fair Hydro Plan, ICI now includes smaller manufacturers and greenhouses with peak demand between 500 kW and 1 MW.	EPE
11	Ch. 3 Page 11	1 st paragraph, 2 nd sentence	In March, the IESO concluded the Large Renewable Procurement I (LRP I), a return to the competitive procurement model for large renewable projects. Contracts were awarded to 16 new wind, solar, and hydro projects totalling 454 MW, at lower prices (averaging 8.6 cents/kilowatt-hour for wind and 15.7 cents/kilowatt-hour for solar) than the previous feed-in tariff (FIT) model with fixed pricing.	Suggested revision: In March, the IESO concluded the Large Renewable Procurement I (LRP I), a return to the competitive procurement model for large renewable projects. Contracts were awarded to 16 new wind, solar, and hydro projects totalling 454 455 MW, at lower prices (averaging weighted average price of 8.6 cents/kilowatt-hour for wind and 15.7 cents/kilowatt-hour for solar) than the previous feed-in tariff (FIT) model with fixed pricing. Comment: Exact figure of procured capacity was 454.885. Suggest rounding up rather than rounding down. Prices cited are weighted average prices.	REFO

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12	Ch. 3 Page 11	2 nd paragraph, 1st sentence	While the Ministry was having second thoughts about new Ontario renewable energy projects, it opened the door to greater utilization of Quebec's hydroelectric resources.	Suggested revision: While the Ministry suspended an electricity procurement program for new large renewable energy projects was having second thoughts about new Ontario renewable energy projects, it opened the door to greater utilization of Quebec's hydroelectric resources. Comment: It would be more accurate to clarify that "second thoughts" refers to the suspension of the second phase of the Large Renewable Procurement program. FIT application intake occurred in 2016 and the microFIT program continued to accept applications.	REFO
13	Ch. 3, pg. 11	Pp. 3	"For smaller renewable energy projects (primarily solar), the Ministry of Energy continued to wind up the FIT pricing model, with a directive confirming that 2017 being the last year in which contracts will be offered under the microFIT program."	Suggested revision: "For smaller renewable energy projects (primarily solar), the Ministry of Energy continued to wind up down the FIT and microFIT programs, with a directions confirming that 2017 would be the last year applications would be accepted for the microFIT Program and that the final FIT application period would be held in 2016." Comment: This section states that the Minister's directive confirms that 2017 will be the last year in which contracts will be offered under the microFIT program. Instead, 2017 will be the final year in which microFIT applications will be accepted – contracts will continue to be issued in 2018 for applications that are submitted up to December 28, 2017. Also, it was the Minister's April 5, 2016 direction to the IESO that confirmed that microFIT would finish by the end of 2017. The Minister's December 16, 2016 direction did confirm that 2017 will be the last year in which FIT contracts are offered.	REFO
14	Ch. 3, pg. 11	Pp. 3	"The Ministry of Energy consulted on proposed regulatory changes to enable net metering in 2016 (Environmental Registry #012-8435), and finalized a regulation in early 2017."	Suggested revision: "The Ministry of Energy consulted on proposed regulatory changes to broaden opportunities under Ontario's enable net metering initiative in 2016 (Environmental Registry #012-8435), and finalized a regulation in early 2017."	REFO

