

MARKETS AND PROFITABILITY

Market Analytics: Propylene - 2024

Global

June 2024



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. 2024. All rights reserved.



Contents

1	Executive Summary	1
1.1	Methodology	1
1.2	Global Summary	3
1.3	Propylene Market Outlook	4
2	The Olefins Industry.....	11
2.1	Global Overview	11
2.2	Current Performance	14
2.3	Sustainability	16
2.4	Market Coverage	19
3	Propylene	20
3.1	Global	20
3.1.1	Key Developments	20
3.1.2	Consumption	20
3.1.3	Supply	24
3.1.4	Supply, Demand and Trade	29
3.2	North America	31
3.2.1	Key Developments	31
3.2.2	Consumption	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	Consumption	43
3.3.3	Supply	46
3.3.4	Supply, Demand and Trade	47
3.4	Western Europe	49
3.4.1	Key Developments	49
3.4.2	Consumption	49
3.4.3	Supply	53
3.4.4	Supply, Demand and Trade	55
3.5	Central Europe	57
3.5.1	Key Developments	57
3.5.2	Consumption	57
3.5.3	Supply	60
3.5.4	Supply, Demand and Trade	61
3.6	Eastern Europe	63
3.6.1	Key Developments	63
3.6.2	Consumption	63
3.6.2.1	Russia	63
3.6.2.2	Other Eastern Europe	66
3.6.3	Supply	68



3.6.3.1	Russia	68
3.6.3.2	Other Eastern Europe	70
3.6.4	Supply, Demand and Trade	73
3.6.4.1	Russia	73
3.6.4.2	Other Eastern Europe	74
3.7	Middle East.....	77
3.7.1	Key Developments	77
3.7.2	Consumption	77
3.7.3	Supply	81
3.7.4	Supply, Demand and Trade	84
3.8	Africa	86
3.8.1	Key Developments	86
3.8.2	Consumption	86
3.8.3	Supply	88
3.8.4	Supply, Demand and Trade	89
3.9	Asia Pacific.....	91
3.9.1	Key Developments	91
3.9.2	Consumption	91
3.9.2.1	China.....	92
3.9.2.2	North-East Asia.....	96
3.9.2.3	South-East Asia	98
3.9.2.4	South Asia.....	99
3.9.2.5	Australasia	100
3.9.3	Supply	102
3.9.3.1	China	102
3.9.3.2	North-East Asia	104
3.9.3.3	South-East Asia	105
3.9.3.4	South Asia.....	107
3.9.3.5	Australasia	108
3.9.4	Supply, Demand and Trade	109

Appendices

A	Methodology	113
A.2	Capacity Availability and Forecasting	113
A.3	End-Use Consumption Forecasting	113
A.4	End-Use Sector Growth	114
A.4.1.1	Penetration (New Application Growth)	114
A.4.1.2	Downgauging and Recycling	115
A.4.1.3	Chain Inventory	115
A.4.1.4	Short-term Influences	115
A.4.1.5	Monomer Consumption Forecasting	115
A.5	Production and Trade Forecasting.....	117
B	The Olefins Industry – Technology	118
B.1	Uses of Ethylene	118

**Figures**

Figure 1	Global Polyolefin Consumption and Recycling.....	17
Figure 2	Global PET Consumption and Recycling	18
Figure 3	Global Propylene Demand, 2023-e	22
Figure 4	Global GDP Growth vs Propylene Consumption Growth.....	23
Figure 5	Global Combined Propylene Consumption	23
Figure 6	Global Propylene Capacity Share by Marketer in 2023-e	27
Figure 7	Global Propylene Production by Process	28
Figure 8	Regional Propylene Capacity Addition	28
Figure 9	Regional Propylene Capacity	28
Figure 10	Global Combined Propylene Supply and Demand.....	30
Figure 11	Regional Propylene Net Exports/(Imports)	30
Figure 12	North America Combined Propylene Consumption, 2023-e	34
Figure 13	Propylene Production by Process in North America	39
Figure 14	North America Combined Propylene Supply. Demand and Trade.....	41
Figure 15	United States Combined Propylene Supply, Demand and Trade	42
Figure 16	South America Combined Propylene Consumption, 2023-e.....	45
Figure 17	Propylene Production by Process in South America.....	47
Figure 18	South America Combined Propylene Supply, Demand and Trade	48
Figure 19	Western Europe Combined Propylene Consumption, 2023-e	51
Figure 20	Propylene Production by Process in Western Europe	55
Figure 21	Western Europe Combined Propylene Supply, Demand and Trade.....	56
Figure 22	Central Europe Combined Propylene Consumption, 2023-e	58
Figure 23	Propylene Production by Process – Central Europe.....	61
Figure 24	Central Europe Combined Propylene Supply, Demand and Trade	62
Figure 25	Russia Combined Propylene Consumption, 2023-e	65
Figure 26	Other Eastern Europe Combined Propylene Consumption, 2023-e	67
Figure 27	Combined Polymer/Chemical and Refinery Grade Propylene - Russia.....	69
Figure 28	Combined Polymer/Chemical and Refinery Grade Propylene - Other Eastern Europe	72
Figure 29	Russia Combined Propylene Supply, Demand and Trade.....	73
Figure 30	Other Eastern Europe Combined Propylene Supply, Demand and Trade	74
Figure 31	Total Eastern Europe Combined Propylene Supply, Demand and Trade	76
Figure 32	Middle East Combined Propylene Consumption, 2023-e	80
Figure 33	Combined Polymer/Chemical and Refinery Grade Propylene – Middle East	84
Figure 34	Middle East Combined Propylene Supply, Demand and Trade.....	85
Figure 35	Africa Combined Propylene Consumption, 2023-e	87
Figure 36	Combined Polymer/Chemical and Refinery Grade Propylene – Africa.....	89
Figure 37	Africa Combined Propylene Supply, Demand and Trade	90
Figure 38	Asia Pacific Combined Propylene Consumption, 2023-e.....	101
Figure 39	Combined Polymer/Chemical and Refinery Grade Propylene – Asia Pacific	109
Figure 40	Asia Pacific Combined Propylene Supply, Demand and Trade	111



