

MARKETS AND PROFITABILITY

Market Analytics: Ethylene - 2023

Olefins

April 2023



This Report was prepared by NexantECA, the Energy and Chemicals Advisory company ("NexantECA"). Except where specifically stated in this Report, the information contained herein is prepared on the basis of information that is publicly available, and contains no confidential third party technical information to the best knowledge and belief of NexantECA. The information has not been independently verified or otherwise examined to determine its accuracy, completeness or financial feasibility. Neither NexantECA, Subscriber nor any person acting on behalf of either shall have any liabilities for any loss or damage arising from or connected to the use of any information contained in this Report. NexantECA does not represent or warrant that any assumed conditions will come to pass.

The Report is for Subscriber's internal use only and shall be kept strictly confidential. The Report should not be otherwise reproduced, distributed or used without first obtaining prior written consent by NexantECA. Each Subscriber agrees to use reasonable effort to protect the confidential nature of the Report.

Copyright © by NexantECA (BVI) Ltd. 2023. All rights reserved.



Contents

1	Executive Summary	1
1.1	Global Summary	1
1.2	Ethylene Market Outlook	2
1.3	Methodology	8
2	The Olefins Industry.....	10
2.1	Global Overview	10
2.2	Current Performance	13
2.3	Sustainability	15
2.4	Market Coverage	18
3	Ethylene	19
3.1	Global	19
3.1.1	Key Developments	19
3.1.2	Demand	19
3.1.3	Supply	25
3.1.4	Supply, Demand and Trade	29
3.2	North America	31
3.2.1	Key Developments	31
3.2.2	Demand	31
3.2.3	Supply	36
3.2.4	Supply, Demand and Trade	39
3.3	South America	43
3.3.1	Key Developments	43
3.3.2	Demand	43
3.3.3	Supply	47
3.3.4	Supply, Demand and Trade	49
3.4	Western Europe	51
3.4.1	Key Developments	51
3.4.2	Demand	51
3.4.3	Supply	55
3.4.4	Supply, Demand and Trade	57
3.5	Central Europe	59
3.5.1	Key Developments	59
3.5.2	Demand	59
3.5.3	Supply	62
3.5.4	Supply, Demand and Trade	63
3.6	Eastern Europe	64
3.6.1	Key Developments	64
3.6.2	Demand	64
3.6.2.1	Russia	64
3.6.2.2	Other Eastern Europe	66
3.6.3	Supply	67



3.6.3.1	Russia	67
3.6.3.2	Other Eastern Europe	69
3.6.4	Supply, Demand and Trade	70
3.6.4.1	Russia	70
3.6.4.2	Other Eastern Europe	71
3.7	Middle East.....	74
3.7.1	Key Developments	74
3.7.2	Demand	74
3.7.3	Supply	78
3.7.4	Supply, Demand and Trade	82
3.8	Africa	84
3.8.1	Key Developments	84
3.8.2	Demand	84
3.8.3	Supply	87
3.8.4	Supply, Demand and Trade	88
3.9	Asia Pacific	90
3.9.1	Key Developments	90
3.9.2	Demand	90
3.9.2.1	China	91
3.9.2.2	North-East Asia	93
3.9.2.3	South-East Asia	95
3.9.2.4	South Asia	97
3.9.2.5	Australasia	98
3.9.3	Supply	100
3.9.3.1	China	101
3.9.3.2	North-East Asia	103
3.9.3.3	South-East Asia	104
3.9.3.4	South Asia	106
3.9.3.5	Australasia	108
3.9.4	Supply, Demand and Trade	108

Appendices

A	Methodology	112
A.2	Capacity Availability and Forecasting	112
A.3	End-Use Consumption Forecasting	112
A.4	End-Use Sector Growth	113
A.4.1.1	Penetration (New Application Growth)	113
A.4.1.2	Downgauging and Recycling	114
A.4.1.3	Chain Inventory	114
A.4.1.4	Short-term Influences	114
A.4.1.5	Monomer Consumption Forecasting	114
A.5	Production and Trade Forecasting	116
B	The Olefins Industry – Technology	117
B.1	Uses of Ethylene	117