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				Include a subsequent sentence which states “The Ministry of Energy is currently considering additional potential updates to the net metering regulation, such as allowing Third Party Ownership of net metering systems.” Comment: Net Metering has been “enabled” in legislation/regulation since 2005. Recent changes were to broaden opportunities, including removing size cap on eligible projects and allowing pairing of renewable generation with storage.	
15	Ch. 3, pg. 13	Table 3.4, line 8	“IESO concludes first phase of competitive large renewable energy procurement (LRP I), offering contracts to 16 wind, solar, and hydro projects totalling 450 MW of capacity.”	Comment: ECO lists LRP 1 procured capacity as 450 MW. Earlier in the report ECO lists the procured capacity as 454 MW. Actual procured capacity was 454.885 MW, generally rounded off to 455 MW. Suggest harmonizing to ensure consistency.	REFO
16	Ch. 3, pg. 13	Table 3.4, line18	“IESO offers FIT 4 contracts (936 contracts, 241 MW) to developers, cooperatives, municipalities and indigenous communities.”	Suggested revision: “IESO offers FIT 4 contracts (936 contracts, 241 MW) to developers, cooperatives, municipalities or public sector entities and indigenous communities.” Comment: Public sector entities should also be mentioned.	REFO
17	Ch. 3, Page 14	Table 3.4, line 25	Ministry of Energy proposes amendments to net metering regulation (O. Reg. 541/05), with the intent of transitioning small renewable electricity projects (particularly solar) from a feed-in tariff to net metering (Environmental Registry # 012-8435).	Suggested revision: Ministry of Energy proposes amendments to net metering regulation (O. Reg. 541/05), with the intent of transitioning future small renewable generation procurement (particularly solar) from a feed-in tariff model to a net metering model (Environmental Registry #012-8435). Comment: Suggest rewording to clarify that transition will involve future projects (rather than transitioning existing FIT projects to net metering).	REFO
18	Ch. 3, pg. 14	Table 3.4, line 26	“Minister directs the IESO to suspend the second round of the Large Renewable Procurement process (LRP II) and the Energy-from-Waste Standard Offer Program, halting	Suggested revision: “Minister directs the IESO to suspend the second round of the Large Renewable Procurement process (LRP II) and the Energy-from-Waste	REFO

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19			procurement of 1,000 MW of renewable energy projects.”	Standard Offer Program, halting procurement of over 1,000 MW of solar, wind, hydroelectric, bioenergy and energy from waste projects renewable energy projects.”	
	Chapter 5, page 3	5.1.1- para 2	It is also intended to increase the alignment between gas and electricity conservation activities as the framework and so covers the same time period.	Comment: Awkward phrasing. Suggest editing for clarity.	CEEB
20	Chapter 5, page 22	5.2.1	In February 2016, the government announced that \$100 million from the Green Investment Fund (a “down payment” for initiatives expected to be eligible for funding from cap and trade proceeds) would be flowed to Union Gas and Enbridge to help an estimated 37,000 homeowners undertake energy retrofits. ⁱ	Suggested revision: In February 2016, the government announced that \$100 million from the Green Investment Fund (a “down payment” for initiatives expected to be eligible for funding from cap and trade proceeds) would be flowed to Union Gas and Enbridge to help an estimated 37,000 homeowners undertake energy audits and retrofits.	CPPB
21	Chapter 5, page 22	5.2.1	Union and Enbridge will use the funding for the same retrofit program they already offered, but will be able to reach more customers. Eligibility for this program will extend beyond homeowners who heat their homes with natural gas to homeowners using oil, propane, wood, and electricity.	Suggested revision: Union and Enbridge will use the funding for the same retrofit program they already offered, but will be able to reach more customers. Eligibility for this program will extend beyond homeowners who heat their homes with natural gas to homeowners using oil, propane, wood, and electricity. Replace with: GIF enhances Enbridge and Union’s existing home energy audits and retrofit programs, the Home Energy Conservation (HEC) Program and Home Reno Rebate (HRR) Program respectively. GIF has made these existing programs more accessible to residential customers across the province (i.e. including those outside of Enbridge and Union service territories) that use natural gas, oil, propane and wood for primary heating.	CPPB
22	Chapter 5, page 22	5.2.1	Enbridge expects that the additional funding provided through the Green Investment Fund will allow it to meet program demand through the end of 2018. ⁱⁱ	Suggested revision: Enbridge expects that the additional funding provided through the Green Investment Fund will allow it to meet program demand through the end of 201 98 .	CPPB

