

# Corporate Governance

**AESO 2021 Year in Review**



## CORPORATE GOVERNANCE

### AESO Board

The Independent System Operator, established on June 1, 2003, under the *Electric Utilities Act* (EUA) of the Province of Alberta, is a statutory corporation that operates under the business name the Alberta Electric System Operator (AESO). The AESO's mandate is derived from the EUA and related regulations. The AESO is governed by its board (Board) which is comprised of individuals (Members) appointed by Alberta's Minister of Energy (Minister). Each Member must be independent from any person having a material interest in the Alberta electric industry.

The Board is responsible for overseeing the business and affairs of the AESO. The EUA, AESO Bylaws, Board Charter and related secondary governance documents set out the general responsibilities of the Board in this regard. The Board is actively involved with the AESO executive in the strategic planning process and approves the organization's Strategic Plan, its annual Business Plan and Budget, and its annual corporate goals. The Board also oversees succession planning, AESO executive compensation and risk management, and assesses the organization's performance on an annual basis.

The Board adheres to best-practice governance principles when fulfilling its mandate to act in the public interest of all Albertans. In doing so, Members are required to act in good faith and with sound judgment and integrity on all matters that affect the organization. The Board retains the advisory services of independent third-party experts as appropriate to assist with the execution of its responsibilities.

The AESO's corporate structure, along with the Board's commitment to incorporating best practices in its processes and procedures, provides a strong governance model that reflects and promotes ethical behaviour, accountability, and transparency with internal and external stakeholders in its business dealings. Ethical expectations are set out in the AESO Code of Conduct, with which all Members, employees and contractors agree to abide. In addition, the Board annually reviews the status of complaints within the organization and updates the Complaints Procedure as required.

The *Alberta Public Agencies Governance Act* of the Province of Alberta also sets out procedures to formalize the roles and mandate of the AESO in its relationship with the Government of Alberta.

### Board Committees

During 2021, the Board had the following standing Committees, which operated in accordance with each of their Board-approved Charters:

- Audit Committee
- Governance and Nominations Committee
- Human Resources Committee
- Power System Committee

### Audit Committee (AC)

The AC provides consultation, advice and recommendations to the Board on financial reporting and budget matters, systems of internal controls, external and internal audit processes, and the AESO's process for monitoring compliance with laws and regulations. In addition, the AC provides oversight over the information technology strategy, including cyber-security matters and risks.

## Governance and Nominations Committee (GNC)

The GNC provides consultation, advice and recommendations to the Board regarding its governance and Member recruitment matters. The GNC also provides regular reviews, assessments and updates of Board governance documents and processes; Member orientation; ongoing education and performance assessments of the Board, its Committees and Members; and monitors best practices and trends in governance matters.

## Human Resources Committee (HRC)

The HRC provides consultation, advice and recommendations to the Board with respect to talent management, compensation matters and organizational culture. This accountability encompasses AESO executive compensation, officer appointments, succession planning, and people and culture strategy and programs. The one exception to the foregoing is that compensation for the AESO President and Chief Executive Officer (CEO) is addressed by the full Board.

## Power System Committee (PSC)

The PSC provides consultation, advice and recommendations to the Board regarding market design, long-term transmission system planning, project delivery, system operations, market operations, AESO tariffs and the AESO's processes for administering competitive procurements.

## Board Members

Members have extensive professional and business knowledge, skills and experience derived from careers in various fields including energy, utilities, engineering, regulatory, technology, transportation, business development and finance.

The following table sets out the Members who served during 2021, their Board position, and the Committees on which each served for all or part of the year. The Members whose terms expired in 2021 are shown in **bolded italics**.

Member	Member Since	AESO Board Position	Committee Member
Aaron Engen	2020	Member	Chair HRC, PSC
Ann-Marie Osinski	2020	Member	Chair AC, GNC
<b><i>Barb Feit</i></b>	2017	Member	AC, HRC
Georgette Habib	2020	Member	GNC, HRC
Guy Bridgeman	2020	Member	AC, PSC
Karl Johannson	2020	Member / Chair	Ex officio member of all Committees
Michael Hogan	2014	Member	AC, Chair PSC
Mike Maxwell	2017	Member	AC, Chair GNC
Patricia Kaiser	2021	Member	HRC, PSC

## Board Overview

### Key Responsibilities

#### *Strategy*

The Board oversees the strategic planning process, which includes holding a set of strategic planning meetings annually. In each Board meeting, the CEO provides an update on strategic priorities and accomplishments and engages in discussion with the Board on these matters.

#### *Corporate Goals and Performance*

On an annual basis, the Board approves corporate goals that are aligned with the Strategic Plan and then monitors the organization's progress on these goals throughout the year. After year-end, the Board assesses and determines the level of organizational performance on the corporate goals.

#### *Risk Management*

The Board retains oversight of risk management practices for the AESO. With the support of its Committees and AESO management, the Board provides input into the identification and prioritization of risks as well as reviewing and monitoring risks and mitigation processes, plans and actions. At least annually, the Board reviews the identified principal risks and, where appropriate, allocates to each of the Committees the oversight of various risks that fall within their mandates.

#### *Financial Management*

The AC oversees internal control processes. The AESO's Audit Services group and the external auditors report to the AC. This ensures the requisite focus on financial reporting and accounting, including internal controls. The Board approves the annual audited Financial Statements including Management's Discussion and Analysis of Financial Condition and Results of Operations.

#### *Succession Planning*

The HRC reviews the AESO succession planning and talent management programs, including their outcomes and effectiveness. The HRC engages in succession planning for the AESO CEO, and reviews succession plans for AESO executives and other key positions.

#### *Executive Compensation*

The Board sets CEO compensation. As it relates to the additional executive members, the Board approves executive compensation levels with respect to base pay and short-term incentive. The assessment takes into account the individual achievement of incentive goals and CEO recommendations, in addition to third-party market and peer information, analysis and expert advice.

#### *Charters and Work Plans*

The Board and Committees each have a Charter setting out their respective mandates. Such Charters are reviewed and updated on a regular basis, or as required. The Board and each Committee also have annual Work Plans which guide their priorities and activities to be completed in any given year. Such Work Plans are reviewed not less than annually and updated as required.

## Board Assessments

The Board and its Committees have performance assessment processes in place. Formal assessments are conducted annually, and specific action items are identified and tracked year-over-year. Assessments include a review of the Board as a whole, the Board Chair, and the Committees. In addition, individual Member performance is monitored by the Chair throughout the year as part of the Chair's duties.

## Board Membership

### *Member Appointments and Reappointments*

The EUA provides that Member appointments are made by the Minister of Energy. To support these appointments, the Board, through its Recruitment Committee, conducts a robust recruitment process to assess and identify a slate of qualified individuals to be recommended to the Minister for appointment. Where a Member(s) is eligible for re-appointment, their performance and independence are also assessed. Ultimately, the entire Board (excluding Member[s] with a potential conflict of interest) is engaged to approve the recommendation to be made to the Minister. The recruitment process that is undertaken is set out on the AESO's website.

### *Member Orientation*

The Orientation Program for new Members is designed to meet a list of objectives and is delivered through a self-directed portion and a more focused in-person portion. The latter portion includes one-on-one or small group meetings of the new Member(s) with AESO management, a tour of AESO facilities and, as appropriate, matching a new Member with a current Member for knowledge sharing.

## Board Meetings Overview

The Board and its four Committees meet regularly during the year (Regular Meetings) and may hold additional special meetings (Special Meetings) as and when the Board Chair deems necessary and appropriate.

Members are provided with advance notice of Regular Meetings through AESO Board-approved meeting schedules, submitted to and approved by the Board, for up to two years in advance. A Notice of Special Meeting is provided to Members in accordance with AESO Bylaws. Committee meetings are typically held in the days immediately preceding Board meetings.

Agendas and meeting materials for Board and Committee meetings are prepared by AESO management in consultation with the respective Chairs of the Board or Committees. The AESO uses the Diligent Boards platform, which is a third-party provided software portal that allows Members and AESO management to securely access Board documents. AESO Board and Committee meeting materials typically include both Decision and Information items. Meeting materials are uploaded into Diligent for access by Members approximately two weeks before the scheduled meeting.

The AESO CEO attends all Board and Committee meetings along with the Corporate Secretary and, as appropriate, other members of AESO management. The Board Chair is an ex officio member of each Committee and may attend some or all such meetings. At certain meetings, third-party advisors may attend for all or part of a meeting. For example, the AESO retains a third-party accounting firm to provide an annual audit of the AESO's financial records. Representatives for this firm attend a portion of AC meetings as appropriate.



The Agenda of each meeting requires the meeting Chair to request any Member who has a possible conflict of interest or independence issue with any item on the Agenda to self-declare. If such a declaration is made, the Chair must determine an appropriate course of action. This may include asking Members to recuse themselves from any further participation in the matter.

Minutes of Board and Committee meetings are prepared by the Corporate Secretary and include details of decisions made, discussions held, and action items requested. Draft minutes are sent to all Members of such meetings within a reasonable time after each meeting for their comment before being formally approved by the Board or Committee, respectively, at their next meeting.

At each Regular Meeting, AESO management makes presentations to the Board or Committee on agenda items typically included in accordance with the Annual Work Plan. The subject matter for such presentations may include the status of key projects/initiatives, AESO operations, financial performance, human resources, corporate governance, and industry outlook matters. In addition, issues of current and critical importance are included for consideration and discussion by the Board.

The GNC oversees governance matters and provides support and assistance to the Board in that regard. Among other things, it looks to monitor and assess “best governance practices” and recommend, where appropriate, alignment to such practices that have been adopted within the AESO.

#### *In-Camera Sessions*

Members conduct in-camera sessions without AESO management at each of the Board and Committee meetings.

### **Member Meeting Attendance & Remuneration**

An independent, expert, third-party review of Member remuneration is conducted periodically as needed, using benchmark comparisons to similar roles in Canadian organizations with an emphasis on Alberta. There has been no increase in Member remuneration since April 1, 2014.

A summary of remuneration that Members are eligible to receive, as at December 31, 2021, is as follows:

• <b>Chair</b>	– \$90,000/year retainer, total compensation; that is, the Board Chair does not receive meeting fees for Board or Committee meetings nor any compensation for additional AESO business
• <b>Vice-Chair</b>	– \$1,000/per Board meeting when serving as Chair
• <b>Committee Chair</b>	– \$7,500/year retainer
• <b>Members</b>	– \$27,500/year retainer; \$1,000/per Board and Committee Regular Meeting attended; \$500/per Special Meeting attended; plus per diem for additional AESO business, subject to Chair’s authorization

The following sets out Member attendance at Board and Committee meetings for 2021. The Members whose terms expired in 2021 are shown in bolded italics.

Board Member	Board	AC	GNC	HRC	PSC	Meeting Attendance <sup>1</sup>	Attendance (%)	2021 Remuneration <sup>2</sup>
Aaron Engen	10/10			4/4	4/4	18/18	100	\$53,000
Ann-Marie Osinski	10/10	6/6	3/3			19/19	100	\$54,000
<b><i>Barb Feit</i></b>	1/1					1/1	100	\$2,035
Georgette Habib	10/10		3/3	4/4		17/17	100	\$44,500
Guy Bridgeman	10/10	6/6			4/4	20/20	100	\$47,000
Karl Johannson	10/10	6/6	3/3	4/4	4/4	27/27	100	\$90,000
Michael Hogan	10/10	6/6			4/4	20/20	100	\$54,500
Mike Maxwell	9/10	5/6	3/3			17/19	89	\$51,500
Patricia Kaiser	9/9			4/4	4/4	17/17	100	\$43,169
Attendance	9/10	6/6	3/3	4/4	4/4	156/158	99	
Attendance (%)		97	100	100	100	99		

<sup>1</sup> Meetings include all regularly scheduled meetings of the Board and Special Meetings.

<sup>2</sup> 2021 Remuneration includes AESO Board Chair retainer, Committee Chair retainer, Member retainer and Member meeting fees. The total remuneration provided to the Members in 2021 was \$439,704.

## Governance Practices

The AESO looks to private, public and not-for-profit sectors of industry to institute best business and governance practices. The following are some relevant practices the AESO uses to provide sound corporate governance within the organization.

### AESO Code of Conduct

The Board has approved a Code of Conduct that must be adhered to by all Members, employees and contractors. All new AESO employees and contractors, as appropriate, are required to review and abide by the Code of Conduct from their first day of employment or engagement. All Members and AESO employees must, at least annually, review and confirm compliance with—and their agreement to abide by—the Code of Conduct.

The results of the annual Code of Conduct compliance process are reported to the AC. The AESO also has a Complaints Procedure (i.e., whistleblower policy) and an external Ethics Hotline for confidential (if desired) reporting by staff and others to a third party of a violation of the Code of Conduct, or other unethical or illegal conduct.

### Strategic Planning and Budget Development

The Strategic Plan, Business Plan and Budget, and annual corporate goals are critical to the AESO's operations.

The Strategic Plan provides organizational direction for the development of corporate, departmental and individual plans and goals for the current and future years, and links the AESO's vision, strategic objectives, and business initiatives to day-to-day operations. The Strategic Plan is reviewed and approved by the Board and forms the foundation upon which the AESO's annual Business Plan and Budget (business initiatives, budget and forecasted costs) are established.

As a part of the AESO's development of its Business Plan and Budget, the AESO undertakes a consultation process with stakeholders referred to as the Budget Review Process (BRP). The BRP is an open and transparent process that allows stakeholders the opportunity to provide input into the AESO's proposed Business Plan and Budget for the upcoming year.

The BRP's primary objective is for the AESO to work with stakeholders to develop a comprehensive Business Plan and Budget document that provides a common understanding of expected deliverables and related costs. Stakeholders provide input by submitting written comments on the proposed Business Plan and Budget and by meeting with the Board to further clarify those comments. At the conclusion of the BRP, the Board publishes its decision on the proposed Business Plan and Budget.

## Corporate Goals

The AESO's compensation structure is designed to align with the attainment of the corporate goals, which are based on business priorities set out in the Strategic Plan and the Business Plan and Budget. The Board provides oversight and approves annual corporate goals, in addition to the individual goals of the CEO.

Corporate goals are cascaded throughout the organization in order to provide focus and set priorities that support the achievement of the corporate goals and advancement of the Strategic Plan.

The Board monitors the progression of the corporate goals by way of a CEO progress report at every Board meeting. For those corporate goals at risk of not being met, strategies are developed or altered to better achieve the desired goal. After year-end, the CEO provides a final report on the achievement of the corporate goals. The Board then reviews and assesses the organization's performance and may exercise its discretion in that regard.

With respect to the CEO, the Board performs a performance assessment both at the mid-year mark and at the end of the year.

## Risk Management

AESO management is responsible for the development, implementation, and ongoing maintenance of the organization's enterprise risk management framework and the reporting of risks to the Board.

AESO management identifies and prioritizes the organization's risks with input from the Board and incorporates them into the annual goal-setting process as determined appropriate. Risk mitigation includes the development and implementation of appropriate corporate policies and procedures, including various financial policies. The policies are communicated to AESO employees and are made readily accessible to staff at all times.



## Internal Controls

AESO management has designed and implemented internal controls. These controls are managed at varying levels within the organization and act to provide AESO management and the Board with reasonable assurance of achieving:

- Effective and efficient operations
- Reliability of financial reporting
- Compliance with laws, regulations, policies and procedures
- Protection against fraud
- Safeguarding of assets

## Audits/Reviews/Procedures

The Audit Services group was established in 2010 and reports to the AC. This function is a component of the AESO's governance framework and is responsible for evaluating the organization's governance, risk management and control processes, as designed and represented by AESO management, to determine if they are adequate and functioning as intended.

