



## LEI Semi-Annual Regional Market Update and 10-Year Energy and Capacity Price Forecast

### Midcontinent Independent System Operator ("MISO")

*2<sup>nd</sup> Quarter 2022*

717 Atlantic Avenue, Suite 1A  
Boston, Massachusetts 02111  
Tel: (617) 933-7200  
Fax: (617) 933-7201

390 Bay Street, Suite 1702  
Toronto, Ontario M5H 2Y2  
Tel: (416) 643-6610  
Fax: (416) 643-6611

[www.londoneconomicspress.com](http://www.londoneconomicspress.com)

#### Description of Report

*London Economics International LLC ("LEI") provides semi-annual regional market updates and 10-year energy price forecasts for major markets in North America and around the world. In addition to providing price projections, the reports highlight major developments in each of the regions as well as the underlying structural dynamics. LEI also provides more detailed regional market price forecasts tailored to a client's individual needs, including longer time horizons, and forecasting of plant-specific revenues or the impact of structural or market design changes.*

#### Disclaimer

*The contents of this report do not constitute investment advice. The provision of analysis by LEI does not obviate the need for an investor to make further appropriate inquiries as to the accuracy of the information included therein, and to undertake his/her own analysis and due diligence. This report is not intended to be a complete and exhaustive analysis of all the factors impacting the regional market. LEI, its officers, employees, and affiliates make no representations, warranties, or recommendations.*

## Table of contents

<b>1</b>	<b>MARKET OVERVIEW AND RECENT DEVELOPMENTS .....</b>	<b>4</b>
1.1	MARKET OVERVIEW .....	4
1.2	RECENT DEVELOPMENTS.....	5
1.2.1	<i>MISO cleared the annual PRA at \$236.7/MW-day in most zones .....</i>	6
1.2.2	<i>Renewables continue to dominate the composition of MISO's new supply .....</i>	6
1.2.3	<i>\$4.3 billion of new projects were approved in MTEP22 .....</i>	6
1.2.4	<i>Energy storage is now an eligible resource in the MISO market.....</i>	7
<b>2</b>	<b>MODELING ASSUMPTIONS .....</b>	<b>9</b>
2.1	MARKET TOPOLOGY .....	9
2.2	FUEL PRICE PROJECTIONS .....	10
2.3	COST OF GENERIC NEW ENTRY (CONE).....	12
2.4	IMPORT AND EXPORT FLOWS.....	14
2.5	RPS REQUIREMENTS .....	15
2.6	SUPPLY AND DEMAND .....	16
2.6.1	<i>New entry.....</i>	18
2.6.2	<i>Retirements .....</i>	18
<b>3</b>	<b>10-YEAR PRICE FORECAST .....</b>	<b>20</b>
3.1	ENERGY MARKET PRICES .....	20
3.2	IMPLIED MARKET HEAT RATES .....	20
3.3	CAPACITY MARKET PRICES .....	21
<b>4</b>	<b>APPENDIX A: OVERVIEW OF LEI'S FORECASTING METHODOLOGY.....</b>	<b>23</b>
<b>5</b>	<b>APPENDIX B: INTRODUCTION TO LEI AND ITS WORK IN THE MISO MARKET .....</b>	<b>24</b>

## Table of figures

FIGURE 1. INSTALLED CAPACITY AND GENERATION BY TECHNOLOGY TYPE, 2021 .....	5
FIGURE 2. INSTALLED CAPACITY AND GENERATION BY OWNER, 2021 .....	5
FIGURE 3. MVP STATUS AS OF 2022 .....	7
FIGURE 4. MARKET TOPOLOGY .....	10
FIGURE 5. FOSSIL FUEL PRICE PROJECTION (NOMINAL \$/MMBTU) .....	10
FIGURE 6. PROJECTED DELIVERED NATURAL GAS COST AT MISO'S FOUR GAS HUBS (NOMINAL \$/MMBTU).....	11
FIGURE 7. LEI ASSUMPTIONS FOR COST OF NEW ENTRY ("CONE") PARAMETERS FOR VARIOUS TECHNOLOGIES AS OF 2022.....	13
FIGURE 8. MODELED NET IMPORTS, GWh PER ANNUM .....	14
FIGURE 9. RPS REQUIREMENTS IN MISO .....	15
FIGURE 10. MISO RTO-WIDE DEMAND-SUPPLY BALANCE .....	17
FIGURE 11. MISO 2027 SUPPLY CURVE .....	17
FIGURE 12. NEW ENTRY (MW) IN MISO BETWEEN 2023 AND 2032 .....	18
FIGURE 13. RETIRED CAPACITY IN MISO FROM 2023 TO 2032 .....	19
FIGURE 14. FORECAST ANNUAL AVERAGE ENERGY MARKET PRICES, 2023 THROUGH 2032 (NOMINAL \$/MWh) ..	20
FIGURE 15. FORECAST IMPLIED HEAT RATE, 2023 THROUGH 2032.....	21
FIGURE 16. FORECASTED ANNUAL CAPACITY PRICES FOR MISO BY LRZ (NOMINAL \$/MW-DAY).....	22
FIGURE 17. POOLMod's TWO-STAGE PROCESS.....	23