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23	Chapter 5, page 24	5.2.3- para 1	The study found that there was a technical potential to reduce natural gas use by 46% by 2030 relative to the reference case. Selecting only measures that were economic, natural gas use could be reduced by 27% in 2030. The estimated achievable potential was lower still, and dependent on the budget utilities would have to incent conservation projects among their customers.	Suggested revision: The study found that there was a technical potential to reduce natural gas use by 46% by 2030 relative to the reference case. Selecting only measures that were economic, natural gas use could be reduced by 27% in 2030. The estimated achievable potential was lower still, and dependent on the realistic market penetration rates for programs and budget utilities would have to incent conservation projects among their customers. Comment: Note that a key difference between the economic and achievable potential scenarios is the assumption around market penetration. The economic potential scenario assumes 100% market penetration while the achievable potential scenario assumes more realistic market penetration rates. The suggested edit is similar to the language in ECO report Chapter 3 (page 8- last paragraph).	CEEB
24	Chapter 6, page 2	Abstract- para 1	The 2015-2020 Conservation First Framework (CFF) was established by the March 31, 2014 Directive to the then Ontario Power Authority (OPA) by the Minister of Energy. . The framework mandates Local Distribution Companies (LDCs) to offer conservation programs that reduce electricity consumption “as far as is appropriate and reasonable” to its individual customer segment.	Suggested revision: The 2015-2020 Conservation First Framework (CFF) was established by the Minister of Energy’s March 31, 2014 Directive direction to the then Ontario Power Authority (OPA) (now IESO) and through a Directive to the Ontario Energy Board (dated March 26, 2014).The Directive to the OEB requires the Board to establish, as a condition of license, that electricity distributors make conservation programs available to all customer segments within their service area. The framework mandates Local Distribution Companies (LDCs) to offer conservation programs that reduce electricity consumption “as far as is appropriate and reasonable” to its individual customer segment. Comment: Note that there is a technical difference between a “direction” and a “Directive”. To date, the Minister has issued “directions” to the IESO and “Directives” to the OEB. The difference between the two, being that Directives require Cabinet approval while directions require Minister approval and not cabinet approval (note, with the new LTEP process, after the agency LTEP implementation plans are released directions to the IESO will require Cabinet approval (becoming “Directives”)) . Suggest this change be made throughout the ECO report.	CEEB

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25	Chapter 6	All sections		Comment All the results presented in this report need to be sourced back to the original respective IESO reports.	CEEB
26	Chapter 6	All sections		Comment Suggest all results presented in the ECO report be verified by the IESO	CEEB
27	Chapter 6, page 2	Abstract-para 3	Previously, utility conservation programs focused on both overall electricity savings and reducing electricity use specifically at times of system peak. However, reducing peak electricity demand through targeted demand response initiatives is now solely the Independent Electricity System Operator's (IESO) responsibility, and was moved to a market-based auction system starting in late 2015. Therefore, LDCs are no longer accountable for the more difficult and more critical peak reduction targets.	Suggested revision: Previously, utilities had utility conservation programs focused on both overall electricity savings and reducing electricity use specifically at times of system peak demand reduction targets. Under the 2015-2020 Conservation First Framework, LDCs have electricity reduction targets, but do not have peak demand reduction targets. However, Reducing peak electricity demand through targeted demand response initiatives is now solely the Independent Electricity System Operator's (IESO) responsibility, and was moved to a market-based auction system starting in late 2015. Therefore, LDCs are no longer accountable for the more difficult and more critical peak reduction targets. Comment Electricity utility programs continue to achieve both electricity savings and peak demand reductions (example: incentives for smart thermostats and air conditioning systems under the Save on Energy Heating & Cooling Program). Measures that result in higher peak demand reductions can result in a higher benefit-cost ratio due to the higher value of electricity generation at peak.	CEEB
28	Ch. 6, pg. 3		"The cost of conservation is 3.5 cents/kWh compared to hydro generation at 5.8 cents/kWh, nuclear generation at 6.6 cents/kwh, 17.3 cents/kWh for gas generation and between 15-50 cents/kWh for renewable generation (solar, wind and bio energy)."	Comment: ECO lists the levelized cost of renewable generation as between 15 – 50 cents/kWh. This cost is not cited and does not align with current procurement cost ranges. ECO may be reporting average costs for all contracted renewable generation currently in-service, however, if this is the case, this should be specified. Revise cost range for renewables to current LUEC values used in IESO's	REFO