Figures

Figure 1	Global Polyolefin Consumption and Recycling.....	16
Figure 2	Global PET Consumption and Recycling	17
Figure 3	Global Ethylene Demand, 2022-e	23
Figure 4	Global GDP Growth vs. Ethylene Consumption Growth	23
Figure 5	Global Ethylene Consumption	24
Figure 6	Global Ethylene Capacity Share by Marketer in 2022-e	27
Figure 7	Global Ethylene Capacity Additions	28
Figure 8	Global Ethylene Capacity	28
Figure 9	Global Ethylene Supply and Demand	30
Figure 10	Regional Ethylene Exports/Imports	30
Figure 11	North America Ethylene Consumption, 2022-e	35
Figure 12	North America Ethylene Supply, Demand and Trade	41
Figure 13	United States Ethylene Supply, Demand and Trade	42
Figure 14	South America Ethylene Consumption, 2022-e	46
Figure 15	South America Ethylene Supply, Demand and Trade	50
Figure 16	Western Europe Ethylene Consumption, 2022-e	55
Figure 17	Western Europe Ethylene Supply, Demand and Trade	58
Figure 18	Central Europe Ethylene Consumption, 2022-e	61
Figure 19	Central Europe Ethylene Supply, Demand and Trade	63
Figure 20	Russia Ethylene Consumption, 2022	65
Figure 21	Other Eastern Europe Ethylene Consumption, 2022-e	66
Figure 22	Russia Ethylene Supply, Demand and Trade	71
Figure 23	Other Eastern Europe Ethylene Supply, Demand and Trade	72
Figure 24	Total Eastern Europe Ethylene Supply, Demand and Trade	73
Figure 25	Middle East Ethylene Consumption, 2022-e	77
Figure 26	Middle East Ethylene Supply, Demand and Trade	82
Figure 27	Africa Ethylene Consumption, 2022-e	86
Figure 28	Africa Ethylene Supply, Demand and Trade	89
Figure 29	Asia Pacific Ethylene Consumption, 2022-e	99
Figure 30	Asia Pacific Ethylene Supply, Demand and Trade	110
Figure 31	China Ethylene Supply, Demand and Trade	111
Figure 32	End-Use Consumption Drivers	113
Figure 33	Monomer Consumption Drivers.....	115
Figure 34	Trade Considerations	116
Figure 35	Global Olefins Production by Process	118

Tables

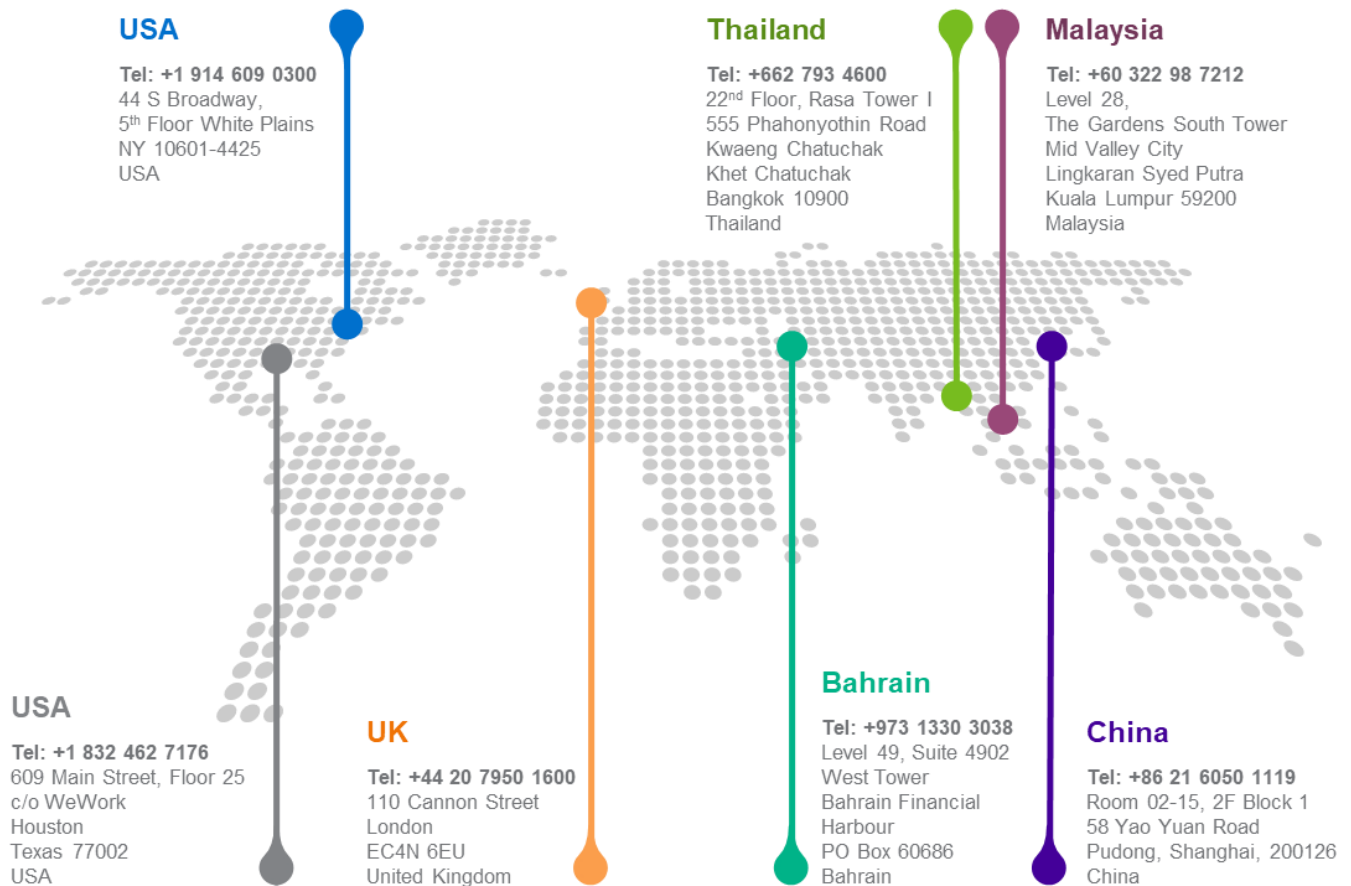
Table 1	Global Ethylene Consumption by Derivative	23
Table 2	Global Ethylene Consumption by Region.....	24
Table 3	Global Ethylene Supply and Demand	30
Table 4	North America Ethylene Consumption by Derivative	35
Table 5	North America Ethylene Consumption by Country	36



