

Hydrotreated Vegetable Oil Market - A Global and Regional Analysis: Focus on Application, End Users, Feedstock Type, Technology Type, and Region - Analysis and Forecast, 2023-2032

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Abstracts

Global Hydrotreated Vegetable Oil Market: Industry Overview

The demand for hydrotreated vegetable oil-based fuels such as renewable diesel and sustainable aviation fuel is anticipated to grow with the increasing demand from end-user industries such as automotive, aviation, maritime, agriculture, and industrial, among others. Furthermore, it is anticipated that during the projected period (2023-2032), the increasing adoption of renewable diesel and sustainable aviation fuel in the automotive and aviation industry in several advanced economies, including the U.S., Italy, France, the Netherlands, and Sweden, among others, are expected to further fuel the advancement of the global hydrotreated vegetable oil market. However, the limited availability of feedstocks is leading to an increase in the competitiveness of companies for a continuous supply of fatty-acid-based raw materials, which is acting as a challenge to the growth of the hydrotreated vegetable oil market.

Market Lifecycle Stage

The global hydrotreated vegetable oil market is in the growth phase. Increased investment and research and development activities are expected to boost the market. Furthermore, high demand from end-user industries and rising government initiatives such as incentives and tax credits for low-carbon fuels are expected to increase the demand for renewable diesel and sustainable aviation fuel, thereby bolstering the global hydrotreated vegetable oil market. Moreover, the global hydrotreated vegetable oil market is expected to benefit from the rising awareness of the environment and growing

adoption of low-carbon fuels such as renewable diesel and sustainable aviation fuel in advanced and emerging economies.

Industrial Impact

The hydrotreated vegetable oil-based renewable diesel offers numerous advantages. Its renewable nature ensures a reduced carbon footprint, contributing to mitigating climate change and lowering greenhouse gas emissions. Furthermore, renewable diesel derived from HVO has superior cold-weather performance, making it suitable for use in regions with extreme temperatures. In the same vein, sustainable aviation fuel (SAF) is a drop-in replacement for conventional jet fuel, making it compatible with existing aircraft engines and infrastructure. This seamless integration allows airlines to adopt SAF without any modifications or with lesser modifications to aviation fleets or refueling infrastructure.

Furthermore, hydrotreated vegetable oil has a moderate-to-high impact on end-user industries; however, in the upcoming future, with increasing penetration of automotive, aviation, maritime, industrial, and other industries, the impact is anticipated to increase.

Market Segmentation:

Segmentation 1: by Application

Renewable Diesel

Sustainable Aviation Fuel (SAF)

Based on application, the renewable diesel segment dominated the hydrotreated vegetable oil market in 2022 and was the largest segment due to the rising demand as a renewable alternative fuel for drop-in replacement and blending in fossil diesel for various end-use sectors such as automotive, maritime, construction, mining, and others.

Segmentation 2: by End User

Transportation

Agricultural Machinery

Industrial

Others (Residential Buildings, Commercial Buildings, and Data Centers)

Based on end users, the transportation segment dominated the hydrotreated vegetable oil market in 2022 and was the largest segment due to the rising demand for renewable fuels in the automotive, maritime, and aviation sectors for reduction of greenhouse emissions.

Segmentation 3: by Feedstock Type

Edible Vegetable Oils

Crude Palm Oil

Used Cooking Oil

Tall Oil

Animal Fats

Others (Non-Edible Vegetable Oil, Sludge Palm Oil Mill Effluent, and Refining Byproducts)

Based on feedstock type, the used cooking oil segment dominated the hydrotreated vegetable oil market in 2022 and is the largest segment owing to the government regulations and policies to support the waste to fuel technologies.

Segmentation 4: by Technology Type

Standalone Hydrotreating Technology

Co-Processing Technology

The standalone hydrotreating technology dominated the global hydrotreated vegetable oil market based on technology type.

Segmentation 5: by Region

North America - U.S., Canada, and Mexico

Europe - the Netherlands, France, Italy, Spain, and Rest-of-Europe

China

U.K.

Asia-Pacific and Japan - Japan, Indonesia, Malaysia, Singapore, and Rest-of-Asia-Pacific and Japan

Rest-of-the-World - South America and the Middle East and Africa

In the hydrotreated vegetable oil market, North America is anticipated to gain traction in terms of production and adoption, owing to the continuous growth in the adoption of low-carbon fuels such as renewable diesel and sustainable aviation fuel and the presence of key manufacturers in the region.