Various audits, reviews and procedures are performed throughout the year by the Audit Services group. The scope of such audits includes financial, operations, compliance and reporting functions within the AESO. When required, third-party expertise is engaged to assist or supplement internal resources to execute reviews and assessments.

## AESO Executive

The Board is responsible for appointing the CEO (pursuant to the EUA and in accordance with the Bylaws) and other such officers as necessary, all of whose duties and powers may be prescribed by the Bylaws or by the CEO.

The CEO leads an executive team that operates the day-to-day business and affairs of the AESO. The AESO executive team as at December 31, 2021 was as follows:

<b>Michael Law</b> President and Chief Executive Officer	<b>Nicole Kinch</b> Vice President, Finance
<b>Bill Baker</b> Vice President, Information Technology	<b>Miranda Keating Erickson</b> Vice President, Markets
<b>Dennis Frehlich</b> Vice President, Grid Reliability	<b>Pauline McLean</b> Vice President, Law, General Counsel & Corporate Secretary
<b>Brian McGurk</b> Vice President, People & Culture and Customer Experience	

## AESO Executive Compensation

### Program Objectives

The AESO strives to attract, engage and retain high-performance executives and rewards and compensates executive talent based on their contributions toward its business outcomes. To accomplish this, AESO executive compensation is designed to meet the following objectives:

- Attract and retain key executive talent by providing compensation that is competitive with the AESO's peer group.
- Motivate performance in alignment with the AESO's Strategic Plan, business objectives and risk profile.
- Foster a corporate culture that supports demonstrating results.
- Promote responsible and transparent compensation practices.
- Provide flexibility to respond to evolving market and governance practices.

### Program Governance

The HRC oversees program governance. The HRC reviews compensation objectives, policies and programs and makes recommendations in that regard to the Board.

The Board and HRC, in carrying out their respective mandates, have access to AESO management's perspectives as well as those of expert external consultants. AESO executive compensation is reviewed annually with respect to industry compensation trends, actual performance, internal existing compensation, and external market relativities. The Board Chair and the HRC make recommendations to the Board regarding the CEO's performance and pay based on individual performance, corporate performance and market comparison. The Board approves the CEO's compensation.

### Market Comparisons

The compensation structure is designed to align to the market median (50<sup>th</sup> percentile) of target total cash compensation of the peer group. It is not based on total direct compensation which would include long-term incentives in the industry private sector. Compensation will vary depending on role scope, key skills and contributions, tenure and experience, and other attraction and retention factors. The AESO's total compensation program for 2021 includes base pay, a short-term incentive plan, a flexible benefits program and a group savings program. For analysis and advice on market comparators, compensation trends and comparator information, the HRC obtains the services of an independent external expert. This benchmarking process is undertaken annually.

The peer group, while balanced between public and private sector organizations, is meant to reflect the market for which the AESO competes for executive talent, to roles with similar industry talent profiles. In addition, the peer group has a significant Alberta presence, reflecting local pay practices and competitive pressures. Executive compensation must be competitive to ensure the AESO can attract and retain the executive talent required to achieve the Strategic Plan and business deliverables.

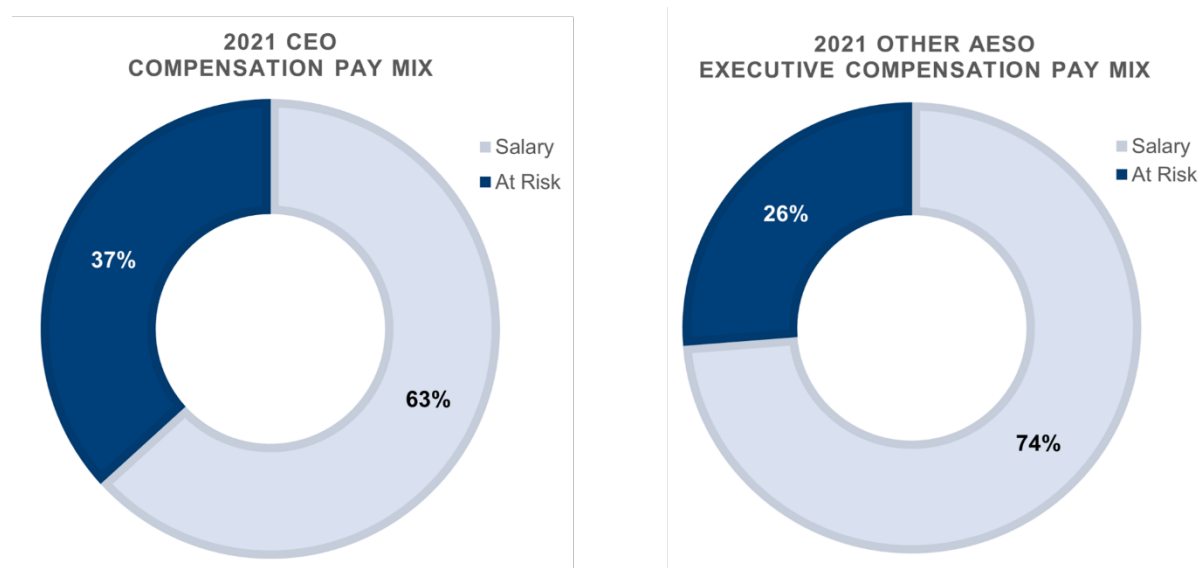
### Base Pay

Base pay is determined for each executive based on comparative market data, individual performance, achievement of business objectives, and demonstration of competencies. AESO executive base pay has not increased since January 2015.

## Short-term Incentive Plan

The Short-term Incentive Plan (STIP) is applicable to all AESO employees in 2021 and is subject to the discretion of the AESO Board. The STIP is the at-risk component of an employee's salary and is based on the achievement of specific annual corporate and individual goals.

The following charts illustrate the compensation pay mix to demonstrate the at-risk pay for the CEO, as well as the average at-risk pay for all other AESO executives. The 2021 compensation plan design resulted in 37 per cent of the CEO's compensation being at risk, and an average of 26 per cent being at risk for the other AESO executives.



## Long-term Incentive Plan

The AESO has no long-term incentive plans for employees or AESO executives, including the CEO.

## Flexible Benefits

The flexible benefits program for all employees, including executives, provides life insurance, dependent life insurance, accidental death and dismemberment, sick leave and short-term disability, group and individual long-term disability, critical illness, dental and health care benefits, as well as a health spending account and personal spending account for additional relevant expenses. Perquisites such as parking and fitness allowances are provided to the executives.

## Group Savings Plans

A group savings plan is provided to all employees, including executives. In this plan, the AESO contributes six per cent of base salary to a savings account. In addition, the AESO will match up to three per cent of salary for any employee contributions made. This can result in a total savings contribution by the AESO of nine per cent of base salary.

## Pension Plans

There is no defined benefit or contribution pension plan at the AESO.

## AESO Executive Compensation for 2021

The following table details the total compensation for the year ended December 31, 2021, for the CEO, the Vice President, Finance, and the next three highest-earning AESO executives. The AESO recovers its costs, including AESO employee compensation, through revenue received from market participants. There is no government funding provided for the operations of the AESO. Increases to executive base pay have not occurred since 2015 unless due to promotion.

Position	Name	Base Pay	STIP	Perquisites <sup>1</sup>	Benefits & Savings <sup>2</sup>
President & CEO	Michael Law	475,018	275,986	14,875	52,727
Vice President Finance	Nicole Kinch <sup>3</sup>	225,759	72,112	7,300	30,308
Vice President Grid Reliability	Dennis Frehlich	252,010	92,992	7,300	32,656
Vice President Information Technology	Bill Baker	250,251	92,343	7,300	32,498
Vice President Markets	Miranda Keating Erickson	251,230	85,921	8,875	32,586

<sup>1</sup> Perquisites include car allowance, parking and other allowances.

<sup>2</sup> Benefits & Savings include group savings/RRSP, dental, health, accidental death & dismemberment, and critical illness insurance.

<sup>3</sup> Ms. Kinch was appointed to Vice President, Finance on March 31, 2021.

## Reform of Agencies, Boards and Commissions Compensation Act (RABCCA)

Pursuant to an Order in Council approved in July 2020, the AESO became subject to RABCCA and its associated regulations. The AESO's CEO was identified as a designated executive under the RABCCA Regulation and will be subject to a number of parameters as it relates to salaries and benefits. The current compensation structure for the CEO remains in effect until the transition to RABCCA in July 2022. In addition, variable pay will also be eliminated for all employees within the organization as of July 2022. At that time a restructured Total Rewards Plan that aligns with the RABCCA framework will be implemented.





# Management's Discussion and Analysis

**AESO 2021 Year in Review**



## **MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

This management's discussion and analysis of financial condition and results of operations (MD&A) as of February 24, 2022, should be read in conjunction with the Alberta Electric System Operator's (AESO) audited financial statements for the years ended December 31, 2021, and 2020, and accompanying notes. This MD&A is intended to provide an understanding of the AESO's business, financial operations, expectations of the future, and management of risk. The MD&A and financial statements are reviewed and approved by the AESO Board. The financial statements are expressed in Canadian dollars.

The AESO is responsible for:

- The operation of Alberta's fair, efficient and openly competitive energy market for electricity.
- Determining the order of dispatch of electric energy and ancillary services.
- Providing system access service on the transmission system.
- Directing the safe, reliable and economic operation of the interconnected electric system.
- Planning the capability of the transmission system to meet future needs.
- Administering the Renewable Electricity Program (REP).
- Administering load settlement.

The AESO recovers its costs through four separate revenue sources by way of collections from: market participants; suppliers under the REP; owners of electric distribution systems; and wires service providers for load settlement. There is no government funding for the operations of the AESO.

The AESO continues to monitor the impacts of the COVID-19 pandemic on its operations and has taken precautionary measures intended to minimize the risk of the virus to its employees, stakeholders and the communities in which it operates. With the precautions in place, the AESO has been able to operate safely, and maintain continuity of its operations throughout 2021. Health and safety continue to be an AESO priority in 2022.



## Summary Annual Highlights

The AESO, a not-for-profit statutory corporation, recovers its operating, right-of-use asset, intangible asset and property, plant and equipment (PP&E) costs through four separate revenue sources, each of which is designed to recover the costs directly related to the provision of a specific service, as well as a portion of the shared corporate services costs.

(\$ Millions) Years ended December 31,	2021	2020	Change	% Change
Collections	2,388.5	2,368.2	20.3	0.9
Deferred revenue	48.7	(76.5)	125.2	(163.7)
Other revenue	47.9	35.1	12.8	36.4
<b>Total revenue</b>	<b>2,485.1</b>	<b>2,326.8</b>	<b>158.3</b>	<b>6.8</b>
Transmission operating costs	2,296.6	2,147.3	149.3	7.0
Other industry costs	21.6	22.7	(1.1)	(4.8)
General and administrative costs	91.8	88.1	3.7	4.2
Amortization and depreciation	28.1	30.7	(2.6)	(8.5)
Borrowing costs	47.1	38.0	9.1	23.9
<b>Total costs</b>	<b>2,485.1</b>	<b>2,326.8</b>	<b>158.3</b>	<b>6.8</b>

Numbers may not add due to rounding

## Total Costs

### Transmission Operating Costs

Transmission operating costs represent wires costs, operating reserves, transmission line losses and other ancillary services costs. In 2021, transmission operating costs are \$2,296.6 million, which is \$149.3 million or 7.0 per cent higher than the 2020 costs of \$2,147.3 million. This increase is associated with higher operating reserves and transmission line losses costs, partially offset by lower wires costs.

(\$ Millions) Years ended December 31,	2021	2020	Change	% Change
Wires costs	1,713.6	1,872.1	(158.5)	(8.5)
Operating reserves	333.7	144.8	188.9	130.5
Transmission line losses	201.8	92.7	109.1	117.7
Other ancillary services costs	47.5	37.7	9.8	25.9
<b>Transmission operating costs</b>	<b>2,296.6</b>	<b>2,147.3</b>	<b>149.3</b>	<b>7.0</b>

Numbers may not add due to rounding

## Wires Costs

Wires costs represent the amounts paid primarily to transmission facility owners (TFOs) in accordance with their Alberta Utilities Commission (AUC)-approved tariffs and are not controllable costs of the AESO. Wires costs in 2021 are \$1,713.6 million, which is \$158.5 million or 8.5 per cent lower than the 2020 costs of \$1,872.1 million due to lower regulated rates charged by the TFOs for the current year.

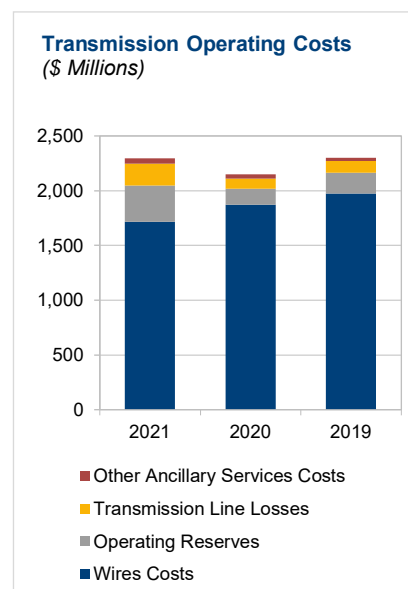
## Operating Reserves

Operating reserves are generating capacity or load that is held in reserve and made available to the System Controller to manage the transmission system supply/demand balance in real time. There are three types of operating reserves, with the minimum volumes of operating reserves required based on Alberta Reliability Standards:

- **Regulating reserves** – The generation capacity, energy and maneuverability responsive to the AESO's automatic generation control (AGC) system that is required to automatically balance supply and demand on a minute-to-minute basis in real time.
- **Spinning reserves** – Unloaded generation that is synchronized to the transmission system, automatically responsive to frequency deviation and ready to provide additional energy in response to an AESO System Controller directive. Spinning reserve suppliers must be able to ramp up their generator within 10 minutes of receiving a System Controller directive.
- **Supplemental reserves** – While similar to spinning reserves, supplemental reserves are not required to respond to frequency deviations. They include unloaded generation, off-line generation or system load that is ready to serve additional energy (generator) or reduce energy (load) within 10 minutes of receiving a System Controller directive.

Operating reserves are procured through an online, day-ahead exchange, where offer prices are indexed to the pool price. In exchange for this payment, the AESO obtains the right to utilize the provider's energy and/or capacity as reserves. The procurement of operating reserve volumes is directly correlated to load and generation. While the prices of operating reserves are indexed to the pool price, changes to the average pool price do not result in proportional changes to the operating reserve costs. The pool price for each hour has a significant impact on the operating reserve costs for that hour. Additionally, during periods of high hourly pool prices, the less expensive operating reserve suppliers may not be available, which results in higher operating reserve costs.

Operating reserve costs in 2021 are \$333.7 million, which is \$188.9 million or 130.5 per cent higher than the 2020 costs of \$144.8 million. The cost of operating reserves is impacted by actual volumes, hourly pool prices and operating reserve prices. The average hourly pool price is \$102 per megawatt hour (MWh) in 2021 compared to \$47 per MWh in 2020, representing an increase of 117.0 per cent. Operating reserve volumes financially settled in 2021 are 6,934 gigawatt hours (GWh) compared to 7,795 GWh in 2020, representing an 11.0 per cent decrease. As the implementation of optimized procurement of regulating reserves in 2020 has continued to reduce the volumes being procured, the increase in costs is primarily attributable to the higher average hourly pool price in 2021.



## Transmission Line Losses

Transmission line losses represent the volume of energy that is lost as a result of electrical resistance on the transmission system. Volumes associated with line losses are determined through the energy market settlement process as the difference between generation and import volumes, less consumption and export volumes. The hourly volumes of line losses vary based on load and export levels, generation (baseload, peaking units and imports) available to serve load, weather conditions, and changes in the transmission topology. System maintenance schedules, unexpected failures, dispatch decisions on the Alberta Interconnected Electric System (AIES), and short-term system measures (such as demand response) may also affect the volume of losses. The value of line losses is calculated based on the hourly pool price.

