

CREDIT OPINION

27 June 2018

Update

✓ **Rate this Research**

RATINGS

Independent Electricity System Operator

Domicile	Ontario, Canada
Long Term Rating	Aa2
Type	ET Issuer Rating - Dom
	Curr
Outlook	Negative

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

Cavin Macfarlane +1.416.214.3864
 VP-Sr Credit Officer
gavin.macfarlane@moody's.com

Natividad Martel, +1.212.553.4561
 CFA
 VP-Senior Analyst
natividad.martel@moody's.com

Yulia Rakityanskaya +1.416.214.3627
 Associate Analyst
yulia.rakityanskaya@moody's.com

Jim Hempstead +1.212.553.4318
 MD-Utilities
james.hempstead@moody's.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Independent Electricity System Operator

Update following outlook change to negative

Summary

The Independent Electricity System Operator's (IESO) credit profile is identical to that of the Province of Ontario (Aa2 negative). In accordance with Moody's Government Related Issuers Methodology (GRI), IESO's rating results from a combination of the IESO's baseline credit assessment (bca) of a1 which is identical to the bca of the Province and the very high probability of extraordinary support. Key drivers of the IESO's credit quality are: 1) close linkage to the Province through government control and the IESO's role in implementing provincial energy policy; 2) a legislated, monopoly position with no threat of competition; and 3) limited risk as a result of the market structure and market rules. While the provincial government does not guarantee any of the IESO's obligations, we expect the Province to continue to provide virtually all of the IESO's capital in the form of debt financing.

Credit Strengths

- » Close relationship with the Province of Ontario
- » Legislated cost recovery and monopoly position
- » Market structure and rules limit risk

Credit Challenges

- » Negative outlook on the Province of Ontario

Rating Outlook

The rating outlook is negative, reflecting the negative outlook of the Province of Ontario.

Factors that Could Lead to an Upgrade

An upgrade of the Province of Ontario would likely lead to an upgrade of the IESO.

Factors that Could Lead to a Downgrade

A downgrade of the Province of Ontario would likely lead to a downgrade of the IESO. A change in the nature of the relationship or the probability of extraordinary support from the province could have a negative impact on the IESO's credit quality and could lead to a downgrade. While we do not expect it, a material change in legislation, regulatory frameworks or market rules could also result in a downgrade.

Profile

The IESO is a not-for-profit, non-taxable corporation without share capital created in 1999 pursuant to the Electricity Act of Ontario (the Act). The IESO oversees Ontario's electricity

system, which has 37,044 MW of installed generation including 13,009 MW of nuclear (35% of total installed capacity), 10,277 MW of gas/oil (28%), 8,472 MW of hydro (23%), and 5,287 MW of wind, biofuel and solar (14%).

IESO's key objectives include: to direct the operation of the transmission system including providing transmission-related information to all market participants, to maintain the reliability of the grid, to participate in the development of energy policies, to establish and enforce criteria and standards relating to the reliability of the integrated power system, to engage in activities related to electricity supply and capacity procurement and energy conservation, to forecast electricity demand and the adequacy and reliability of electricity resources for the Province by collecting and making related information public, to promote cleaner energy sources for fuel diversity, to assist the OEB by facilitating stability in rates for certain types of customers and to manage the Ontario Electricity Support Program. The IESO is also the servicer for the Fair Hydro Trust (FHT Aa2 sf)

On 1 January 2015, the Ontario Power Authority (OPA) and IESO amalgamated and continue to operate as the IESO pursuant to an Act of Provincial parliament in July 2014. The act provides that for all intents and purposes the IESO will fulfill all of the same roles and functions as its predecessor organizations. The amended Act stipulates effective separation of functions between the IESO's market operations and its procurement and contract management activities. The pre-amalgamated OPA managed about 22,500 MW of capacity as an off-taker under long term power purchase agreements.

Detailed Rating Considerations

Close relationship with the Province of Ontario

The IESO is closely linked to the Province of Ontario and this relationship is a key driver of credit quality. The IESO is linked through the control that the provincial government exerts over it through an act of legislation.

The IESO is effectively controlled and directed by the government that appoints its independent Board of Directors. Annually, the IESO is required to have its business plan approved by the Minister of Energy (the Minister) and to submit to the Ontario Energy Board (OEB) its proposed expenditures, revenue requirements and fees for review and approval. While the IESO has oversight of its revenue requirement and does not set it at its sole discretion, Moody's expects the IESO will continue to recover its costs. We have assumed that the province will continue to fund all of the IESO's capital expenditures.

The IESO implements government electricity policy, reinforcing the ties of the IESO to the government. For example, the Minister of Energy may direct the IESO on issues of electricity procurement and other government directives on associated electricity matters. The IESO is the counterparty for policy driven electricity contracts.