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29				Ontario Planning Outlook (6.5 – 26 cents/kWh)	
	Chapter 6, page 4	IESO-only Programs	The IESO has several programs that it administers directly for large customers. The Industrial Accelerator Program has seen dismal results to date (only 2% of target) and has had several changes made to it to increase participation through to 2020.	Suggested revision: The IESO has several programs that it administers directly for large customers. The Industrial Accelerator Program has seen dismal results to date (only 2% of target) and has had several changes made to it to increase participation through to 2020. By the end of 2015, the Industrial Accelerator Program had provided incentives to 36 energy efficiency projects resulting in total savings of 158 GWh. While program savings specific to 2015 were lower than forecasted (only 3% of target), the IESO has been making changes to increase participation through to 2020. Results could grow if IAP projects in the pipeline proceed to completion. Comment: Chapter 4 of the ECO report indicates that 3% of the IAP target has been met, whereas this paragraph notes that 2% of the IAP target being met. Suggest using one number for consistency (IESO has reported that 49 GWh of the 1.7 IAP target has been met which is about 3% of the target). Suggest that this paragraph also be edited to better reflect commentary on page 27, by acknowledging total projects to date and noting the potential for future savings to grow.	CEEB
30	Chapter 6, page 4	IESO-only Programs	The IESO is now also responsible for the demand reduction targets for the province. The Capacity Based Demand Response program, launched at the end of 2015, has seen an increase in participation from the DR 3 program.	Suggested revision: The IESO is now also responsible for the demand reduction targets for the province. The Capacity Based Demand Response program, launched at the end of 2015, has seen an increase in participation from the DR 3 program. The Capacity-Based Demand Response (CBDR) program is a transitional program, governed by the IESO Market Rules, which brings contracted demand response providers from the Demand Response 3 (DR3) program into the wholesale energy market. Comment: Language relating to the CBDR program is unclear. Suggest noting that the CBDR program is meant to be a transitional program. Source:	CEEB

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
				http://www.ieso.ca/Sector%20Participants/Market%20Operations/Markets%20and%20Related%20Programs/Capacity-Based%20Demand%20Response	
31	Chapter 6, page 4	IESO-only Programs	However, the future of peaksaver PLUS, which saw over 300,000 participants in the last framework, is still uncertain as the IESO has not moved forward with incorporating the program into its DR framework.	Suggested revision: However, the future of peaksaver PLUS, which saw over 300,000 participants in the last framework, is still uncertain as the IESO has not moved forward with incorporating the program into its DR framework. Comment: This is inaccurate. IESO has had extensive discussions with stakeholders on the transition of peaksaver into the DR Auction. See IESO DR Working Group webpage for specific presentations (ieso.ca/drwg). Specifically, see slide 6 of IESO's peak saver Transition deck (July 18) for IESO's proposed strategy to transition peaksaver resources (this deck wasn't available at the time ECO prepared its draft)	CEEB
32	Chapter 6, page 7	Section 6.2		Comment: Section 6.2 ("Comparing the two frameworks") makes reference to the 2011-2014 CDM Framework and the 2015-2020 Conservation First Framework. However there is no mention of the 2015-2020 Industrial Accelerator Program and its predecessor. For completeness, suggest that ECO also include a comparison of the two IAP programs.	CEEB
33	Chapter 6, page 11	6.3.4- Defining the different types of conservation programs in the province	6.3.4 Defining the different types of conservation programs in the province - Province-wide CFF Programs: CDM programs that have been developed by the IESO and the LDCs and available across the province currently under the Conservation First Framework (CFF). - Legacy Programs: Province-wide programs that were part of the 2011-2014 CDM Framework and were delivered or completed in 2015 as LDCs transitioned between the two frameworks	Suggested revision: - Province-wide CFF Programs: CDM programs that have been developed by the IESO and the LDCs and approved by the IESO, and that are available across the province currently under the Conservation First Framework (CFF). - IESO-only CDM programs [suggest "Centrally-Delivered Programs"]: CDM programs administered directly by the IESO for large transmission-connected customers, the distribution-connected sites of transmission-connected customers (at their option), and programs delivered to customers with sites in multiple distributor service areas.	CEEB