The cost of transmission line losses in 2021 is \$201.8 million, which is \$109.1 million or 117.7 per cent higher than the 2020 cost of \$92.7 million, mainly due to the impact of a 117.0 per cent higher average pool price in 2021. Line-loss volumes financially settled in 2021 are 1,880 GWh compared to 1,947 GWh in 2020, representing a 3.4 per cent decrease.

Loss factors are used to determine the transmission losses charges and credits that apply to system access service under the Independent System Operator (ISO) tariff. The AESO must establish and maintain loss factors in accordance with the ISO rules, Transmission Loss Factors (Loss Factor Rule). A revised loss factor methodology was implemented in the Loss Factor Rule effective January 1, 2017, reflecting decisions issued in Proceeding 790 of the AUC (AUC Decision 790). Also in decisions issued in Proceeding 790, the AESO was directed to settle adjustments resulting from modifying the historical methodology used to calculate loss factors for the period from January 1, 2006, to December 31, 2016. During 2020 the AESO began the settlement of those adjustments, which was completed in 2021. There is no material financial impact to the AESO as a result of the resettlement of historical losses charges and credits as the recalculation of loss factors results in a reallocation of losses to market participants with no change to the annual cost of losses.

## Other Ancillary Services

The AESO procures other ancillary services for the secure and reliable operation of the AIES. These services are procured through a competitive procurement process where possible or, in instances where such procurement processes may not be feasible, through bilateral negotiations.

In 2021, other ancillary services costs are \$47.5 million, which is \$9.8 million or 25.9 per cent higher than the 2020 costs of \$37.7 million. The increase is mainly attributable to higher costs related to conscripted transmission must-run, load shed service for imports, and transmission constraint rebalancing.

(\$ Millions) Years ended December 31,	2021	2020	Change	% Change
Load shed service for imports	31.4	28.3	3.1	11.0
Transmission must-run				
Contracted	-	3.0	(3.0)	(100.0)
Conscripted	8.1	0.7	7.4	1,057.1
Reliability services	2.9	2.9	-	-
Black start	2.4	2.3	0.1	4.3
Transmission constraint rebalancing	2.7	0.5	2.2	440.0
<b>Total Other Ancillary Services</b>	<b>47.5</b>	<b>37.7</b>	<b>9.8</b>	<b>25.9</b>

*Numbers may not add due to rounding*

Load shed service for imports (LSSi) is interruptible load that can be armed to trip, either automatically or manually, on the loss of the Alberta–British Columbia intertie to allow for increased import available transfer capability (ATC). The 2021 costs for LSSi are \$31.4 million, which is \$3.1 million or 11.0 per cent higher than the 2020 costs of \$28.3 million due to increased active arming costs. LSSi costs are impacted by volume availability, contract prices and AES requirements for arming and tripping. In 2021, LSSi arming costs were impacted by two significant disturbance events due to the tripping of the interties with British Columbia and Montana.

Transmission must-run (TMR) occurs when generation is required to mitigate the overloading of transmission lines associated with line outages, system conditions in real time or the loss of generation in an area. In circumstances when this service is required for an unforeseeable event and there is no contracted TMR, non-contracted generators may be dispatched to provide this service (referred to as conscripted TMR). Contracted TMR costs in 2021 are nil due to the expiry of the previously existing contract in September 2020. Conscripted TMR costs in 2021 are \$8.1 million, which is \$7.4 million or 1,057.1 per cent higher than the 2020 costs of \$0.7 million due to increased unforeseen events resulting from unexpected load growth in a region and an increased number of planned outages and transmission equipment constraints.

Reliability services are provided through an agreement with Powerex Corp. for grid restoration balancing support in the event of an Alberta blackout, and emergency energy in the event of supply shortfall.

Black start services are provided by generators that are able to restart their generation facility with no outside source of power. In the event of a system-wide black-out, black start services are used to re-energize the transmission system and provide start-up power to generators that cannot self-start.

Transmission constraint rebalancing costs are incurred when the transmission system is unable to deliver electricity from a generator to a given electricity-consuming area without contravening reliability requirements. When this occurs, a market participant downstream of a constraint may be dispatched for purposes of transmission constraint rebalancing under the ISO rules and would receive a transmission constraint rebalancing payment for energy provided for that purpose. Transmission constraint rebalancing costs in 2021 are \$2.7 million, which is \$2.2 million or 440.0 per cent higher than the 2020 costs of \$0.5 million due to abnormal situations requiring constrained down generation during islanded operations, as well as constraints on generation due to transmission line upgrades and limits.

## Other Industry Costs

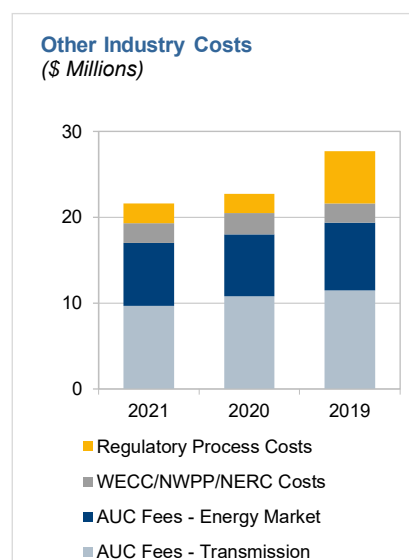
(\$ Millions) Years ended December 31,

	2021	2020	Change	% Change
AUC Fees – Transmission	9.7	10.8	(1.1)	(10.2)
AUC Fees – Energy Market	7.3	7.2	0.1	1.4
WECC/NWPP/NERC costs	2.3	2.5	(0.2)	(8.0)
Regulatory process costs	2.3	2.2	0.1	4.5
<b>Other industry costs</b>	<b>21.6</b>	<b>22.7</b>	<b>(1.1)</b>	<b>(4.8)</b>

Numbers may not add due to rounding

Other industry costs represent fees or costs paid based on regulatory requirements or membership fees for industry organizations, which are not under the direct control of the AESO. These costs relate to the annual administration fee for the AUC, the AESO's share of Western Electricity Coordinating Council (WECC), Northwest Power Pool (NWPP) and North American Electric Reliability Corporation (NERC) membership fees and regulatory process costs. Regulatory process costs are associated with the AESO's involvement in an AUC proceeding to hear objections and complaints to ISO rules or a regulatory application, and costs incurred to respond to specific agency-related directions or recommendations that are beyond the routine operations of the AESO; this does not include application preparation costs.

Other industry costs in 2021 are \$21.6 million, which is \$1.1 million or 4.8 per cent lower than the 2020 costs of \$22.7 million, primarily due to a decrease in AUC fees.



Under the provisions of the *Alberta Utilities Commission Act* (AUC Act), AUC operating and capital costs are recovered from natural gas and electricity market participants under its jurisdiction or any person to whom the AUC provides services. Accordingly, the AUC apportions its costs related to its electricity transmission and wholesale electric market activities to the AESO as an AUC administration fee. The AUC levies two separate administration fees to the AESO; a transmission fee that is recovered through the transmission tariff and an energy market fee that is recovered from market participants through the AESO's energy market trading charge on a per-MWh-traded basis. The AESO's share of WECC membership fees in 2021 is \$2.0 million, which is consistent with the 2020 fees of \$2.0 million. The remainder of costs relate to NWPP and NERC fees.

Regulatory process costs in 2021 are \$2.3 million, which is consistent with the 2020 costs of \$2.2 million.

## General and Administrative Costs

(\$ Millions) Years ended December 31,	2021	2020	Change	% Change
Staff costs	68.3	65.7	2.6	4.0
Contract services and consultants	4.1	3.7	0.4	10.8
Facilities	4.1	4.1	-	-
Administration	3.3	3.0	0.3	10.0
Computer services and maintenance	10.6	10.2	0.4	3.9
Telecommunications	1.4	1.4	-	-
<b>General and administrative costs</b>	<b>91.8</b>	<b>88.1</b>	<b>3.7</b>	<b>4.2</b>

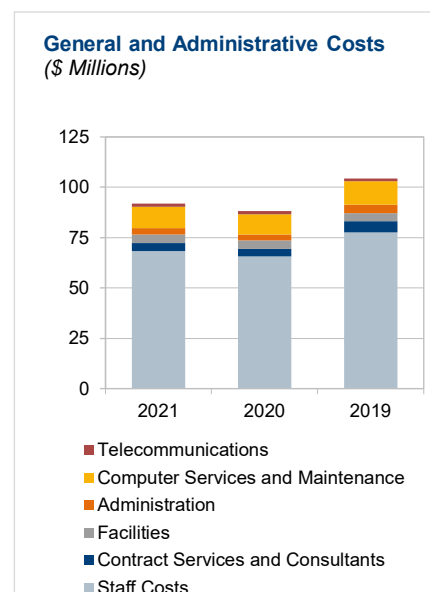
Numbers may not add due to rounding

General and administrative costs in 2021 are \$91.8 million, which is \$3.7 million or 4.2 per cent higher than the 2020 costs of \$88.1 million. This increase is primarily associated with an increase in staff costs.

### **Staff Costs**

The AESO is committed to the successful delivery of its corporate objectives and to achieve this, it is supported by knowledgeable and dedicated staff.

In 2021, staff costs are \$68.3 million, which is \$2.6 million or 4.0 per cent higher than the 2020 costs of \$65.7 million. The increase is primarily due to lower staff turnover than in previous years due to the ongoing impacts of the COVID-19 pandemic. Additionally, and to a lesser extent, was the impact of additional resources required for grid optimization and transmission development deferral activities, as well as for increased grid connection requirements from stakeholders.



### **Contract Services and Consultants**

The AESO uses contract services and consultants to supplement staff resources for two general purposes: to provide knowledgeable experts to address specific work assignments and to provide resource support to address workload peaks to maintain seamless operations.

In 2021, contract services and consultants costs are \$4.1 million, which is \$0.4 million or 10.8 per cent higher than the 2020 costs of \$3.7 million. The increase is due to the timing of activities and initiatives requiring specialized resources. In 2020, activities requiring consulting services were delayed given the unexpected impact of COVID-19, resulting in reduced costs.

### **Facilities**

In 2021, facilities costs are \$4.1 million, which is consistent with the 2020 costs.

### **Administration**

Administration costs include training, travel, insurance, corporate subscriptions, Board fees and office costs. In 2021, administration costs are \$3.3 million, which is \$0.3 million or 10.0 per cent higher than the 2020 costs of \$3.0 million. The increase is primarily associated with an increase in insurance premiums due to increasing pressure in the market, offset by decreases in other administrative costs.

### **Computer Services and Maintenance**

The AESO's investment in information technology infrastructure to support the organization's business operations requires ongoing costs to purchase annual software operating licenses and maintenance agreements.

In 2021, computer services and maintenance costs are \$10.6 million, which is \$0.4 million or 3.9 per cent higher than the 2020 costs of \$10.2 million. While the AESO has continued efforts to reduce and rationalize service levels with vendors; negotiate cost reductions; and implement innovative thinking and infrastructure redesign to avoid maintenance and licensing costs, the net increase is a result of growth in information technology systems and tool reliance, as well as the impact of price increases. A movement to cloud-based software solutions has also shifted some traditional capital costs related to internally developed systems and purchased software (recognized as amortization) to computer services costs.



## Telecommunications

The AESO incurs costs for network systems and telecommunications to support general business operations and, to a much larger extent, to support real-time operations. The strategy for developing and maintaining the telecommunication infrastructure is based on the requirement for high service availability, which necessitates redundancies of services and equipment.

In 2021, telecommunication costs are \$1.4 million, which is consistent with the 2020 costs.

## Amortization and Depreciation and Borrowing Costs

(\$ Millions) Years ended December 31,	2021	2020	Change	% Change
Amortization of right of use assets, intangible assets and depreciation of PP&E	28.1	30.7	(2.6)	(8.5)
Borrowing costs	47.1	38.0	9.1	23.9

### Amortization of Intangible Assets and Depreciation of Right-of-use Assets and Property, Plant and Equipment

Intangible assets are amortized and right-of-use assets and PP&E are depreciated over their estimated useful lives. Right-of-use assets consist of office space and land leases. Intangible assets include the AESO's computer software purchases and development costs.

In 2021, amortization of intangible assets and depreciation of right-of-use assets and PP&E collectively total \$28.1 million, which is \$2.6 million or 8.5 per cent lower than the 2020 amortization of \$30.7 million. The decrease is primarily due to changes in the asset base being amortized and depreciated year over year.

### Borrowing Costs

Borrowing costs are associated with interest charges for debt financing, portions of which are capitalized when directly incurred during the development or construction of an asset, financing costs associated with adjustments to the recognized decommissioning liability, interest on delayed settlements related to AUC decisions, and accretion of the right-of-use lease liability.

Debt financing occurs to fund intangible asset and PP&E purchases, prepayments of future expenses and working capital deficiencies due to timing differences in the collection of revenues and payment of costs. Intangible assets and PP&E are financed through the AESO's credit facilities and recovered as amortization and depreciation over the useful lives of the assets. Capitalized borrowing costs in 2021 were \$0.1 million (2020 – \$0.1 million).

Borrowing costs in 2021 are \$47.1 million, which is \$9.1 million or 23.9 per cent higher than the 2020 costs of \$38.0 million. The increase is due to the settlement of adjustments related to historical loss factor charges. During 2020, following AUC Decision 790, the AESO began the settlement of adjustments in respect of the recalculation of historical loss factor charges. The AUC decision directed the AESO to modify the methodology used to calculate loss factor charges for the period from January 1, 2006, to December 31, 2016. In accordance with the decision, interest was calculated from the time of original settlement until final settlement for any amount due to and from the AESO. Accordingly, interest expense of \$45.8 million (2020 – \$33.6 million) and interest income of \$47.3 million (2020 – \$33.7 million) was recognized for the year ended December 31, 2021.

## Right-of-use Assets

The AESO is a lessee under various lease contracts for office space with lease terms between 10 and 40 years. The AESO has a lease contract for land with a term of 55 years, commensurate with the expected life of the building owned by the AESO and located on the land. Right-of-use assets are recognized based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognized. Lease liabilities are recognized based on the present value of the remaining lease payments, discounted using the incremental borrowing rate at the date of initial application.

No new leases were recognized during 2020 or 2021. Depreciation on the right-of-use assets was \$3.5 million in 2021 and the accretion of interest related to the right-of-use liabilities was \$0.5 million for the year ended December 31, 2021, compared to \$3.5 million and \$0.6 million in 2020, respectively.

## Intangible Assets and Property, Plant and Equipment

Intangible asset and PP&E purchases total \$22.4 million in 2021 compared to \$23.2 million in 2020. The AESO's development and acquisition of intangible assets and PP&E, most significantly the investment in information technology infrastructure and business systems, is a key component of business operations. As with all information technology-intensive organizations, the AESO's challenge is to find the appropriate balance between implementing technology advancements, determining the level of information technology development that can be supported by business operations, and validating the overall financial requirement. To address these challenges, a Corporate Capital Management Program facilitates the development, prioritization and approval of capital budgets and provides ongoing corporate visibility and coordination of the enterprise portfolio of capital projects and programs to ensure intangible asset and PP&E purchases achieve the most beneficial and cost-effective results, while continuing to meet operating requirements.

The intangible asset and PP&E purchases in both 2021 and 2020 are associated with base system hardware and software application replacements, additions, and continued development and upgrades to operational systems.