While generally these ties reinforce the close linkage to the government and the linkage of the ratings, the government may also take actions that are credit negative for the IESO. For example, the Ministry and OEB may effectively direct the time frame for cost recovery on some initiatives through their approval of the IESO's budget. The IESO did not start to recover costs on the smart meter initiative, for example, until seven years after it had begun to invest in the initiative. However, all of the costs are either funded through rates or with debt borrowed from the Province.

Legislated, essential role in the Ontario electricity market

The legislated, monopoly position that provides cost recovery with no threat of competition reinforces the IESO's credit quality.

Legislation granting the IESO the ability to establish and charge fees to recover its costs is a key driver of credit quality. The recovery of its costs and payments related to procurement contracts, a politically sensitive aspect of the IESO's operations, is specifically referenced in legislation and deemed to be approved by the OEB. As a monopoly and implementer of government policy, the IESO benefits from a very strong competitive position. While the IESO is not explicitly exempt from liability in legislation, the IESO can recover its costs in rates.

The IESO plays an essential role in the electricity markets in the Province by ensuring the minute to minute and day to day reliability of electricity. A default by the IESO, while difficult to envision, could have a material impact on the smooth and efficient performance

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

of electricity markets. The efficient function of the electricity market that the IESO administers is in the government's interest and the government would likely intervene if this was jeopardized.

Market structure and rules limit risk to the IESO

The market rules that govern the electricity market in Ontario significantly limit the market risk to the IESO. The IESO's operations are dictated by these market rules, which specify its responsibilities and relationships with market participants, as well as providing indemnity, sources of funding, and mechanisms to minimize counterparty risks for the IESO.

The objective of the IESO administered markets is to promote an efficient, competitive and reliable market for the wholesale sale and purchase of electricity and ancillary services in the Province of Ontario. The market rules provide the framework to govern the IESO controlled grid and the IESO controlled markets for wholesale power in Ontario. The market rules have the effect of a contract between each market participant and the IESO. The IESO is responsible for supervising, administering and enforcing the market rules. Pursuant to legislation, the IESO may make the market rules and in general most are subject to stakeholder review.

IESO risk under the Ontario Fair Hydro Plan is limited

The IESO is the servicer for the Fair Hydro Trust (FHT Aa2 sf), which was established in connection with the Ontario Fair Hydro Plan Act, 2017. The Act was designed to provide rate relief to specified consumers. The under-recovery of costs is initially borne by the IESO, however we expect the FHT to purchase the right to collect from the IESO (and ultimately consumers) on an ongoing basis. We believe the primary risk to the IESO is that the FHT may cease to purchase and finance the shortfall that the IESO incurs, however there is material mitigation for the IESO. We expect that in this highly unlikely event the IESO will first seek further credit directly from the Province, second seek a significant rate increase, and finally, if required, pay generators on a pro-rata basis. In the last 6 months of 2017, the under-collection from customers was \$1,378 million, of which \$1,179 was purchased by the FHT.

The principal methodology used in these ratings was the Government-Related issuers methodology published in August 2017. Please see the Credit Policy page on www.moody's.com for a copy of this methodology.

Liquidity Analysis

The IESO has sufficient liquidity.

The IESO has a \$160 million revolving credit facility provided by the Ontario Electricity Financial Corporation (OEFC: Aa2 negative), a Crown agency controlled by the Ontario government that matures in June 2020 and a \$150 million bank credit facility maturing in April 2020. At 31 December 2017, the facilities were undrawn. The only other debt instrument at the IESO prior to amalgamation is a \$120 million note payable to the OEFC maturing in June 2020.

The IESO has a \$475 million revolving credit facility that matures in December 2019 provided by the Ontario Financing Authority (OFA), an agent of the Crown. Proceeds from this facility are required to be used solely for operations associated with payments under procurement contracts as authorized by regulation. At December 31, 2017, \$12 million was drawn on the facility.

In 2017, the IESO signed a \$2 billion credit facility agreement with the OFA expiring on September 30, 2022 for the purpose of supporting the IESO's role in the FHP. At December 31, 2017, \$1 million was drawn on the facility.

While OEFC and OFA credit facilities contain a material adverse change (MAC) clause, we consider it unlikely that the Province would voluntarily invoke the MAC clause and restrict the IESO's access to funding in times of liquidity stress, given the Province's vested interest in the IESO's ability to continue as a going concern. We expect the facilities to be renewed prior to their next scheduled expiration.

Ratings

Exhibit 1	
Category	Moody's Rating
INDEPENDENT ELECTRICITY SYSTEM OPERATOR	
Outlook	Negative
Issuer Rating - Dom Curr	Aa2
Source: Moody's Investors Service	

© 2018 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to, (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody's.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 (AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable)). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJJK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJJK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJJK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJJK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJJK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJJK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJJK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER

1121418

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454