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
			• IESO-only CDM programs: CDM programs administered directly by the IESO for large transmission-connected customers, and demand response programs for distribution- and transmission-connected customers that are designed to deliver peak demand reduction, not energy savings. Results from IESO-only programs do not contribute to LDC targets. • Regional/local CDM programs: CDM programs developed by one LDC (local) or a group of LDCs in one region (regional) that are approved by the IESO and delivered by those LDC(s) alongside the province-wide programs. • Pilot Programs: Small-scale launch of a local/regional CDM program by an LDC to test the delivery mechanisms and savings realizations of an innovative initiative. These programs, approved by the IESO, are funded outside the CDM Plan funding to minimize budgetary risks for the LDC. • Conservation Fund Programs: Innovative conservation technologies that have the potential to deliver significant energy savings have been funded by the IESO's Conservation Fund since 2005. Recipients of the Conservation Fund can be LDCs, technology companies, consultations, educational institutions etc. Unlike pilot programs, the goal of a Conservation Fund project is not always to test an initiative with the intent of transitioning it to a full-scale LDC program.	• Demand Response programs: programs for distribution- and transmission-connected customers that are designed to deliver peak demand reduction, not energy savings. Results from IESO-only programs do not contribute to LDC targets. [Comment: DR is not a CDM program] • Regional/local CDM programs: CDM programs developed by one LDC (local) or a group of LDCs in one region (regional) that are approved by the IESO and delivered by those LDC(s) alongside the province-wide programs [for clarity, regional/local programs are delivered independently of Province-Wide CDM programs]. • LDC Innovation Fund pilots Programs: Small-scale launch of a local/regional CDM program by an LDC to test the delivery mechanisms and savings realizations of an innovative initiative. These programs, approved by the IESO, are funded through a dedicated LDC Innovation Fund, outside the CDM Plan funding to minimize budgetary risks for the LDC • Conservation Fund pilots of initiatives Programs: Innovative conservation technologies that have the potential to deliver significant energy savings have been funded by the IESO's Conservation Fund since 2005. Recipients of the Conservation Fund can be LDCs, technology companies, consultations, educational institutions etc. Unlike pilot programs funded through the LDC Innovation Fund, the goal of a Conservation Fund project is not always to test an initiative with the intent of transitioning it to a full-scale LDC program. Comment It is also important to relate the definition of CDM back to the Minister of Energy's March 26, 2014 Directive to the OEB, section 3, ii and March 31, 2014 IESO direction, section 7. Suggest reordering programs for clarity: • Regional/local CDM programs • Province-Wide CDM programs	

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				- Centrally-Delivered CDM Programs - LDC Innovation Fund pilots: - Conservation Fund pilots or initiatives - Demand Response	
34	Chapter 6, page16	6.4- para 1	It is important to point out that there was no peaksaver PLUS program in 2015 since peak demand reductions are no longer the responsibility of the LDCs. The ECO had noted in its Let's Get Serious report (that reviewed the 2014 results) that the peakSaver Plus program had seen strong growth with over 300,000 installations across the province by the end of 2011-2014 framework. The IESO has received Ministerial Direction to transition these devices, which are used to temporarily control air-conditioning fan cycles to reduce electricity use during high peak hours in the summer, to its capacity based demand response programs. A detailed update on the peakSaver Plus program is available in text box 6.8.4.	Suggested revision: It is important to point out that there was no peaksaver PLUS program in 2015 since peak demand reductions are no longer the responsibility of the LDCs. The ECO had noted in its Let's Get Serious report (that reviewed the 2014 results) that the peakSaver Plus program had seen strong growth with over 300,000 installations across the province by the end of 2011-2014 framework. The IESO has received Ministerial Direction (March 31, 2014) to transition these devices, which are used to temporarily control air-conditioning fan cycles and pool pumps to reduce electricity use during high peak hours in the summer, to its capacity based demand response programs. A detailed update on the peakSaver Plus program is available in text box 6.8.4. Comment: The peaksaver PLUS program ceased accepting new participants in 2015. However the program has continued to operate and devices continue to be triggered until the formal program termination on December 31, 2017. IESO is currently transitioning peaksaver devices to the IESO-administered DR Auction.	CEEB
35	Chapter 6, page 18	6.4.4.- Is Combined Heat and Power a Form of Conservation?, para 3	For these reasons, in the Conservation First Framework, CHP behind the meter generation (BMG) projects (under 10 MW) are considered to be part of the definition of CDM. CHPs are currently eligible to receive funding and incentives under the Process and Systems Upgrade Initiative as part of the Industrial Programs. BMG CHP projects are integral to LDCs' CDM plans and their ability to meet targets (73% of electricity savings from the industrial programs in 2015 came from BMG projects, see Section 6.4.3 for more details).	Suggested revision: For these reasons, in the Conservation First Framework and Industrial Accelerator Program, CHP behind the meter generation (BMG) projects (under 10 MW) are considered to be part of the definition of CDM. CHPs are currently eligible to receive funding and incentives under the Save On Energy Process and Systems Upgrade Initiative and the Industrial Accelerator Program as part of the Industrial Programs. BMG CHP projects are integral to LDCs' CDM plans and their ability to meet targets (73% of electricity savings from the industrial programs in 2015 came from BMG projects, see Section 6.4.3 for more details). [Suggest specifying for clarity which "industrial programs."]	CEEB