The AESO's net book value for intangible assets and PP&E total \$89.8 million in 2021 compared to \$92.1 million in 2020. As of December 31, 2021, approximately 61.1 per cent (2020 – 62.9 per cent) of the net book value relates to computer infrastructure and business systems, with the remaining value associated with the AESO's System Coordination Centre, Operations Support Centre, and Backup Coordination Centre, furniture and office equipment.

## Service Area Cost Detail

### Allocation of Costs for Revenue Requirements

The majority of the revenues the AESO collects relate to the recovery of transmission operating costs (wires, ancillary services and transmission line losses costs). The remaining costs (general and administrative, other industry, amortization and depreciation and borrowing costs) are recovered through a methodology intended to relate the costs to the specific services that they support (transmission, energy market, REP or load settlement).

The allocation of costs to one of the AESO's four services is based on the direct or indirect relationship the costs have to one of the services. If an operating cost is directly associated with a service, the cost will be assigned directly to that service (e.g., a consultant cost in the transmission group would be assigned 100 per cent to transmission and recovered through the transmission tariff).

Alternatively, if an operating cost is not directly associated with any one service (typical for corporate service areas), the cost will be allocated to the services based on the value of the directly assigned costs. This methodology assumes that the service with the higher direct costs would contribute to a higher demand for general costs (such as corporate services) and therefore be assigned a higher percentage allocation.

Exceptions to this general methodology arise for information technology, office operating costs, borrowing costs, other industry costs, right-of-use asset, intangible asset and PP&E costs. Information technology costs are allocated based on an activity-based analysis to reflect the nature of the underlying costs. Office operating costs and right-of-use asset depreciation costs (office leases) are allocated based on the staff associated with the four services and specific uses of space. Borrowing costs are allocated based on the service for which the borrowed funds were required. Other industry costs are allocated based on the nature of the specific cost. Intangible asset and PP&E purchases made to support one service are recovered from that service or alternatively from multiple services based on management judgment, taking into consideration the business or operating activities that will be supported by the assets.

### Allocation and Cost Classifications

General Classification	Cost Categories	AESO Services (%)			
		Trans- mission	Energy Market	REP	Load Settlement
Operating	• Wires	100	-	-	-
	• Ancillary services	100	-	-	-
	• Transmission line losses	100	-	-	-
Non-operating	• Other industry	Costs allocated based on established methodology			
	• General and administrative				
	• Amortization of intangible assets and depreciation of right-of-use assets and PP&E				
	• Borrowing costs				

## Allocation of Non-Operating Costs

Based on the allocation methodology, the AESO recovers the non-operating costs from the four revenue sources.

(\$ Millions) Years ended December 31,

		Trans- mission	Energy Market	Renewable Electricity Program	Load Settlement	Total
<b>Other industry</b>	<b>2021</b>	<b>14.2</b>	<b>7.4</b>	<b>-</b>	<b>-</b>	<b>21.6</b>
	2020	14.0	8.7	-	-	22.7
<b>General and administrative</b>	<b>2021</b>	<b>69.8</b>	<b>20.1</b>	<b>1.1</b>	<b>0.8</b>	<b>91.8</b>
	2020	65.5	20.6	1.1	0.9	88.1
<b>Amortization and depreciation</b>	<b>2021</b>	<b>21.0</b>	<b>6.5</b>	<b>0.4</b>	<b>0.2</b>	<b>28.1</b>
	2020	23.0	7.1	0.4	0.2	30.7
<b>Borrowing costs</b>	<b>2021</b>	<b>46.8</b>	<b>0.2</b>	<b>-</b>	<b>-</b>	<b>47.1</b>
	2020	36.0	1.5	0.5	0.0	38.0
<b>Total</b>	<b>2021</b>	<b>151.8</b>	<b>34.2</b>	<b>1.5</b>	<b>1.0</b>	<b>188.5</b>
	2020	138.5	37.9	2.0	1.1	179.5

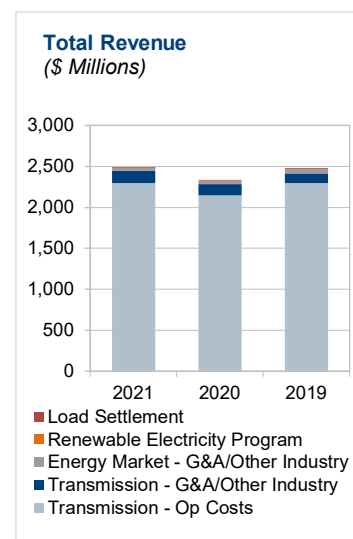
Numbers may not add due to rounding

In 2021, the allocation of non-operating costs resulted in an overall increase to transmission costs and a decrease to energy market, REP and load settlement costs compared to 2020. The shift was due to corporate initiatives and core work that was focused more heavily on tariff and grid optimization in 2021.

The increased borrowing costs allocation to transmission in 2021 is due to the settlement of adjustments to historical loss factor charges resulting from AUC Decision 790, whereby interest was calculated from the time of original settlement until final settlement for any amount due to and from the AESO.

## Total Revenues

The EUA requires that the AESO operates so that no profit or loss results on an annual basis from its operations. To achieve this, revenue is recognized to the extent of annual operating costs, including the amortization of intangible assets and depreciation of PP&E. When revenue collections differ from the annual operating costs, the difference is recorded as an adjustment to revenue, recognized as other accounts receivable or payable and subsequently collected or refunded. The AESO's four revenue sources are from market participants for transmission and energy market, REP suppliers, and owners of electric distribution systems and wires service providers for load settlement; there is no government funding for the operations of the AESO.



## Total Revenue

(\$ Millions) Years ended December 31,

	2021	2020	Change	% Change
<b>Revenue collections</b>				
Transmission	2,388.3	2,347.7	40.6	1.7
Energy market	45.3	53.6	(8.3)	(15.5)
Renewable electricity program	1.4	1.1	0.3	27.0
Load settlement	1.4	0.9	0.5	57.3
<b>Total revenue collections</b>	<b>2,436.4</b>	<b>2,403.3</b>	<b>33.1</b>	<b>1.4</b>
<b>(Deferred revenue) revenue</b>				
Transmission	60.1	(61.9)	122.0	(197.1)
Energy market	(11.1)	(15.6)	4.5	(29.1)
Renewable electricity program	0.1	0.9	(0.8)	(92.9)
Load settlement	(0.4)	0.1	0.1	750.2
<b>Total (deferred revenue) revenue</b>	<b>48.7</b>	<b>(76.5)</b>	<b>125.2</b>	<b>(163.7)</b>
<b>Total revenue</b>	<b>2,485.1</b>	<b>2,326.8</b>	<b>158.3</b>	<b>6.8</b>

Numbers may not add due to rounding

## Transmission

The AESO is responsible for paying all of the costs incurred in managing the provincial transmission system and recovering the costs through a tariff approved by the AUC. The transmission tariff is designed to allocate the costs to all users of the transmission system based on the metered demand and energy for system access service.

On a monthly basis, the AESO invoices market participants for transmission system access services based on approved tariff rates. The AESO also pays for costs associated with providing system access services. The monthly difference in the revenues collected and the costs incurred is accumulated in the AESO's transmission deferral account and can be attributed to several factors:

- forecast variances (pool price volatility, meter volumes and regulatory decisions);
- timing of revenues and costs (monthly fluctuations); and
- any misalignment of approved rates and the current year revenue requirement (delays in having the current-year rates approved).

When transmission revenue collections are greater than transmission costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When transmission revenue collections are less than transmission costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

## Transmission Deferral Summary

(\$ Millions) Years ended December 31,

	2021	2020
Revenue collections	2,388.3	2,347.7
Costs	2,448.4	2,285.8
<b>Transmission revenue (deferred revenue)</b>	<b>60.1</b>	<b>(61.9)</b>
Other accounts (payable) receivable, beginning of year	(88.4)	15.2
Disbursement (receivable) of the deferral account reconciliation applications: 2020, 2018 and 2019	17.3	(41.7)
<b>Other accounts payable, end of year</b>	<b>(11.0)</b>	<b>(88.4)</b>

Numbers may not add due to rounding

As part of the transmission tariff, Deferral Account Adjustment Rider C is intended to bring the transmission deferral account balance for rate categories other than transmission line losses to zero during the following calendar quarter. It is an additional percentage charge or credit that applies to each of the components of Rates Demand Transmission Service (DTS) and Fort Nelson Demand Transmission Service (FTS). Losses Calibration Factor Rider E is intended to bring the transmission line losses deferral account balance to zero during the remainder of the calendar year. Rate Rider E is a percentage adjustment to all location-specific loss factors.

For rate categories other than transmission line losses, the AESO files a retrospective deferral account reconciliation application with the AUC for approval of the final settlement amounts. The final reconciliation process associates all revenue and cost adjustments by rate category to the appropriate production period and allocates the corresponding charges and refunds to market participants. For transmission line losses, Rate Rider E is a prospective adjustment for the reconciliation of deferral account balances.

The transmission settlement deferral account at December 31, 2021, is an \$11.0 million payable compared to an \$88.4 million payable at the end of 2020. The change of \$60.1 million in 2021 is the result of the settlement of the 2020 Deferral Account Reconciliation resulting in a refund of \$17.3 million, as well as transmission operating costs higher than forecast.

## Energy Market

The AESO recovers the costs of operating the real-time energy market through an energy market trading charge on all MWh traded. The AESO's component of the energy market trading charge recovers regulatory process costs, general and administrative costs, borrowing costs, amortization of intangible assets and depreciation of right-of-use assets and PP&E. The energy market trading charge also recovers the AUC administration fee and the operating costs for the Market Surveillance Administrator (MSA), which are organizations that are independent of the AESO's operations.

For 2021, the AESO's component of the energy market trading charge is 29.7 cents per MWh compared to 36.4 cents per MWh in 2020.

Energy market collections are dependent on the energy market trading charge and the volume of energy traded through the power pool.

When energy market revenue collections are greater than energy market costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When energy market revenue collections are less than energy market costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.



The energy market deferral account is the accumulated difference between revenues collected and costs paid that is receivable from, or payable to, energy market participants.

### Energy Market Deferral Summary

(\$ Millions) Years ended December 31,

	2021	2020
Revenue collections	45.3	53.6
Costs	34.2	37.9
<b>Energy market deferred revenue</b>	<b>(11.1)</b>	<b>(15.7)</b>
Other accounts receivable, beginning of year	3.2	18.8
<b>Other accounts (payable) receivable, end of year</b>	<b>(7.8)</b>	<b>3.2</b>

Numbers may not add due to rounding

The energy market deferral account at December 31, 2021 is a \$7.8 million payable compared to a \$3.2 million receivable at the end of 2020. The change of \$11.1 million is the result of collections exceeding costs. The collections are based on a forecast of volumes and costs allocated to the energy market. In 2021, actual volumes are higher than forecast and costs allocated to the energy market are lower than forecast.

### Renewable Electricity Program

The AESO is responsible for administering the REP and recovering the costs through fees charged during each competition and in accordance with Renewable Electricity Support Agreements with generators. The REP service area at the AESO started in 2016 with the Government of Alberta's announcement of the Climate Leadership Plan. AESO costs associated with the REP include general and administrative costs, borrowing costs, amortization of intangible assets and depreciation of right-of-use assets and PP&E.

When REP revenue collections are greater than REP costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When REP revenue collections are less than REP costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

The REP deferral account is the accumulated difference between revenues collected and costs that will be settled with the Government of Alberta at the conclusion of the REP.

### Renewable Electricity Program Deferral Summary

(\$ Millions) Years ended December 31,

	2021	2020
Revenue collections	1.4	1.1
Costs	1.5	2.0
<b>Renewable Electricity Program revenue</b>	<b>0.1</b>	<b>0.9</b>
Other accounts receivable, beginning of year	17.1	16.3
Receipt of contractual payments directed to be applied against deferral balance	(20.4)	-
<b>Other accounts (payable) receivable, end of year</b>	<b>(3.2)</b>	<b>17.1</b>

Numbers may not add due to rounding

The REP deferral account at December 31, 2021 is a \$3.2 million payable compared to a \$17.1 million receivable at the end of 2020. The fee structure for the REP includes separate fees associated with the recovery of development, implementation and administration costs. Implementation and administration costs will be recovered from REP suppliers following their facility energization dates. In 2021, the Government of Alberta directed the AESO to retain an \$11.0 million termination fee and a \$9.4 million connection cost refund and offset them against the REP deferral account.

## Load Settlement

Under the ISO Rules, costs that are incurred to provide services related to administering provincial load settlement are charged to the owners of electric distribution systems and wires service providers conducting load settlement. The costs associated with load settlement include general and administrative costs, borrowing costs, amortization of intangible assets and depreciation of right-of-use assets and PP&E.

When load settlement revenue collections are greater than load settlement costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. When load settlement revenue collections are less than load settlement costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected.

The load settlement deferral account is the accumulated difference between revenues collected and costs paid that is receivable from, or payable to, owners of electric distribution systems and wires service providers.

### Load Settlement Deferral Summary

(\$ Millions) Years ended December 31,

	2021	2020
Revenue collections	1.4	0.9
Costs	1.0	1.1
<b>Load settlement (deferred revenue) revenue</b>	<b>(0.4)</b>	<b>0.2</b>
Other accounts receivable, beginning of year	0.3	0.1
<b>Other accounts (payable) receivable, end of year</b>	<b>(0.1)</b>	<b>0.3</b>

Numbers may not add due to rounding

The load settlement deferral account at December 31, 2021 is a \$0.1 million payable compared to a \$0.3 million receivable at the end of 2020. The change of \$0.4 million is the result of collections exceeding costs. The collections are based on a forecast of 2021 costs.

## Market Surveillance Administrator Charge

A portion of the energy market trading charge collected by the AESO is remitted to the MSA for its revenue requirement in accordance with the AUC Act. The AESO facilitates the cash collection process for the funding of the MSA through a per-MWh addition to the AESO's energy market trading charge. In 2021, the MSA's portion of the total energy market trading charge is 3.1 cents per MWh compared to 4.0 cents in 2020.

The MSA's revenue and costs are separate and independent of the AESO's financial records. The AESO records the difference between the payments made to the MSA and the collection on behalf of the MSA in a separate deferral account. At the end of 2021, the MSA payments exceeded the MSA collections, resulting in a deferral accounts receivable balance of less than \$0.1 million, which is lower than the receivable balance of \$0.2 million at the end of 2020.

## Financial Position and Liquidity

At December 31, 2021, the cash position is \$59.8 million, an increase of \$52.9 million compared to 2020.

Notable changes are:

<i>(\$ Millions) Years ended December 31,</i>	<b>2021</b>	<b>2020</b>
Funds provided by operations	28.5	31.9
Prepayments used for future services	4.1	1.6
Change in long-term payables	45.4	32.7
Cash provided by settlements	50.8	213.1
Cash used for capital expenditures	(22.6)	(25.2)
Debt financing repayments	(43.0)	(245.6)
Other	(10.4)	(5.4)
<b>Increase in cash</b>	<b>52.9</b>	<b>3.1</b>

## Cash Provided by Settlements

At December 31, 2020, the net balance of the accounts receivable, accounts payable and accrued liabilities, other accounts receivable, and other settlement-related accounts payable, was a receivable of \$17.2 million. The balances in these accounts are associated with cash collections for the transmission, energy market, REP, load settlement and MSA settlements offset by the cash payments made by the AESO.

During 2021, cash flows for these accounts and the 2021 transactions resulted in a December 31, 2021 net payable balance of \$33.6 million. The \$50.8 million change from 2020 to 2021 is primarily due to transmission costs for 2021 exceeding revenue collected, partially offset by energy market revenue collected in 2021 exceeding costs.