Figure 41	China Combined Propylene Supply, Demand and Trade	112
Figure 42	End-Use Consumption Drivers	114
Figure 43	Monomer Consumption Drivers	116
Figure 44	Trade Considerations	117
Figure 45	Global Olefins Production by Process	122
Figure 46	Simplified Flow Diagram: Steam Cracker	126
Figure 47	Recovery from Refinery Streams	127
Figure 48	Propane Dehydrogenation (PDH)	128
Figure 49	Olefins Metathesis	129
Figure 50	High Severity Fluid Catalytic cracking (FCC)	130
Figure 51	Methanol to Propylene (MTP)	131
Figure 52	Selective Olefin Cracking	132
Figure 53	BASF – Process for the Extraction of 1,3-Butadiene	134

Tables

Table 1	Global Combined Propylene Consumption by Derivative	22
Table 2	Global Combined Propylene Consumption by Region	23
Table 3	Global Combined Propylene Supply and Demand	30
Table 4	North America Combined Propylene by Derivative	34
Table 5	North America Combined Propylene Consumption by Country	35
Table 6	North America Combined Propylene Supply, Demand and Trade	41
Table 7	United States Combined Propylene Supply, Demand and Trade	42
Table 8	South America Combined Propylene Consumption by Derivative	45
Table 9	South America Combined Propylene Consumption by Country	45
Table 10	South America Combined Propylene Supply, Demand and Trade	48
Table 11	Western Europe Combined Propylene Consumption by Derivative	52
Table 12	Western Europe Combined Propylene Supply, Demand and Trade	56
Table 13	Central Europe Combined Propylene Consumption by Derivative	59
Table 14	Central Europe Combined Propylene Supply, Demand and Trade	62
Table 15	Russia Combined Propylene Consumption by Derivative	65
Table 16	Other Eastern Europe Combined Propylene Consumption by Derivative	67
Table 17	Russia Combined Propylene Supply, Demand and Trade	74
Table 18	Other Eastern Europe Combined Propylene Supply, Demand and Trade	75
Table 19	Total Eastern Europe Combined Propylene Supply, Demand and Trade	76
Table 20	Middle East Combined Propylene Consumption by Derivative	80
Table 21	Middle East Combined Propylene Consumption by Country	80
Table 22	Middle East Combined Propylene Supply, Demand and Trade	85
Table 23	Africa Combined Propylene Consumption by Derivative	87
Table 24	Africa Combined Propylene Consumption by Country	87
Table 25	Africa Combined Propylene Supply, Demand and Trade	90
Table 26	Asia Pacific Combined Propylene Consumption by Derivative	101
Table 27	Asia Pacific Combined Propylene Consumption by Country	101
Table 28	Asia Pacific Combined Propylene Supply, Demand and Trade	111
Table 29	China Combined Propylene Supply, Demand and Trade	112



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.

USA

Tel: +1 914 609 0300
44 S Broadway,
5th Floor White Plains
NY 10601-4425
USA

USA

Tel: +1 832 462 7176
609 Main Street, Floor 25
c/o WeWork
Houston
Texas 77002
USA

Thailand

Tel: +662 793 4600
22nd Floor, Rasa Tower I
555 Phahonyothin Road
Kwaeng Chatuchak
Khet Chatuchak
Bangkok 10900
Thailand

Malaysia

Tel: +60 322 98 7212
Level 28,
The Gardens South Tower
Mid Valley City
Lingkaran Syed Putra
Kuala Lumpur 59200
Malaysia

UK

Tel: +44 20 7950 1600
110 Cannon Street
London
EC4N 6EU
United Kingdom

Bahrain

Tel: +973 1330 3038
Level 49, Suite 4902
West Tower
Bahrain Financial
Harbour
PO Box 60686
Bahrain

China

Tel: +86 21 6050 1119
Room 02-15, 2F Block 1
58 Yao Yuan Road
Pudong, Shanghai, 200126
China

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.