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				Comment: CHP is also eligible under the IAP program	
36	Chapter 6, page 22	Figure 6.4	Demand Response bar graph- \$36 Million	Comment: Suggest clarifying in footnote whether the Demand Response costs are specific to the CBDR program or if they include other initiatives (e.g. peaksaver PLUS).	CEEB
37	Chapter 6, page 28	6.8.2- Capacity Based Demand Response, para 2	The DR auction market has also allowed the IESO to conduct two pilots, one for large customers which explores capabilities to vary consumption throughout the day to meet changing demand conditions; and the other a residential pilot where the IESO worked with residential DR companies to understand residential load characteristics better.	Suggested revision: The DR auction market has also allowed the IESO to conduct two pilots, one for large customers which explores capabilities to vary consumption throughout the day to meet changing demand conditions; and the other a residential pilot where the IESO worked with residential DR companies to understand residential load characteristics better. Comment: It is the Ministry's understanding that the "DR auction" is not directly related to the DR pilots being conducted by the IESO. The paragraph also makes reference to a residential DR pilot. This is inaccurate- the IESO is currently not undertaking any residential DR pilot. Source: http://www.ieso.ca/sector-participants/market-operations/markets-and-related-programs/demand-response-pilot	CEEB
38	Chapter 6, page 28	6.8.2- Capacity Based Demand Response, para 3	As of December 2016, The IESO maintains 393 MW of DR response acquired through the auction, and 159 MW of DR response capacity that remains contracted through the CBDR, both of which it can dispatch during times of peak demand.	Suggested revision: As of December 2016, The IESO maintains 393 MW of DR capacity response acquired through the auction, and 159 MW of DR response capacity that remains contracted through the CBDR, both of which it can dispatch during times of peak demand. Comment: Use of the term "DR response" is inaccurate	CEEB

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
39	Chapter 6, page 29	6.8.3, para 3	In the ECO's view, the IESO should begin consultations shortly to include Residential DR into the CBDR market so that the work that has been done by the province, specifically the LDCs, to enroll Ontarians into this program does not go to waste.	Suggested revision: In the ECO's view, the IESO should begin consultations shortly to include Residential DR into the CBDR market so that the work that has been done by the province, specifically the LDCs, to enroll Ontarians into this program does not go to waste. Comment: IESO has had extensive discussions with stakeholders on the transition of peaksaver into the DR Auction. See IESO DR Working Group webpage for specific presentations (ieso.ca/drwg). Specifically, see slide 6 of IESO's peak saver Transition deck (July 18) for IESO's proposed strategy to transition peaksaver resources (understand this deck wasn't available at the time ECO prepared its draft)	CEEB
40	Chapter 6, page 33-34	6.11	On December 16, 2016, the Minister of Energy issued a Directive to the IESO that included instructions regarding the availability and delivery of province-wide programs by LDCs to their customers. The Directive required LDCs that were not delivering all province-wide CDM programs to resubmit revised CDM plans by May 1 of 2017 outlining how they plan to deliver all approved programs in their service territories. Furthermore, if an LDC decided not to deliver a province-wide program, then the IESO would deliver the program in the LDC's jurisdiction and the associated electricity savings would not be counted towards the LDC's target. This directive moved away from the original direction that established the Conservation First Framework and gave LDCs the flexibility to deliver province-wide programs in their service areas as they deemed appropriate and reasonable. It suggests that, in the Minister's view, this element of the Framework was unduly limiting customer access to some conservation programs, and required corrective action. The IESO has informed the ECO that it received 32 revised CDM plans and notification from three others indicating which province-wide programs they plan to deliver. The other plans were exempted based on technical issues and merger activities. While most LDCs are planning to deliver all	Comment: To provide additional time for LDCs to consider how they will address the Minister of Energy's June 13, 2017 letter to LDCs (requesting adequate resourcing of LDC-delivered Province-Wide CDM programs), the IESO has given LDCs until August 1, 2017 to provide notice if they would like IESO to deliver a Province-Wide Program. ENERGY recommends not reporting on revised CDM plans/programs resulting from the December 2016 direction until after this notice period.	CEEB