## Debt Financing and Credit Facilities

At December 31, 2021, the AESO had the following credit facilities available to fund general operating, intangible asset and PP&E purchasing activities:

<i>(\$ Millions) Year ended December 31, 2021</i>	<b>Total</b>	<b>Available</b>	<b>Used</b>
Committed revolving facility	200.0	190.0	10.0

The committed facility includes a \$10.0 million letter of credit at December 31, 2021 and 2020, which is issued as financial security for the AESO's procurement of operating reserves.

Throughout 2021 and 2020, the AESO's credit rating has been AA-/Stable from Standard and Poor's (S&P) Ratings Services. S&P is a leading global provider of independent credit risk research and benchmarks.

## Future Outlook

### Providing leadership to power Alberta today and into the future

Alberta will continue to see profound change in the ways in which power is produced, consumed and exchanged, driven by changing consumer preferences, new generation technologies and a societal shift towards a greener, lower-carbon power system. The AESO will play a leadership role in enabling the transformation while ensuring reliable, affordable power is always available to Albertans. The AESO also recognizes the significant challenges faced by Alberta residents and businesses as we emerge from an economic downturn and global pandemic. The AESO is committed to cost management through optimizing the use of our existing grid while minimizing or deferring the need for new infrastructure where appropriate. Our comprehensive understanding of electricity in Alberta, in-depth expertise, strong leadership and focus will be instrumental to our success.

To advance these efforts, the AESO will focus on several initiatives in 2022, in addition to continuous improvements on the core work that is essential to Albertans.

### Optimizing the Grid

While optimizing the grid will always be a part of the AESO's ongoing core business, it also continues to be a key initiative. The AESO will focus on enhancing methods to maximize the use of existing transmission infrastructure, increase the certainty for the timing of new infrastructure, and seek lower-cost end solutions. The AESO has published its 2022 Long-term Transmission Plan (LTP) and looks to publish its first Transmission Capability Map and will continue to seek stakeholder feedback to identify improvements to streamline the connection process. Ongoing focus on red-tape reductions, flexibility in application of technology alternatives, engagement of Distributed Energy Resources (DER) providers in future distribution coordination work, and facilitation of transmission utilization discussions with industry partners, including development of annual metrics, are all planned pieces of work in 2022.

### Review of Bulk and Regional Transmission Rate Design and Overall ISO Tariff Modernization

In 2018, the AESO proposed to the AUC that a consultation process be initiated to review the bulk and regional transmission rate design. The AUC approved the proposal, and the AESO initiated the consultation process. In 2021 the AESO filed the Bulk and Regional tariff application with the AUC, including Demand Opportunity Service Modernization and a proposal for mitigating rate impacts for significantly impacted loads to support a minimally disruptive transition. The AESO will continue to progress with related policy and tariff structure changes and process improvements throughout 2022, with an AUC Decision and AESO compliance filing on Bulk and Regional tariff application including DOS modernization planned for 2023.

The AESO DER Roadmap was published in June of 2020, with priority work focused on defining technical connection requirements and ensuring locational information is centrally available. In 2021 the AESO implemented DER technical interconnection requirements, launched a DER locational static data portal, facilitated DER integration and access to AESO electricity markets by updating applicable ISO rules to remove unnecessary market access limitations, and applied a Decision-Making Framework to realize cost savings in deferring DFO projects where deemed reasonable to do so.

In keeping the DER initiative moving forward, in 2022 the AESO plans to implement connection process improvements, implement changes to facilitate market access and technical requirements for DER integration, and explore how distributed resources may assist in grid optimization.

## Market Sustainability and Evolution

The AESO looks to maintain system reliability, and ensure it is facilitating a fair, efficient and openly competitive (FEOC) market for an evolving electrical system while also providing certainty and stability to the market structure. In 2022 it will continue to progress market-related initiatives that are important to the long-term sustainability and competitiveness of the energy-only market structure, to enable the integration of new technologies and to support increased flexibility on the system.

## Red Tape Reduction

The Government of Alberta (GoA) has committed to reducing regulatory requirements by one-third by 2023. This initiative is known as the Red Tape Reduction Initiative. The AESO is committed to reducing regulatory requirements and is focusing red tape reduction efforts in 2022 on specifically identified ISO rules with notable requirements in terms of reductions.

## Settlement Audit

The AESO completed the readiness component of its settlement audit in 2021. The settlement audit itself will be completed in 2022.

## Technology Advancement

As part of ongoing business as well as a top priority business initiative, the AESO has committed to enable timely planned integration of new technologies onto the grid and into our markets, such as Energy Storage. In upholding its position as a trusted leader in the transformation of Alberta's electricity sector, the AESO will enable proactive awareness of future new technologies and the potential impacts to reliability, markets and tariffs.

## Grid Resiliency

The AESO recognizes that Alberta's transmission system must continue to evolve and remain resilient in the face of the numerous challenges it faces. Some of these challenges include increasing levels of renewable generation, distributed resources, coal-to-gas conversions, electrification of the transportation system, climate change and cyber threats. In order to appropriately address these challenges and secure a resilient grid, the AESO will focus on enhancing system frequency response, ensuring extreme event preparedness, assessing future reliability needs as supply transforms, assessing need for climate adaptation plans and enhancing cyber security capabilities.

## Alberta Reliability Standards (ARS)

The AESO's ARS development and monitoring initiative will seek to consider greater adoption of risk-based approaches across the ARS program, integrate efficiencies into both internally and externally facing processes, and better facilitate a common understanding of ARS requirements and expectations for compliance among market participants. These objectives will be accomplished by way of development of a roadmap, framing and scoping of activities, and establishment of a collaborative approach with stakeholders to keep them apprised of progress.

In addition, the AESO will continue to focus on other external and internal business initiatives to advance its strategic plan and to maintain safe and reliable operations. The AESO will continue to efficiently and effectively deliver on its activities to create value for stakeholders and the province as a whole.

By performing the work described, the AESO will continue to demonstrate that Albertans can look to our organization for electricity industry leadership, and that they can be confident the transmission system and electricity framework are managed efficiently and reliably, every day.

In accordance with the EUA, the AESO Board approves an annual budget to support ongoing operations and to procure transmission services. To recover the costs that are incurred while adhering to the requirement of the EUA for the AESO to operate with no profit or loss on an annual basis, cost-recovery mechanisms are established and approved by the AESO Board, and for transmission-related wires costs through TFO tariffs approved by the AUC under Section 37 of the EUA.

For transmission-related costs in 2022, the AESO established a cost estimate of \$2,358.3 million, which is \$90.1 million or 3.7 per cent lower than the 2021 actual costs of \$2,448.4 million. The lower 2022 forecast is due to lower ancillary services and transmission line losses costs associated with lower forecasted pool prices, as well as lower interest expense as no further settlement of adjustments to historical loss factor charges resulting from AUC Decision 790 are forecasted.

For energy market-related activities, the annual costs are forecast to increase to \$36.4 million in 2022 from the 2021 actual costs of \$34.2 million, a \$2.2 million or 6.4 per cent increase. This increase is associated with higher forecasted other industry costs, general and administrative costs and borrowing costs in 2022.

For REP-related initiatives, the annual costs are forecast to decrease to \$1.4 million in 2022 from the 2021 actual costs of \$1.5 million, a \$0.1 million or 6.7 per cent decrease. This forecast reflects the overall decrease in forecasted own costs related to REP activities resulting from shifts in the anticipated allocation of corporate overhead costs.

For load settlement-related initiatives, the annual costs are forecast to increase to \$1.2 million in 2022 from the 2021 actual costs of \$1.0 million, a \$0.2 million or 20.0 per cent increase. This increase is associated with higher forecasted general and administrative costs and borrowing costs in 2022.

## Risk Management

The AESO is exposed to various risks in the normal course of business. Many of these are similar to risks faced by other companies including independent electric system operators and wholesale market operators.

The Board is responsible for understanding and providing oversight for principal risks associated with the AESO's duties and responsibilities. AESO management is responsible for the ongoing operations of the organization including integrating risk management into operations.

The risk management processes that the AESO has developed are designed to proactively identify the risks confronting the AESO, to assess the impact and likelihood of those risks occurring, and to determine mitigation strategies to acceptable levels of residual risk.

Risk management is a key element of organizational governance and is characterized by a philosophy of continuous improvement. The key features of the AESO's governance and internal control environment, which facilitate the AESO's risk management processes, are as follows:

- The AESO is established by the *Electric Utilities Act* (EUA). The AESO's business and affairs are governed by Members of the AESO (Members). Members are individuals who are independent from any person having a material interest in the Alberta electricity industry and are appointed by the Alberta Minister of Energy. The Members function as a board of directors (AESO Board) and act in the public interest. The *Alberta Public Agencies Governance Act* is legislation applicable to the AESO that addresses certain duties of the AESO as a "public agency" under that Act.
- AESO policies are developed and approved by the Board or the President and Chief Executive Officer as delegated by the Board. AESO policies are communicated to employees and, as appropriate, to



contractors. AESO policies are reviewed on a regular basis and are accessible by employees at all times.

- The AESO is committed to maintaining a high level of ethics and integrity. The Board and AESO management foster these values throughout the organization, including through the Complaints Procedures, which provide an avenue for employees and/or other third parties to submit their concerns. In addition, the AESO maintains a code of conduct applicable to its Members, officers, employees and contractors, which serves as a framework for these individuals when they are faced with difficult situations where laws and regulations may not provide sufficient direction and assistance. The AESO Code of Conduct is a policy by which all employees must abide. All employees must acknowledge their agreement with that policy when hired and review it at least annually to confirm compliance/non-compliance. AESO contractors have similar requirements, as appropriate, given the nature of their work for the AESO. Each Member of the Board is bound by the AESO Code of Conduct and similarly provides an annual confirmation of their compliance/non-compliance.
- AESO management is responsible for establishing and maintaining adequate internal controls over financial reporting. These controls are designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards. Internal controls over financial reporting, no matter how well designed, have inherent limitations and provide only reasonable assurance with respect to financial statement preparation. Accordingly, they may not prevent or detect all misstatements or fraud and error.
- The AESO conducts an annual assessment of the design and effectiveness of its internal controls over financial reporting based on an accepted industry framework. The framework adopted by the AESO for this assessment is the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, AESO management has concluded that, as of December 31, 2021, the AESO maintains, in all material respects, effective internal controls over financial reporting.
- The Audit Committee provides oversight, in accordance with the Audit Committee Charter, on the system of internal controls, the processes for managing risk, the external audit process and the AESO's process for monitoring compliance with laws and regulations, with a view to adopt best practices, as appropriate.
- The AESO's Audit Services function provides the AESO with an objective and independent assessment of internal controls, and coordinates and identifies opportunities for improvement. The Audit Services function reports directly to the Audit Committee and meets regularly with the Audit Committee independent of AESO management.
- Ongoing communication and reporting related to identified risk events and opportunities and the activities to mitigate or capitalize on them are provided to AESO Management and the AESO Board through various risk reports. Risk reporting is updated on a quarterly basis, and the AESO's overall listing of risk events (Risk Event Register) is refreshed annually; however, it is updated with new and emerging risk events as they arise.
- The AESO, its Members, officers, employees and contractors are extended a degree of statutory liability protection consistent with the execution of the AESO's public interest mandate.
- The AESO carries insurance coverage that is reviewed and approved as appropriate by the Board through the Audit Committee. The insurance coverage may not be adequate to cover all possible risks and the proceeds of any insurance claim may not be adequate to cover all potential losses.

## Forward-looking Statements

This MD&A contains forward-looking statements that are subject to certain assumptions and risks that create uncertainties. These assumptions and risks could cause actual results to differ materially from results anticipated by the forward-looking statements.

## Additional Information

Additional information relating to the AESO can be found on the corporate website at [www.aeso.ca](http://www.aeso.ca)

# Financial Statements & Notes

**AESO 2021 Year in Review**

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## MANAGEMENT'S RESPONSIBILITY FOR FINANCIAL REPORTING

The financial statements of the Alberta Electric System Operator (AESO) are the responsibility of management and have been approved by the AESO Board (Board). These financial statements have been prepared by management in accordance with International Financial Reporting Standards, appropriate in the circumstances, and include the use of estimates and assumptions that have been made using management's best judgment. Financial information contained in the management's discussion and analysis of financial condition and results of operations (MD&A) is consistent with that in the financial statements.

To discharge its responsibility for financial reporting, management maintains a system of internal controls designed to provide reasonable assurance that the AESO's assets are safeguarded, that transactions are properly authorized and that financial information is relevant, accurate and available on a timely basis. Internal controls are reinforced through the AESO Code of Conduct, which sets forth the AESO's commitment to conduct business with integrity and to comply with the law.

The Board, through the Audit Committee, is responsible for ensuring management fulfils its responsibility for financial reporting and internal controls. The Audit Committee meets regularly with management, internal auditors and external auditors to discuss any significant accounting, internal control and auditing matters to determine that management is carrying out its responsibilities and to review and recommend the approval of the financial statements by the Board.

The financial statements have been examined by Ernst & Young LLP, the external independent auditors engaged by the Board. The responsibility of this external auditor is to examine the financial statements and express its opinion on the fairness of the financial statements in accordance with International Financial Reporting Standards. The external auditor's report outlines the scope of its examination and states its opinion. Internal and external auditors have access to the Audit Committee, with and without the presence of management.



**Michael Law**  
President and Chief Executive Officer



**Nicole Kinch, CPA, CA, CPA (WA, US)**  
Vice-President, Finance

## INDEPENDENT AUDITOR'S REPORT

### TO THE MEMBERS OF THE INDEPENDENT SYSTEM OPERATOR, OPERATING AS ALBERTA ELECTRIC SYSTEM OPERATOR, BOARD

#### Opinion

We have audited the financial statements of the Alberta Electric System Operator ("AESO"), which comprise the statements of financial position as at December 31, 2021 and 2020, and the statements of income and comprehensive income and cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying financial statements present fairly, in all material respects the financial position of the AESO as at December 31, 2021 and 2020, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards (IFRS).

#### Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the AESO in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

#### Other Information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis of Financial Condition and Results of Operations

Our opinion on the financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information, and in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis of Financial Condition and Results of Operations prior to the date of this auditor's report. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

#### Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the AESO's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the AESO or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the AESO's financial reporting process.

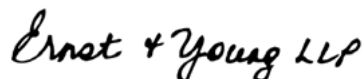
### **Auditor's Responsibilities for the Audit of the Financial Statements**

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the AESO's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the AESO's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the AESO to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



**Chartered Professional Accountants**

Calgary, Canada  
February 24, 2022

## STATEMENTS OF FINANCIAL POSITION

(in millions of Canadian dollars)

As at December 31

### Assets

#### Current assets

	2021	2020
Cash and cash equivalents	\$ 59.8	\$ 6.9
Accounts receivable (note 3)	178.4	275.6
Other accounts receivable (note 4)	-	3.5
Prepays and deposits	9.5	9.8
	<b>247.7</b>	<b>295.8</b>

#### Non-current assets

Long-term other accounts receivable (note 4)	-	17.3
Long-term prepaids (note 5)	21.4	25.5
Right-of-use assets, net (note 6)	17.8	21.3
Intangible assets, net (note 7)	43.8	44.3
Property, plant and equipment, net (note 8)	46.0	47.8
	<b>\$ 376.7</b>	<b>\$ 452.0</b>

### Liabilities

#### Current liabilities

Accounts payable and other liabilities (note 9)	\$ 209.0	\$ 217.4
Other accounts payable (note 10)	19.0	88.4
Current portion of lease liabilities (note 11)	3.2	3.1
Credit facility (note 12)	-	43.0
	<b>231.2</b>	<b>352.0</b>

#### Non-current liabilities

Long-term other accounts payable (note 10)	3.2	-
Long-term portion of lease liabilities (note 11)	12.5	15.8
Generating unit owner's contribution (note 13)	128.7	82.9
Asset retirement obligation (note 14)	1.1	1.3

#### Equity (note 1)

	-	-
	<b>\$ 376.7</b>	<b>\$ 452.0</b>

Commitments and contingencies (notes 15 and 16)

See accompanying notes to the financial statements.