Table 6	North America Ethylene Supply, Demand and Trade	41
Table 7	United States Ethylene Supply, Demand and Trade	42
Table 8	South America Ethylene Consumption by Derivative	46
Table 9	South America Ethylene Consumption by Country	47
Table 10	South America Ethylene Supply, Demand and Trade	50
Table 11	Western Europe Ethylene Consumption by Derivative	55
Table 12	Western Europe Supply, Demand and Trade	58
Table 13	Central Europe Ethylene Consumption by Derivative	61
Table 14	Central Europe Ethylene Supply, Demand and Trade	63
Table 15	Russia Ethylene Consumption by Derivative	65
Table 16	Other Eastern Europe Ethylene Consumption by Derivative	66
Table 17	Russia Ethylene Supply, Demand and Trade	71
Table 18	Other Eastern Europe Ethylene Supply, Demand and Trade	72
Table 19	Total Eastern Europe Ethylene Supply, Demand and Trade	73
Table 20	Middle East Ethylene Consumption by Derivative	77
Table 21	Middle East Ethylene Consumption by Country	77
Table 22	Middle East Ethylene Supply, Demand and Trade	83
Table 23	Africa Ethylene Consumption by Derivative	86
Table 24	Africa Ethylene Consumption by Country	86
Table 25	Africa Ethylene Supply, Demand and Trade	89
Table 26	Asia Pacific Ethylene Consumption by Derivative	99
Table 27	Asia Pacific Ethylene Consumption by Country	100
Table 28	Asia Pacific Ethylene Supply, Demand and Trade	110
Table 29	China Ethylene Supply, Demand and Trade	111



NexantECA partners with clients to help them navigate the big global energy, chemicals and materials issues of tomorrow. We provide independent advice through our consulting, subscriptions and reports, and training businesses using expertise developed in markets, economics and technology through our fifty years of operation. We are entirely dedicated to supporting sustainable development of the industry and provide expert advice with efficiency, speed, and agility.



Disclaimer

This Report was prepared by NexantECA, the Energy and Chemicals Advisory company. Except where specifically stated otherwise in this Report, the information contained here is prepared on the basis of information that is publicly available, and contains no confidential third-party technical information to the best knowledge of NexantECA. Aforesaid information has not been independently verified or otherwise examined to determine its accuracy, completeness or financial feasibility. Neither NexantECA, Client nor any person acting on behalf of either assumes any liabilities with respect to the use of or for damages resulting from the use of any information contained in this Report. NexantECA does not represent or warrant that any assumed conditions will come to pass.