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
			province-wide programs, some LDCs have revised their CDM plans to drop LDC delivery of some province-wide programs. The PSU- Monitoring and Targeting Program (Industrial), the Existing Building Commissioning Program (Business) and both the Business and Residential New Construction Programs (Business and Residential) were omitted from several revised CDM plans. The IESO is planning to deliver those programs in those service territories to fill in the program gaps by the end of 2017.		
41	Chapter 6, page 34-34	6.11.2	The Whole Home Pilot program was launched in late May 2017 and is being delivered by Enbridge and Union Gas throughout the province. The pilot program is expected to integrate electricity efficiency measures into Enbridge and Union Gas' existing home retrofit offerings and offer a multi-fuel energy efficiency program. Customers will be offered incentives for retrofits/equipment upgrades through participation in home energy audits. Electricity measures such as air conditioners and appliances, in all participating homes, and additional measures including insulation and air sealing in electrically-heated homes, will be funded by the Conservation First framework. The program is expected to run until the end of 2017 and include approximately 22,000 households.	Suggested revision: The Whole Home Pilot program was launched in late May 2017 and is being delivered by Enbridge Gas and Union Gas throughout the province, through a partnership with the IESO . The pilot program has is expected to integrated electricity efficiency measures into Enbridge and Union Gas' existing home retrofit offerings and expanded the program to electrically-heated homes. This one-stop multi-fuel whole home approach builds on the \$100 million Ontario Government investment from the Green Investment Fund to make the Enbridge Gas and Union Gas programs province-wide and accessible to homes heated by natural gas, propane, oil and wood. offer a multi-fuel energy efficiency program. Customers will be offered incentives for retrofits/equipment upgrades through participation in home energy audits. Electricity measures such as air conditioners and appliances, in all participating homes, and Additional rebates for select electricity-saving measures include rebates for ENERGY STAR refrigerators, freezers, clothes washers, dehumidifiers and window air conditioners, insulation and air sealing, as well as rebates for air source heat pumps in electrically-heated homes. Electricity reduction measures are will be funded by the Conservation First framework. The program is expected to run until the end of 2017 and include approximately 22,000 households.	CEEB
42	Chapter 2, page 2	Figure 2.1	Biofuels used for transportation or as natural gas are not shown as their use is negligible	Comment: Biofuels – especially ethanol in the gasoline pool – are an important part of the fuel mix. On a volumetric basis, ethanol is required by regulation to make up at least 5% of the province's gasoline pool (this is small, but non-	FPL

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
				negligible) and actual blending has been higher. In 2014, ethanol use exceeded 27.7 PJ (per the Fuels Technical Report). This is similar to the reported values for propane (36 PJ) and oil (31 PJ); therefore, suggest reconsidering the description of biofuels use in transportation as "negligible." Suggest revising how ethanol is discussed and confirming how ethanol is treated in the data the ECO is using.	
43	Chapter 2, Page 2	Figure 2.1	Transportation Fuel: 933 PJ (39%)	Comment: Staff review of CANSIM table 128-0016 did not confirm the reported figures for transportation fuel.	FPL
44	Chapter 2, Page 4	2.1	A reduction of over 25% in electricity and natural gas use is deemed economically achievable by 2030. Endnote (pg14) of Chapter 2: "26.5% by 2030 for natural gas (ICF International, Natural Gas Conservation Potential Study: Final Report (2016) at iv); 31% by 2035 for electricity, which includes behind the meter generation and an assumption of 11% increase in electricity use (IESO, Achievable Potential Study: Long Term Analysis (25 November 2016) at 2, 5, and 43); Greater efficiencies are possible though not currently economical."	Comment: The reference to 26.5% is ICF's "economic potential" number, but the "achievable potential numbers" range from 9.0% to 17.8%. Pg. 8 of Chapter 3 of the ECO Report actually elucidates this distinction: "Mid-year, the OEB released a Natural Gas Conservation Potential Study, to assess how much natural gas use in Ontario can be reduced through conservation programs. The study estimates that consumption could be reduced by about 25% if all cost-effective actions are implemented, but that realistically, the potential is lower, and is dependent on customer uptake and utility budget." Furthermore, the number for electricity quoted from the IESO as 31% is not based upon the same methodology, but is from an "achievable potential" study. This is a stricter calculation that includes expected market acceptance. As such, suggest making a clearer distinction between the methodologies of these two studies and including a short definition in the endnote. See below. Suggested Revision: A reduction of over 25% in electricity and natural gas use is-deemed would be economically achievable by 2030, if market acceptance is not taken into account. Endnote (pg14) of Chapter 2: 1) "Economical Potential for 26.5% by 2030 for natural gas (ICF	FPL