## STATEMENTS OF INCOME AND COMPREHENSIVE INCOME

(in millions of Canadian dollars)

For the year ended December 31

### Revenue

Revenue from contracts with market participants

	2021	2020
Transmission tariff	\$ 2,400.8	\$ 2,251.0
Energy market charge	33.9	37.6
Renewable electricity program charges	1.5	2.0
Load settlement charge	1.0	1.1

**2,437.2** **2,291.7**

Interest and other (note 22)

47.9 35.1

**2,485.1** **2,326.8**

### Operating costs and expenses

Wires costs	1,713.5	1,872.1
Ancillary services costs	381.2	182.5
Transmission line losses	201.8	92.7
General and administrative (notes 18, 21)	91.8	88.1
Other industry costs	21.6	22.7
Amortization and depreciation (notes 6, 7 and 8)	28.1	30.7
Borrowing costs (note 22)	47.1	38.0

**2,485.1** **2,326.8**

**Net income and comprehensive income**

**\$ - \$ -**

See accompanying notes to the financial statements.

## STATEMENTS OF CASH FLOWS

(in millions of Canadian dollars)

For the year ended December 31

### Operating activities

	2021	2020
Net income	\$ -	\$ -
Items not affecting cash		
Amortization and depreciation	28.1	30.7
Accretion of asset retirement provision	(0.2)	0.6
Accretion of right-of-use lease liability	0.5	0.6
Change in long-term other accounts receivable	17.3	8.9
Change in long-term prepaids	4.1	1.6
Change in long-term payables	45.3	32.6
Change in long-term other accounts payable	3.2	-
Change in non-cash operating working capital balances		
Accounts receivable	97.2	28.8
Other accounts receivable	3.5	20.8
Prepaids and deposits	0.3	(2.6)
Accounts payable and other liabilities	(7.7)	67.1
Other accounts payable	(69.4)	88.4
<b>Net cash provided by operating activities</b>	<b>122.2</b>	<b>277.5</b>

### Investing activities

Additions to intangible assets	(17.3)	(16.8)
Additions to property, plant and equipment	(5.0)	(6.4)
Change in non-cash investing working capital balances		
Accounts payable and other liabilities	(0.3)	(2.0)
<b>Net cash used in investing activities</b>	<b>(22.6)</b>	<b>(25.2)</b>

### Financing activities

Payment of lease liabilities	(3.7)	(3.6)
Change in debt financing	(43.0)	(245.6)
<b>Net cash used in financing activities</b>	<b>(46.7)</b>	<b>(249.2)</b>

Increase in cash position	52.9	3.1
Beginning of year	6.9	3.8
<b>End of year</b>	<b>\$ 59.8</b>	<b>\$ 6.9</b>
Cash interest paid	\$ 71.1	\$ 11.3

See accompanying notes to the financial statements.

## NOTES TO THE FINANCIAL STATEMENTS

*(All amounts are in millions of Canadian dollars unless otherwise indicated)*

### 1. Nature of Operations

The Independent System Operator (ISO), operating as the Alberta Electric System Operator (AESO), is a statutory corporation established on June 1, 2003, under the *Electric Utilities Act* (EUA) of the Province of Alberta.

The AESO is responsible for operating Alberta's fair, efficient and openly competitive energy market for electricity; determining the order of dispatch of electric energy and ancillary services; providing system access service on the transmission system; directing the safe, reliable and economic operation of the interconnected electric system; planning the capability of the transmission system to meet future needs; administering the Renewable Electricity Program (REP); and, administering load settlement.

The AESO's business is governed by Members of the AESO (Members). Members are individuals who are independent from any person or entity having a material interest in the Alberta electricity industry and are appointed by the Alberta Minister of Energy. The Members function as a board of directors (Board) and act in the public interest. As at December 31, 2021, the Board has four committees: Audit Committee; Human Resources Committee; Governance and Nominations Committee; and Power System Committee.

The EUA requires that charges to industry, including the transmission tariff, energy market charge, REP charges and load settlement charge, be set to recover the costs required to operate the AESO, and that the AESO be operated so no profit or loss results on an annual basis from its operations. The AESO has no equity and accordingly these statements contain no Statement of Changes in Equity.

### 2. Significant Accounting Policies

#### 2.1 Basis of presentation and statement of compliance

These financial statements have been prepared by management in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB).

The financial statements have been prepared on the historical cost basis except for financial instruments that are measured at fair value. The financial statements are presented in millions of Canadian dollars, which is the AESO's functional currency.

The AESO Board authorized these financial statements for issue February 24, 2022.

## 2.2 Summary of significant accounting policies

### a) *Revenue recognition*

The AESO's revenue is derived through four separate charges: the (i) transmission tariff; (ii) energy market charge; (iii) REP charges; and (iv) load settlement charge. Each of these charges is set to recover the costs directly attributable to a specific service as well as a portion of the shared corporate services costs. Consistent with the requirements of the EUA, which requires the AESO to operate with no annual profit or loss, revenue is recognized equivalent to the aggregate of annual operating costs on a service area basis.

Transmission tariff revenue is recognized on a monthly basis consistent with the billing cycle in which the AESO invoices market participants for transmission system access services. Revenues are based on the metered demand and energy for system access service, as specified in the Alberta Utilities Commission-approved tariff rates.

When a market participant reduces or terminates contract capacity for system access service, a lump sum payment may be required in lieu of notice under the terms of the transmission tariff. A payment received by the AESO in advance of the effective date of a change to a system access service agreement is recognized as deferred revenue and subsequently recognized as transmission tariff revenue on the effective date of the change.

Energy market charge revenue is recognized on a monthly basis, consistent with the billing cycle in which the AESO invoices market participants to recover the costs of operating the real-time energy market. Revenues are based on the per-megawatt-hour energy market charge and the volume of energy traded through the power pool.

REP revenue is recognized as the AESO invoices market participants in accordance with Renewable Electricity Support Agreements (RESAs). Revenues are based on the costs directly attributable to REP services.

Load settlement revenue is recognized as the AESO invoices load settlement agents. Revenues are based on the costs directly attributable to the load settlement services.

Payment of transmission tariff, energy market and REP revenue is generally due on the twentieth (20<sup>th</sup>) business day following the month in which the revenue is recognized. Amounts receivable represent the AESO's right to an amount of consideration that is unconditional (i.e., only the passage of time is required before payment of the consideration is due). Payment terms for all other revenue are typically within 30 days of receipt of an invoice.

The AESO utilizes deferral accounts to record the differences between revenues collected and costs paid with the amounts recognized as other accounts receivable or other accounts payable. On an individual basis for the transmission, energy market, REP and load settlement services, in circumstances where collections are greater than costs, the surplus is recorded as a reduction in revenue, recognized as other accounts payable and subsequently refunded. In circumstances where collections are less than costs, the shortfall is recorded as revenue, recognized as other accounts receivable and subsequently collected. The refunds or collections are settled with market participants for the transmission, energy market, and REP services and with the owners of electric distribution systems and wires service providers for load settlement services.

Interest and other revenue represents revenue received from third parties and includes, but is not limited to, bank interest and interest on past due accounts; cancellation and performance forfeitures by market participants; interest on delayed settlement related to AUC decisions; sublease rent and services; market participant fees; and cost recoveries for training courses. Interest and other revenue are recognized on the accrual basis as the revenue is earned.

As directed in the *Alberta Utilities Commission Act* (AUC Act), the AESO is required to provide funding for the Market Surveillance Administrator (MSA), a separate statutory corporation. The amounts paid by the AESO are recovered through the energy market charge as directed in the EUA. The energy market charge included in the AESO's statement of income and comprehensive income does not include amounts recovered related to the MSA's funding requirements and the AESO's costs do not include amounts related to the operations of the MSA.

Revenues are measured at the fair value of the consideration received or receivable.

#### **b) Other accounts receivable/payable**

As the EUA requires the AESO to be managed with no profit or loss on an annual basis from its operations, differences in revenues collected and costs paid are: recorded as adjustments to revenue; recognized as other accounts receivable or other accounts payable; and subsequently collected or refunded. The collection of deferral account shortfalls and payment of deferral account surpluses is embodied in the legislative rights granted in the EUA and *Renewable Electricity Act* (REA) to the Board or AUC. Settlement of the surplus or shortfall occurs through deferral account adjustment riders as part of the transmission tariff, deferral account applications submitted to the AUC, adjustments to the energy market trading charge, settlement with the Minister of Energy for the REP, or settlement with the owners of electric distribution systems and wires service providers conducting load settlement.

The AESO recognizes amounts as long-term other assets or other liabilities when the collection or refund is expected to occur beyond one year from the date of the statement of financial position.

#### **c) Offsetting financial instruments**

Financial assets and financial liabilities are offset and the net amount is reported in the statement of financial position if there is a legally enforceable right to offset the recognized amounts, and if the AESO intends either to settle on a net basis or to realize the assets and settle the liabilities simultaneously.

#### **d) Current versus non-current classification**

The AESO presents assets and liabilities in the statement of financial position based on current/non-current classification. An asset is current when it is:

- Expected to be realized or intended to be sold or consumed in the normal operating cycle;
- Held primarily for the purpose of trade;
- Expected to be realized within twelve months after the reporting period; or
- Cash or cash equivalent unless restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

All other assets are classified as non-current.

A liability is current when:

- It is expected to be settled in the normal operating cycle;
- It is held primarily for the purpose of trading;
- It is due to be settled within twelve months after the reporting period; or
- There is no unconditional right to defer the settlement of the liability for at least twelve months after the reporting period.

**e) Cash and cash equivalents**

Cash and cash equivalents consist of cash and term deposits issued by credit-worthy financial institutions with maturities within three months from the date of acquisition.

**e) Intangible assets**

Intangible assets are recorded at cost less accumulated amortization. Cost includes the purchase price, plus any additional costs directly attributable to the development of the asset and preparing the asset for its intended use. Such costs include staff, consulting resources and borrowing costs incurred during the development of qualifying assets.

Maintenance and repair costs that do not enhance or extend the useful life of the asset are expensed as incurred.

Amortization is calculated on a straight-line basis over the estimated useful lives of the assets. No amortization is provided on intangible assets under development. The expected useful lives, amortization method and residual values of the assets are reviewed annually, with any changes accounted for on a prospective basis. Amortization periods for intangible assets are shown in the following table.

Computer software	5 to 7 years; or Over the term of the licence agreement for customization of Software as a Service
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Intangible assets are retired when they are fully amortized and derecognized when no future benefits are expected to arise from their use.

**f) Property, plant and equipment**

Property, plant and equipment are recorded at cost less accumulated depreciation. Cost includes the purchase price, plus any additional costs directly attributable to the construction of the asset and preparing the asset for its intended use. Such costs include materials, staff, consulting resources, borrowing costs incurred during construction for qualifying assets and asset retirement costs.

Maintenance and repair costs that do not enhance or extend the useful life of the asset are expensed as incurred.

Depreciation is calculated on a straight-line basis over the estimated useful lives of the assets. No depreciation is provided on assets under construction. The expected useful lives, depreciation method and residual values of the assets are reviewed annually, with any changes accounted for on a prospective basis. Depreciation periods for property, plant and equipment are shown in the following table.

System Coordination Centre & Operations Support Centre	20 years; or Over the land-lease term ending in 2060
Computer hardware	4 years
Backup Coordination Centre	Over the lease term ending in 2033
Leasehold improvements	Over the applicable lease terms ending in 2024
Furniture and office equipment	10 years

Property, plant and equipment are retired when they are fully depreciated and derecognized when no future benefits are expected to arise from their use.

**g) Capitalized borrowing costs**

Borrowing costs directly incurred during a development or construction period of substantial duration are added to the cost of the asset. Qualifying assets are those that take a substantial period of time to develop or construct and are developed over periods of time exceeding 12 months. Borrowing costs are considered to be directly attributable if they could have been avoided if the expenditure on the qualifying asset had not been made. Borrowing cost capitalization commences when expenditures and borrowing costs are incurred and ceases when the qualifying asset is substantially complete and ready for its intended use.

**h) Impairment of right-of-use assets, intangible assets and property, plant and equipment**

Impairment indicators for intangible assets with finite useful lives and property, plant and equipment are reviewed annually or whenever events or changes in circumstance may indicate possible impairment. Impairment is assessed at the cash-generating unit level to which the asset belongs. Impairment charges, when identified, are included in amortization and depreciation on the Statement of Income and Comprehensive Income. Under the legislative requirements associated with the AESO's financial operations, any asset impairment charges that might occur would be fully recoverable.

**i) Asset retirement obligations**

Decommissioning liabilities are legal and constructive obligations for decommissioning assets. The fair value approximates the cost a third party would charge to perform the tasks necessary to retire the asset and is recognized at the present value of expected future cash flows. Decommissioning liabilities are added to the carrying amount of the associated asset and depreciated over its estimated useful life. The corresponding liability is accreted over time through charges to earnings and is reduced by actual costs of decommissioning. Decommissioning liabilities may change as a result of a new decommissioning cost estimate or the timing of the obligation.

**j) Provisions and contingencies**

Provisions are recognized when a present obligation (legal or constructive) is a result of a past event, it is probable that an outflow of resources will be required to settle the obligation, and the amount can be reliably estimated. The amount recognized as a provision is the best estimate of the expenditure required to settle the obligation at the end of the reporting period.

If the effect is material, provisions are determined by discounting the expected future cash flows at a risk-adjusted, market-based discount rate. If discounting is used, the increase in the provision due to the passage of time is recognized as interest expense.



A contingent liability is a possible obligation, and a contingent asset is a possible asset, that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the AESO. A contingent liability may also be a present obligation that arises from past events that is not recognized because it is not probable that an outflow of economic resources will be required to settle the obligation, or the amount of the obligation cannot be measured reliably.

Neither contingent liabilities nor assets are recognized in the financial statements. However, a contingent liability is disclosed, unless the possibility of an outflow of resources is remote. A contingent asset is only disclosed where an inflow of economic benefits is probable.

#### **k) Employee benefits obligations**

A liability is recognized for a present legal or constructive obligation to pay an amount as a result of past service provided by employees, and the obligation can be estimated reliably. The liability recognizes the amount expected to be paid for short-term employee benefits such as the short-term incentive plan; paid annual leave; paid sick leave; post-employment benefits; and termination benefits.

#### **l) Leases**

At contract inception the AESO assesses whether a contract is, or contains, a lease by determining whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

##### **AESO as a lessee**

The AESO applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The AESO recognizes right-of-use assets representing the right to use the underlying assets and lease liabilities to make lease payments.

#### **i) Right-of-use assets**

The AESO recognizes right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are initially measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any re-measurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of a period from the commencement date of the lease term and the estimated useful lives of the assets, as follows:

Office Space	10-40 years
Land	55 years

Right-of-use assets are subject to impairment.

#### **ii) Lease liabilities**

At the commencement date of the lease, the AESO recognizes lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees.

The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the AESO and payments of penalties for terminating the lease, if the lease term reflects the AESO exercising the option to terminate. Variable lease payments that do not depend on an index or a rate are recognised as expenses in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the AESO uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is re-measured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

### **iii) Short-term leases and leases of low-value assets**

The AESO has elected not to recognize right-of-use assets and lease liabilities for short-term leases that have a term of less than 12 months and leases of low-value assets. Lease payments associated with these leases are recognised as expense on a straight-line basis over the lease term.