Recent Developments in the Global Hydrotreated Vegetable Oil Market

In June 2023, Eni Sustainable Mobility, a subsidiary of Eni S.p.A., signed an agreement with Azimut Benetti S.p.A. to support the decarbonization of the yachting industry. Furthermore, in this agreement, Eni S.p.A. aimed to supply hydrotreated vegetable oil-based renewable fuels to the Azimut Benetti S.p.A.

In June 2023, Neste partnered with Rio Tinto, a mining company, to help in the energy transition for its Borax mining site in the U.S. Furthermore, Rio Tinto would replace the fossil diesel with Neste's renewable diesel for its heavy machinery.

In May 2023, Neste announced to enter into a distribution partnership with PetroCard to strengthen the supply-chain network for Neste MY Renewable Diesel in the Pacific Northwest region of the U.S.

In June 2022, Chevron Renewable Energy Group, Inc. announced the completion of the acquisition of Renewable Energy Group, Inc., aiming to increase its low-carbon solution

portfolio through bio and renewable fuels.

In June 2022, Repsol started the supply of hydrotreated vegetable oil-based sustainable aviation fuel to Iberia, an airline company in Spain for commercial flights. Furthermore, Iberia operated the Airbus A330-200 aircraft, which has a capacity of 288 passengers, by utilizing sustainable aviation fuel.

Demand – Drivers and Challenges

Following are the demand drivers for the global hydrotreated vegetable oil market:

Government Regulations toward Low Carbon Emissions

Applicability in Existing Energy Infrastructure

Increasing Investment in Hydrotreated Vegetable Oil Production

Market is expected to face some limitations as well due to the following challenges:

Lower Density and Energy Content than Fossil Fuels

Continuous Supply of Renewable Feedstock

How can this report add value to an organization?

Product/Innovation Strategy: The product segment helps the reader understand the different hydrotreated vegetable oil-based fuels, i.e., renewable diesel and sustainable aviation fuel, various end users, technology type, and feedstock types involved in the production of hydrotreated vegetable oils. Moreover, the study provides the reader with a detailed understanding of the global hydrotreated vegetable oil market based on the end user (transportation, agricultural machinery, industrial, and others).

Growth/Marketing Strategy: The global hydrotreated vegetable oil market has seen major development by key players operating in the market, such as business expansions, partnerships, collaborations, mergers and acquisitions, and joint ventures. The favored strategy for the companies has been product developments, business expansions, and acquisitions to strengthen their position in the global hydrotreated

vegetable oil market. For instance, in June 2023, TotalEnergies announced the start of supplying hydrotreated vegetable oil-based sustainable aviation fuel (SAF) to its aviation customers in Europe. Furthermore, the company planned to double the SAF production capacity by 2028.

Competitive Strategy: Key players in the global hydrotreated vegetable oil market analyzed and profiled in the study involve HVO-based fuel manufacturers and the overall ecosystem. Moreover, a detailed competitive benchmarking of the players operating in the global hydrotreated vegetable oil market has been done to help the reader understand how players stack against each other, presenting a clear market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, acquisitions, and collaborations will aid the reader in understanding the untapped revenue pockets in the market.

Key Market Players and Competition Synopsis

The companies that are profiled have been selected based on inputs gathered from primary experts, analyzing company coverage, product portfolio, and market penetration.

The global hydrotreated vegetable oil market has been segmented based on application, among which renewable diesel accounted for around 97.6% and sustainable aviation fuel holds around 2.4% of the total HVO fuel production in 2022 in terms of volume.

Key Companies Profiled:

Eni S.p.A.

St1 Oy

Neste

Valero Energy Corporation

PT Pertamina

Repsol

TotalEnergies

UPM

Phillips 66

Chevron Renewable Energy Group, Inc.