#	Page Number	Paragraph Number/ Table	Original Text	Suggested revisions and comments	Ministry Branch
				International, Natural Gas Conservation Potential Study: Final Report (2016) at iv); Achievable Potential for 31% by 2035 for electricity, which includes behind the meter generation and an assumption of 11% increase in electricity use (IESO, Achievable Potential Study: Long Term Analysis (25 November 2016) at 2, 5, and 43); Greater efficiencies are possible though not currently economical. Economically Potential natural gas savings are defined as those resulting from the implementation of all measures that are technically and economically feasible, regardless of market acceptance. Achievable Potential for natural gas savings include technical and economic feasibility, as well as expected market acceptance. ”	
45	Chapter 2, Page 7	2.2.2	On average across the province residential natural gas rates in 2015 decreased by about 23% from 2014 Compared to residential electricity prices	Comment: The note to Figure 2.5 states that "Does not include cost of delivery to end user"; however it may be worthwhile to clarify this point in the text Suggested Revision: On average across the province residential natural gas commodity rates in 2015 decreased by about 23% from 2014 Compared to the commodity component of residential electricity prices ...	FPL
46	Chapter 2, page 7	2.2.2	On average across the province residential natural gas rates in 2015 decreased by about 23% from 2014 rates (from \$18.29/m³ to \$14.12m³).	Comment: Numbers are listed in dollars, when they should be cents, but are otherwise accurate. A forward slash was also missing on the second number. Suggested Revision: On average across the province residential natural gas rates in 2015 decreased by about 23% from 2014 rates (from 18.29¢/m³ to 14.12¢/m³).	FPL
47	Chapter 3, page 11	3.5	In January 2016, the Ministry of Energy announced that it had approved Ontario Power Generation (OPG)’s plans both to extend the life of the Pickering station to 2024 and to refurbish the four nuclear reactors at Darlington.	Comment: OPG’s plan for Pickering is to operate all six unit to the end of 2022; two units would then shut down and four units would operate to the end of 2024. http://www.opg.com/news-and-media/news-releases/Documents/20160111_DarlingtonRefurb.pdf Suggested Revision:	Nuc

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				In January 2016, the Ministry of Energy announced that it had approved Ontario Power Generation (OPG)’s plans both to extend the life of the Pickering station to 2022/2024 ...	
48	Chapter 3, page 11	3.5	In August, OPG filed a five-year application with the OEB (EB-2016-0152) that includes the costs of the first Darlington unit refurbishment and the Pickering extension. The application requests an increase of 11% in the unit price paid for OPG’s nuclear production for each of the five years (primarily due to the Darlington refurbishment), and would increase residential electricity bills by about \$5 per month by the end of the five-year period, if approved as filed. The application is still under review by the OEB.	Comment: OPG filed its rate application in May 2016 and initially sought increases of 11% per year in the nuclear rate in accordance with rate smoothing provisions in O.Reg. 53/05. In March 2017, the government amended O.Reg. 53/05 to allow OPG to smooth the weighted average price for its regulated assets. OPG subsequently revised its rate proposal to seek increases of 2.5% per year in the weighted average price (i.e., an annual average bill impact of \$0.65 per month versus the previous \$1.05). http://www.opg.com/about/regulatory-affairs/Documents/2017-2021/N3-01-01_20170308.pdf Suggested Revision: In May, OPG filed a five-year application with the OEB (EB-2016-0152) that includes the costs of the first Darlington unit refurbishment and the Pickering extension. The application requests an increase 2.5% in the unit price paid for OPG’s regulated nuclear and hydroelectric production for each of the five years (primarily due to the Darlington refurbishment), and would increase residential electricity bills by about \$3.25 per month by the end of the five-year period, if approved as filed. The application is still under review by the OEB.	

ⁱ Ontario Ministry of Energy, News Release, “Ontario Investing \$100 million to Create Jobs and Help Homeowners Save Energy” (4 February 2016).

ⁱⁱ Personal communication, Enbridge Gas Distribution (20 June 2017).