### **m) Long-term prepaids**

The AESO recognizes advance cash payments associated with information technology licenses and ancillary service agreements with terms longer than one year from the statement of financial position date as long-term assets.

### **n) Long-term payables**

A generating unit connected to the Alberta Interconnected Electric System (AIES) is required to pay the AESO a generating unit owner's contribution which is refundable over a period of not more than 10 years, subject to satisfactory annual performance. The carrying amount of the contributions is measured as the amount required to settle the obligations at the end of the reporting period. The AESO recognizes refundable amounts as long-term liabilities when the refund term is longer than one year from the statement of financial position date.

### **o) Financial instruments**

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

#### **i) Financial assets**

Except for those trade receivables that do not contain a significant financing component and are measured at the transaction price in accordance with IFRS 15 *Revenue from Contracts with Customers*, all financial assets are initially measured at fair value and adjusted for transaction costs (where applicable). Financial assets are classified at initial recognition and subsequently measured at amortized cost, fair value through other comprehensive income, or fair value through profit or loss. The classification is determined by both the AESO's model for managing the financial asset and the contractual cash flow characteristics of the financial asset.

## ii) Financial liabilities

All financial liabilities are recognized initially at fair value and adjusted for transaction costs (where applicable). Financial liabilities are classified at initial recognition and subsequently measured at amortized cost, except for financial liabilities which are measured at fair value through profit or loss.

## p) Comprehensive income

As the AESO does not have any other comprehensive income, net income equals comprehensive income.

## 2.3 Changes in accounting policies and disclosures

### New and amended standards and interpretations

#### ***Interest Rate Benchmark Reform – Phase 2: Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16***

On August 27, 2020, the IASB issued *Interest Rate Benchmark Reform Amendments*, representing the finalization of Phase 2 amendments addressing issues that might affect financial reporting when an existing interest rate benchmark is replaced with an alternative benchmark interest rate. The Phase 2 amendments provide specific guidance on how to treat financial assets, financial liabilities or lease liabilities that are subject to interest rate benchmark reform; and those that apply the hedge accounting requirements in IFRS 9 or IAS 39 to hedging relationships also affected by the reform. The amendments are applied retrospectively and are effective for annual periods beginning on or after January 1, 2021, with early application permitted.

While the above amendments were adopted by the AESO on January 1, 2021, they had no impact on the financial statements of the AESO.

There are no other new or amended IFRS or IFRS Interpretations Committee (IFRIC) interpretations that would be expected to have a material impact on the AESO.

## 2.4 Standards issued but not yet effective

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the AESO's financial statements and could have an impact to the AESO are disclosed below. The AESO intends to adopt these new and amended standards and interpretations, if applicable, when they become effective.

#### ***Onerous Contracts – Costs of Fulfilling a Contract – Amendments to IAS 37***

In May 2020, the IASB issued amendments to IAS 37, *Provisions, Contingent Liabilities and Contingent Assets*, to specify which costs an entity needs to include when assessing whether a contract is onerous or loss-making. The amendments apply a “directly related cost approach”. The costs that relate directly to a contract to provide goods or services include both incremental costs and an allocation of costs directly related to contract activities. General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract.

The amendments are effective for annual reporting periods beginning on or after January 1, 2022 and is not expected to have a material impact on the AESO.

There are no other IFRS or IFRIC interpretations that are issued but not yet effective that would be expected to have an impact on the AESO.

## 2.5 Significant accounting judgements and estimates

The preparation of these financial statements requires management to select appropriate accounting policies and to make judgments, estimates, and assumptions that could affect the reported amounts of assets, liabilities, revenues, expenses and disclosures of contingent assets and liabilities during the period. Most often these estimates and judgments concern matters that are inherently complex and uncertain. Judgments and estimates are reviewed on an ongoing basis; changes to accounting estimates are recognized prospectively.

The key judgments and sources of estimation uncertainty are described below:

### **a) Useful lives of right-of-use assets, intangible assets and property, plant and equipment**

Useful lives are determined based on past experience and current facts, taking into account future expected usage and potential for technological obsolescence.

### **b) Asset retirement obligation**

Measurement of the AESO's asset retirement obligation requires the use of estimates with respect to the amount and timing of the asset retirement; the extent of site remediation required; and related future cash flows, inflation rates and discount rates. The estimated obligation is present valued using a risk-adjusted, market-based discount rate. A change in estimated cash flows, market interest rates, or timing could have a material impact on the carrying amount of the obligation.

### **c) Impairment of assets**

The AESO conducts impairment tests on long-lived assets and right-of-use assets annually and where impairment indicators exist.

### **d) Leases**

#### **i) Estimating the incremental borrowing rate**

The AESO cannot readily determine the interest rate implicit in the lease and therefore, it uses its incremental borrowing rate (IBR) to measure lease liabilities. The IBR is the rate of interest that the AESO would have to pay to borrow over a similar term, and with a similar security, the funds necessary to obtain an asset of a similar value to the right-of-use asset in a similar economic environment. As such, the IBR requires estimation when no observable rates are available or when it needs to be adjusted to reflect the terms and conditions of the leases concerned.

#### **ii) Determining the lease term of contracts with renewal and termination options**

The AESO determines the lease term as the non-cancellable term of the lease, together with any periods covered by an option to extend the lease if it is reasonably certain to be exercised, or any periods covered by an option to terminate the lease, if it is reasonably certain not to be exercised. The AESO applies judgement in evaluating whether it is reasonably certain whether or not to exercise the option to renew or terminate the lease.

### **e) Comparative Figures**

Certain comparative figures have been reclassified to conform to the current period's presentation.

### 3. Accounts Receivable

The transmission settlement receivables are subject to offsetting (*note 20*).

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Transmission settlement, net	162.9	268.0
Energy market settlement	5.2	5.3
Renewable Electricity Program	0.2	0.1
Trade	10.1	2.2
	<b>178.4</b>	<b>275.6</b>

### 4. Other Accounts Receivable

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
<b>Current</b>		
Transmission receivable	-	-
Energy market receivable	-	1.6
Load settlement receivable	-	0.3
Renewable Electricity Program receivable	-	1.4
MSA receivable	-	0.2
	<b>-</b>	<b>3.5</b>
<b>Non-current</b>		
Long-term energy market receivable	-	1.6
Long-term Renewable Electricity Program receivable	-	15.7
	<b>-</b>	<b>17.3</b>

### 5. Long-term Prepaids

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Licenses and maintenance	0.7	2.0
Prepaid reliability services agreement ( <i>note 15</i> )	20.7	23.5
	<b>21.4</b>	<b>25.5</b>

## 6. Right-of-Use Assets

The right-of-use assets recognized and the movements during the year are as follows:

	Office Space	Land	Total
<i>As at January 1, 2020</i>	21.5	3.3	24.8
Depreciation expense	(3.4)	(0.1)	(3.5)
<b>As at December 31, 2020</b>	<b>18.1</b>	<b>3.2</b>	<b>21.3</b>
Depreciation expense	(3.4)	(0.1)	(3.5)
<b>As at December 31, 2021</b>	<b>14.7</b>	<b>3.1</b>	<b>17.8</b>

The AESO is a lessee under various lease contracts for office space with lease terms between 10 and 40 years. The AESO has a lease contract for land with a term of 55 years, commensurate with the expected life of the building owned by the AESO and located on the land.

## 7. Intangible Assets

	Computer Software	Intangible Assets Under Development	Total
<b>Cost:</b>			
January 1, 2020	96.3	3.7	100.0
Additions	12.9	3.9	16.8
Transfers	3.6	(3.6)	-
Retirements	(11.3)	-	(11.3)
<b>December 31, 2020</b>	<b>101.5</b>	<b>4.0</b>	<b>105.5</b>
Additions	11.7	5.6	17.3
Transfers	3.6	(3.6)	-
Retirements	(31.1)	-	(31.1)
Disposal	(0.4)	-	(0.4)
<b>December 31, 2021</b>	<b>85.3</b>	<b>6.0</b>	<b>91.3</b>
<b>Accumulated amortization:</b>			
January 1, 2020	52.7	-	52.7
Amortization	19.8	-	19.8
Retirements	(11.3)	-	(11.3)
<b>December 31, 2020</b>	<b>61.2</b>	<b>-</b>	<b>61.2</b>
Amortization	17.6	-	17.6
Retirements	(31.1)	-	(31.1)
Disposal	(0.2)	-	(0.2)
<b>December 31, 2021</b>	<b>47.5</b>	<b>-</b>	<b>47.5</b>
<b>Net Book Value:</b>			
<i>December 31, 2020</i>	<i>40.3</i>	<i>4.0</i>	<i>44.3</i>
<b>December 31, 2021</b>	<b>37.8</b>	<b>6.0</b>	<b>43.8</b>



Intangible assets under development relate to intangible assets associated with various computer software development projects that were not commissioned or operational by the end of the year.

For the year ended December 31, 2021, \$7.3 million of payroll costs associated with employees directly involved in preparing intangible assets for their intended use have been capitalized (2020 – \$6.3 million).

The additions of intangible assets include \$0.1 million (2020 – \$0.1 million) of capitalized borrowing costs at an average rate of 1.7 per cent (2020 – 1.8 per cent).

## 8. Property, Plant and Equipment

	System Coordination Facility	Computer Hardware	Backup Coordination Centre	Leasehold Improvements	Furniture and Office Equipment	Assets Under Construction	Total
<b>Cost:</b>							
January 1, 2020	42.3	25.3	2.0	1.3	4.3	2.5	77.7
Additions	-	4.4	-	0.2	-	1.8	6.4
Transfers	-	2.4	-	-	-	(2.4)	-
Retirements	-	(1.1)	-	-	-	-	(1.1)
<b>December 31, 2020</b>	<b>42.3</b>	<b>31.0</b>	<b>2.0</b>	<b>1.5</b>	<b>4.3</b>	<b>1.9</b>	<b>83.0</b>
Additions	2.1	2.2	-	-	0.2	0.5	5.0
Transfers	0.3	1.6	-	-	-	(1.9)	-
Retirements	-	(15.7)	-	-	-	-	(15.7)
<b>December 31, 2021</b>	<b>44.7</b>	<b>19.1</b>	<b>2.0</b>	<b>1.5</b>	<b>4.5</b>	<b>0.5</b>	<b>72.3</b>
<b>Accumulated depreciation:</b>							
January 1, 2020	12.8	13.9	0.5	1.0	0.7	-	28.9
Depreciation	0.7	6.1	0.1	0.1	0.4	-	7.4
Retirements	-	(1.1)	-	-	-	-	(1.1)
<b>December 31, 2020</b>	<b>13.5</b>	<b>18.9</b>	<b>0.6</b>	<b>1.1</b>	<b>1.1</b>	<b>-</b>	<b>35.2</b>
Depreciation	0.9	5.3	0.1	0.1	0.4	-	6.8
Retirements	-	(15.7)	-	-	-	-	(15.7)
<b>December 31, 2021</b>	<b>14.4</b>	<b>8.5</b>	<b>0.7</b>	<b>1.2</b>	<b>1.5</b>	<b>-</b>	<b>26.3</b>
<b>Net Book Value:</b>							
<b>December 31, 2020</b>	<b>28.8</b>	<b>12.1</b>	<b>1.4</b>	<b>0.4</b>	<b>3.2</b>	<b>1.9</b>	<b>47.8</b>
<b>December 31, 2021</b>	<b>30.3</b>	<b>10.6</b>	<b>1.3</b>	<b>0.3</b>	<b>3.0</b>	<b>0.5</b>	<b>46.0</b>

Assets under construction relate to property, plant and equipment in development that were not commissioned or operational by the end of the year.

For the year ended December 31, 2021, \$0.9 million of payroll costs associated with employees directly involved in preparing property, plant and equipment for their intended use have been capitalized (2020 – \$2.3 million).

The additions of property, plant and equipment include less than \$0.1 million (2020 – \$0.1 million) of capitalized borrowing costs at an average rate of 1.7 per cent (2020 – 1.8 per cent).

## 9. Accounts Payable and Other Liabilities

The transmission settlement payables are subject to offsetting (*note 19*).

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Transmission settlement, net	174.0	190.2
Energy market settlement	5.8	-
Trade payables	2.3	1.9
Generating unit owner's contribution ( <i>note 13</i> )	8.4	9.2
Accrued liabilities	12.0	11.3
Deferred revenue	-	1.1
Taxes payable	0.4	1.7
Security deposits ( <i>note 17</i> )	6.1	2.0
	<b>209.0</b>	<b>217.4</b>

## 10. Other Accounts Payable

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
<b>Current</b>		
Transmission payable	11.1	88.4
Energy market payable	7.8	-
Load settlement payable	0.1	-
Renewable Electricity Program payable	-	-
MSA payable	-	-
	<b>19.0</b>	<b>88.4</b>
<b>Non-current</b>		
Long-term energy market payable	-	-
Long-term Renewable Electricity Program payable	3.2	-
	<b>3.2</b>	<b>-</b>

## 11. Lease Liabilities

The carrying amounts of lease liabilities and the movements during the period are as follows:

	<b>2021</b>	<b>2020</b>
<i>As at January 1,</i>	18.9	21.9
Accretion of interest	0.5	0.6
Payments	(3.7)	(3.6)
<b>As at December 31,</b>	<b>15.7</b>	<b>18.9</b>
Current	3.2	3.1
Non-current	12.5	15.8

The estimated future lease payments associated with these leases are as follows:

	<b>2021</b>
As at December 31,	6.1
No later than 1 year and no later than 5 years	12.5
Later than 5 years	7.0
	<b>25.6</b>

Differences between the lease liability at December 31, 2021, and the estimated future lease payments are due to the discounting of future payments to net present value.

Differences between the year-end reported amounts of right-of-use assets and corresponding lease liabilities are due to prepayments recognized in the measurement of right-of-use-assets, which are not recognized as part of the lease liabilities.

The following are the amounts recognized in profit or loss:

	<b>2021</b>	<b>2020</b>
Depreciation expense of right-of-use assets	3.5	3.5
Interest expense on lease liabilities ( <i>note 22</i> )	0.5	0.6
Total amount recognized in net income	<b>4.0</b>	<b>4.1</b>

The AESO had cash outflows for leases of \$3.7 million in 2021 (2020 – \$3.6 million).

The undiscounted potential future rental payments relating to periods following the exercise date of extension options that are not included in the lease term are as follows:

	<b>Within five years</b>	<b>More than five years</b>	<b>Total</b>
Extension options expected not to be exercised	5.1	7.2	12.3

## 12. Credit Facility

In 2019 the AESO entered into a credit agreement for a \$300.0 million unsecured committed facility, which in November 2020 was amended to extend the maturity date to November 2022. In November 2021 the credit agreement was again amended to reduce the committed facility to \$200.0 million and to extend the maturity date to December 2024. The facility provides that the borrowings may be made by way of fixed-rate advances, Canadian Dollar Offered Rate (CDOR) advances or bankers' acceptances, which bear interest at the bank's prime rates, or at bankers' acceptance or CDOR rates plus a stamping fee. There is an option to request letters of credit under the credit facility.

At December 31, 2021, no funds were drawn on the available credit facility (2020 – \$43.0 million) and a \$10.0 million (2020 – \$10.0 million) letter of credit was issued as security for operating reserve procurement.

The interest paid related to the credit facility during 2021 was \$0.9 million (2020 – \$3.1 million) at an average interest rate of 1.7 per cent (2020 – 1.8 per cent) for bankers' acceptances and 0.24 per cent for standby fees.

## 13. Generating Unit Owner's Contribution

Under the terms of the transmission tariff, a market participant is required to pay a generating unit owner's contribution. The contribution amount is determined based on variable terms in accordance with the transmission tariff. A market participant is entitled to a refund of the generating unit owner's contribution in annual amounts during the refund period which is not more than 10 years. The eligibility for the annual refund amount is dependent on the generation facility meeting specified performance criteria.

	<b>Total</b>
January 1, 2020	49.3
Contributions received	43.7
Contributions forfeited	(1.0)
Contributions reclassified to current ( <i>note 9</i> )	(9.1)
<b>December 31, 2020</b>	<b>82.9</b>
Contributions received	54.2
Contributions forfeited	-
Contributions reclassified to current ( <i>note 9</i> )	(8.4)
<b>December 31, 2021</b>	<b>128.7</b>

## 14. Asset Retirement Obligation

The land on which the AESO's System Coordination Centre (SCC) and Operations Support Centre (OSC) reside must be returned to its original state at the conclusion of the land lease in 2060 on request by the landlord, the Government of Alberta. The asset retirement obligation recognizes the approximate third-party costs for the decommissioning based on the timing of expected cash flows.

The AESO has estimated the net present value of the decommissioning liability related to dismantling the SCC and OSC and restoring the land based on an independent third-party valuation of estimated cost.

The present value of the decommissioning liability is \$1.1 million (2020 – \$1.3 million). The total undiscounted future liability is estimated to be \$5.1 million (2020 – \$5.1 million). The AESO has calculated the present value of the obligation using a discount rate of 4.0 per cent (2020 – 3.5 per cent) to reflect the market assessment of the time value of money and an inflation rate of 2.0 per cent (2020 – 2.0 per cent).

## 15. Commitments

- a) To fulfil the duties of the AESO in accordance with the EUA, the AESO manages the procurement of ancillary services through contracts with third-party suppliers. These ancillary services include operating reserves, reliability services, load shed, system restoration and transmission must-run. The contracts are for future generation capacity and load reduction capabilities with expiry dates ranging from 2021 to 2030, in addition to short-term contracts for operating reserves. The amount to be paid under each contract is dependent on fixed and variable terms. Variable terms include items such as commodity prices, dispatch volumes and frequency of events and are determined when the services are provided. The fixed payments associated with the service contracts are as follows:

<i>As at December 31,</i>	<b>2021</b>
No later than 1 year	1.9
Later than 1 year and no later than 5 years	1.4
Later than 5 years	1.6
	<b>4.9</b>

- b) In 2015, the AESO entered into a 15-year reliability services agreement with Powerex Corp. for the provision of certain emergency energy services from British Columbia, including grid restoration balancing support in the event of an Alberta blackout and emergency energy in the event of supply shortfall. The total cost of the agreement is \$42.9 million and was paid in equal amounts in the three-year period from 2015 to 2017. As the payments were made, they were recognized as long-term prepaids on the statement of financial position and amortized on a straight-line basis over the 15-year term of the agreement.

	<b>Total</b>
<b>January 1, 2020</b>	<b>26.3</b>
Payment reclassified to current	(2.8)
<b>December 31, 2020</b>	<b>23.5</b>
Payment reclassified to current	(2.8)
<b>December 31, 2021</b>	<b>20.7</b>

- c) Under the direction of the EUA, the AESO established and executed an AUC-approved competitive process for transmission infrastructure and in December 2014, selected the party to develop, design, build, finance, own, operate and maintain the Fort McMurray West 500 kV Transmission Project. In February 2017, the AUC granted the permit and license for this transmission project. In January 2018, the AUC approved the transmission facility owner's tariff rates, which are based upon the monthly amounts in the project agreement between the AESO and the transmission facility owner.

The AESO is obligated to pay monthly amounts for the use of the transmission facilities over the operating period set out in the project agreement, which commenced on the energization date for the transmission facilities (March 2019) and continues until the expiry of the agreement in approximately 35 years.

The monthly amounts are applicable for the entire term of the agreement, subject to allowable adjustments (e.g., inflation). The amounts payable will be confirmed in future periods by the occurrence or non-occurrence of certain events (e.g., a termination of the project agreement would affect monthly amounts). The AESO will recover the monthly amounts paid to the transmission facility owner through the ISO tariff in the same manner that AUC-approved amounts paid to other transmission facility owners are recovered.

<i>As at December 31,</i>	<b>2021</b>
No later than 1 year	107.3
Later than 1 year and no later than 5 years	429.7
Later than 5 years	2,953.1
	<b>3,490.1</b>

Pursuant to Section 37 of the *Electric Utilities Act*, each owner of an electric transmission facility must submit to the AUC for approval of a tariff setting out the rates to be paid by the AESO to the owner for the use of the owner's transmission facility. The AESO pays seven other transmission facility owners in the province for the use of their facilities in accordance with AUC approvals. Each transmission facility owner operates in an AUC-approved service area and typically applies to the AUC for approval of its costs one to three years in advance, in contrast to the fore-mentioned long-term contractual agreement with the AESO. For these transmission facility owners, uncertainties relating to the AUC-approved amounts and timing of future cash flows limit the reliability of quantifying similar financial obligations.

- d) The AESO is party to RESAs under the REP with selected counterparties to promote the development of renewable generation in Alberta.

The RESAs require the AESO to make variable payments or collections over a period of up to 20 years based on the difference between the counterparty-specific contract price and the hourly pool prices for the actual volumes of electricity delivered to the AIES. The REA stipulates that the funding or settlement for RESA financial obligations, excluding fees for the development, implementation and administration of the REP, is funded by or provided to the Minister of Energy.

## 16. Contingencies

As a result of events that have occurred, the AESO may become party to a claim or legal action arising in the normal course of business. While the outcome of these matters is uncertain, the AESO does not currently believe that the outcome related to these matters or any amount that the AESO may be required to pay would have a materially adverse effect on the AESO as a whole.



## 17. Security Deposits

Security requirements for market participant financial obligations in excess of their unsecured credit limits are met with cash deposits and letters of credit. All market participants who have financial obligations to the AESO must adhere to the ISO Rules and transmission tariff terms and conditions regarding security requirements. Unsecured credit is granted by the AESO to organizations (or guarantors) with an acceptable credit rating from an AESO-recognized bond rating agency; to organizations that do not have a credit rating if they qualify for an AESO-determined proxy credit rating; and to organizations that have an exempt status as determined through government legislation or AUC rulings. The unsecured credit granted by the AESO to an organization is limited based on the AESO's assessment of the organization's credit worthiness.

## 18. Key Management Compensation

Key management personnel include members of executive management and the AESO Board, a total of 17 individuals (2020 – 18 individuals). The compensation paid or payable to key management for services is as follows:

*As at December 31,*

Salaries and other short-term employee benefits

2021	2020
3.7	3.6

## 19. Government-Related Entities

The members of the Board are appointed by the Minister of Energy of the Government of Alberta. Based on this relationship, the AESO's transactions and outstanding balances with the Government of Alberta and other entities in a similar related party relationship with the Government of Alberta are reported.

The AESO considers the following entities as government-related:

- **Balancing Pool:** established under the EUA to manage the transition to competition in Alberta's electric industry;
- **AUC:** established under the AUC Act to ensure that the delivery of Alberta's utility service takes place in a manner that is fair, responsible and in the public interest; and
- **MSA:** established under the AUC Act to monitor Alberta's electricity and retail natural gas markets to ensure that they operate in a fair, efficient and openly competitive manner.

Pursuant to the EUA, on an annual basis, the Balancing Pool determines an annualized amount to pay distributions from its revenues to eligible consumers or collect shortfalls in its revenues from eligible consumers. The Government of Alberta guarantees the obligations of the Balancing Pool. Through the transmission tariff, the AESO facilitates the allocation of the annualized amount as directed in the EUA. In 2021, the annualized amount was a shortfall of \$135.8 million, of which \$12.8 million was payable as at December 31, 2021 (2020 – \$168.4 million due, of which \$13.1 million was payable as at December 31). The shortfall was collected or receivable from eligible consumers and due to the Balancing Pool.

The Balancing Pool is a market participant and was due \$2.4 million related to electricity sales in 2021, of which \$1 million was payable as at December 31, 2021 (2020 – \$649.9 million due, of which \$48.3 was payable as at December 31).

The Balancing Pool did not owe the AESO for contracts related to supply transmission services in 2021 (2020 – \$23.0 million owed, of which \$1.6 million was receivable as at December 31).

As directed in the AUC Act, the AESO is required to pay an administration fee to the AUC. The amounts paid by the AESO are recovered through the transmission tariff and the energy market charge as directed in the EUA. In 2021, \$17.0 million was paid to the AUC (2020 – \$18.1 million).

As directed in the AUC Act, the AESO is required to provide funding for the MSA. The amounts paid by the AESO are recovered through the energy market charge as directed in the EUA. In 2021, \$3.8 million in payments were made to the MSA (2020 – \$5.2 million).

The AESO leases 12 acres of land in the Calgary area from the Minister of Infrastructure of the Government of Alberta. The land lease is for a 55-year term ending in 2060 which is comprised of an initial 20-year term that began in 2005 followed by several renewal options at the discretion of the AESO. In 2021, \$0.1 million of costs were incurred (2020 – \$0.1 million).

## 20. Financial Instruments

Financial Instrument	Classification	Measurement Basis	Associated Risks	Fair Value at December 31, 2021 and 2020
Cash and cash equivalents	Financial assets at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to short-term nature and variable interest rates
Accounts receivable Other accounts receivable	Financial assets at amortized cost	Initially at transaction price and subsequently at amortized cost	Credit risk	Carrying value approximates fair value due to short-term nature
Long-term receivables	Financial assets at amortized cost	Initially at transaction price and subsequently at amortized cost	Credit risk	Carrying value approximates fair value due to short-term nature
Accounts payable and accrued liabilities Other accounts payable Deferred revenue	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk Market risk	Carrying value approximates fair value due to short-term nature
Security deposits	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to short-term nature
Credit facility	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk Market risk	Carrying value approximates fair value due to short-term nature and variable interest rates
Long-term payables and lease liabilities	Financial liability at amortized cost	Initially at fair value, adjusted for transaction costs (where applicable) and subsequently at amortized cost	Liquidity risk	Carrying value approximates fair value due to the nature of the liability

## Nature and Extent of Risks Arising from Financial Instruments

The AESO is exposed to the following types of risks in relation to its financial instruments:

### a) Credit Risk

Credit risk is the risk that counterparties may default on their financial obligations to the AESO. Due to the EUA requirement that the AESO be operated with no profit or loss from its operations, credit risk is ultimately borne by market participants, though managed by the AESO.

Counterparties are granted certain levels of unsecured credit based on their long-term unsecured debt rating provided by a major reputable corporate rating service satisfactory to the AESO or, in the absence of the availability of such ratings the AESO has satisfactorily reviewed the counterparty for creditworthiness as appropriate. Letters of credit, cash on deposit and legally enforceable right to set-off are used to mitigate risk where appropriate. As at December 31, 2021 and 2020, the amount of financial assets that were past due was not material and there were no material uncollectible receivable balances.

### b) Market Risk

Market risk is the risk of a potential negative impact on the statement of financial position and/or statement of income and comprehensive income resulting from adverse changes in the value of financial instruments as a result of changes in certain market variables. This includes interest rate price and foreign exchange risks.

Bank debt is comprised of short-term bankers' acceptances or prime rate advances that bear interest at market rates. Accordingly, the exposure to interest rate price risk in relation to the bank debt at the statement of financial position date is not material.

Investments are comprised of short-term bankers' acceptances or term deposits that bear interest at market rates. Accordingly, the exposure to interest rate price risk in relation to the investments at the statement of financial position date is not material.

The AESO conducts less than one per cent of its business in US dollars and accordingly is subject to currency risk associated with changes in foreign exchange rates in relation to payables. The AESO monitors its exposure to currency risk and reviews whether the use of derivative financial instruments is appropriate to manage potential fluctuations in foreign exchange rates. The AESO has not entered into any derivative instruments with respect to currency risk.

### c) Liquidity risk

Liquidity risk is the risk that the AESO will not be able to meet its obligations associated with financial liabilities. The AESO does not consider this to be a significant risk as the available credit facilities provide financial flexibility to allow the AESO to meet its obligations as they come due. The AESO does not consider there to be a present risk in relation to funds available to the AESO under the existing credit facility

In managing capital, the AESO reviews its cash flows from operations, including the transmission tariff, energy market charge, REP charges and load settlement charge, to determine whether there are sufficient funds to cover its operating costs and pay for intangible asset and property, plant and equipment purchases. To the extent that the cash flows are not sufficient to cover these expenditures, the AESO utilizes debt financing. The AESO has no equity or externally imposed capitalization requirements except as described in note 1.

## Summarized Quantitative Data Associated with the Above Risks

### a) Credit risk

At December 31, 2021, the AESO's maximum exposure to receivable credit risk was \$178.4 million (December 31, 2020 – \$296.4 million), which is the aggregate of accounts receivable.

The AESO's receivables are due from counterparties that have provided security to the AESO or have been granted unsecured credit based on satisfactory credit ratings. As at December 31, 2021, the amount of financial assets that were past due was \$1.3 million (December 31, 2020 – not material).

### b) Market risk

The AESO is exposed to currency risk of less than \$0.1 million (December 31, 2020 – less than \$0.1 million) of US dollar-denominated financial liabilities at December 31, 2021.

If the Canadian dollar decreases (increases) against the US dollar by five per cent prior to the payment by the AESO, operating costs would increase (decrease) by less than \$0.1 million (December 31, 2020 – less than \$0.1 million) and intangible asset costs would increase (decrease) by less than \$0.1 million (December 31, 2020 – less than \$0.1 million).

### c) Liquidity risk

The AESO's bank debt and accounts payable and accrued liabilities generally have contractual maturities of six months or less. The estimated future undiscounted annual refund amounts associated with long-term payables are as follows:

<i>As at December 31,</i>	<b>2021</b>
2023	8.4
2024	10.9
2025	10.1
2026	8.3
2027	11.3
2028 and thereafter	79.7
	<b>128.7</b>

## Offsetting Financial Assets and Liabilities

The following transmission settlement receivables and payables are subject to offsetting as presented in the statement of financial position. (Notes 3 and 9)

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Transmission settlement receivables, gross	206.9	315.7
Transmission settlement, offsets	(44.0)	(47.7)
Transmission settlement receivables, net	<b>162.9</b>	<b>268.0</b>
<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Transmission settlement payables, gross	218.0	237.9
Transmission settlement, offsets	(44.0)	(47.7)
Transmission settlement payables, net	<b>174.0</b>	<b>190.2</b>

## 21. General and Administrative Expenses

General and administrative expenses classified by nature are as follows:

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Salaries and benefits	68.3	65.7
Other	23.5	22.4
	<b>91.8</b>	<b>88.1</b>

## 22. Borrowing Costs

<i>As at December 31,</i>	<b>2021</b>	<b>2020</b>
Borrowing costs	1.1	3.4
Interest on settlement of historical loss factors	45.8	33.6
Capitalized borrowing costs ( <i>notes 7 and 8</i> )	(0.1)	(0.1)
Interest on lease liability ( <i>note 11</i> )	0.5	0.6
Accretion of asset retirement obligation ( <i>note 14</i> )	(0.2)	0.6
	<b>47.1</b>	<b>38.0</b>

During 2021, following a decision by the AUC (AUC Decision 790), the AESO continued the settlement of adjustments in respect of the recalculation of historical loss factor charges. The AUC decision directed the AESO to modify the methodology used to calculate loss factor charges for the period from January 1, 2006 to December 31, 2016. In accordance with the decision, interest was calculated from the time of original settlement until final settlement for any amount due to and from the AESO. Accordingly, interest expense of \$45.8 million (2020 – \$33.6 million) and interest income of \$47.3 million (2020 – \$33.7 million) were recognized for the year ended December 31, 2021.