Green Biofuels Limited

Petrobras

ECB Group

Preem AB

Colabit Sweden AB

Contents

1 MARKETS

1.1 Industry Outlook

1.1.1 Trends: Current and Future

1.1.1.1 Increasing Investments in Low-Carbon Aluminum

1.1.1.2 Government Activities toward the Establishment of Low-carbon Infrastructure

1.1.2 Supply Chain Analysis

1.1.3 Ecosystem of Low-Carbon Aluminum Market

1.1.3.1 Consortiums and Associations

1.1.3.2 Regulatory/Certification Bodies

1.1.3.3 Government Programs

1.1.3.4 Programs by Research Institutions and Universities

1.1.4 Impact of COVID-19 on the Low-Carbon Aluminum Market

1.2 Business Dynamics

1.2.1 Business Drivers

1.2.1.1 Increasing Attention of Governments toward Decarbonization of Core Contributing Commodities

1.2.1.2 Growing Research and Development Activities to Achieve Near Zero Emissions

1.2.2 Business Challenges

1.2.2.1 Lower Recycling Rates for Aluminum in Various Industries

1.2.2.2 Volatile Low-Carbon Aluminum Prices

1.2.3 Business Strategies

1.2.3.1 Product Developments

1.2.3.2 Market Developments

1.2.4 Corporate Strategies

1.2.4.1 Partnerships and Joint Ventures

1.2.5 Business Opportunities

1.2.5.1 Low-Carbon Aluminum in Niche Segments such as Ultra-Low-CO₂ Grades

1.2.5.2 Climate Mitigation Initiatives to Increase Demand for Sustainably Sourced Aluminum

1.3 Start-Up Landscape

1.3.1 Key Start-Ups in the Ecosystem

2 APPLICATION

2.1 Global Low-Carbon Aluminum Market (End User and Specifications)

2.1.1 Global Low-Carbon Aluminum Market (by End User)

- 2.1.1.1 Transportation
- 2.1.1.2 Building and Construction
- 2.1.1.3 Electrical Industry
- 2.1.1.4 Consumer Goods
- 2.1.1.5 Foil and Packaging
- 2.1.1.6 Machinery and Equipment
- 2.1.1.7 Others

2.2 Demand Analysis of Low-Carbon Aluminum Market (by End User), Volume and Value Data

3 PRODUCTS

3.1 Global Low-Carbon Aluminum Market (Source of Production and Specifications)

3.1.1 Global Low-Carbon Aluminum Market (by Source of Production)

- 3.1.1.1 Solar Energy
- 3.1.1.2 Wind Energy
- 3.1.1.3 Hydro Energy
- 3.1.1.4 Carbon Capture and Storage (CCS)
- 3.1.1.5 Recycling
- 3.1.1.6 Others

3.2 Demand Analysis of Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

3.3 Global Low-Carbon Aluminum Market (Products and Specifications)

3.3.1 Global Low-Carbon Aluminum Market (by Product)

- 3.3.1.1 Flat-Rolled
- 3.3.1.2 Castings
- 3.3.1.3 Extrusion
- 3.3.1.4 Forgings
- 3.3.1.5 Rod and Bar
- 3.3.1.6 Others

3.4 Demand Analysis of Low-Carbon Aluminum Market (by Product), Volume and Value Data

3.5 Product Benchmarking: Growth Rate - Market Share Matrix (by Product), by Value, 2021

3.6 Patent Analysis

3.7 Average Pricing Analysis: Global and Regional Level, Low-Carbon Aluminum

3.8 Embedded Carbon Emissions in Aluminum Production

3.9 Trade Analysis: Aluminum, 2019-2021

3.1 Key Operating Aluminum Plants, 2021

4 REGIONS

4.1 North America

4.1.1 Markets

4.1.1.1 Key Producers and Suppliers in North America:

4.1.1.2 Business Drivers

4.1.1.3 Business Challenges

4.1.2 Applications

4.1.2.1 North America Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.1.3 Products

4.1.3.1 North America Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.1.3.2 North America Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.1.4 North America (by Country)

4.1.4.1 U.S.

4.1.4.1.1 Markets

4.1.4.1.1.1 Buyer Attributes

4.1.4.1.1.2 Key Producers and Suppliers in the U.S.

4.1.4.1.1.3 Regulatory Landscape

4.1.4.1.1.4 Business Drivers

4.1.4.1.1.5 Business Challenges

4.1.4.1.2 Applications

4.1.4.1.2.1 U.S. Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.1.4.1.3 Products

4.1.4.1.3.1 U.S. Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.1.4.1.3.2 U.S. Low-Carbon Aluminum Market (by Product), Volume and Value Data

Data

4.1.4.2 Canada

4.1.4.2.1 Markets

4.1.4.2.1.1 Buyer Attributes

4.1.4.2.1.2 Key Producers and Suppliers in Canada:

4.1.4.2.1.3 Regulatory Landscape

4.1.4.2.1.4 Business Drivers

4.1.4.2.1.5 Business Challenges

4.1.4.2.2 Applications

4.1.4.2.2.1 Canada Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.1.4.2.3 Products

4.1.4.2.3.1 Canada Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.1.4.2.3.2 Canada Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.1.4.3 Mexico

4.1.4.3.1 Markets

4.1.4.3.1.1 Buyer Attributes

4.1.4.3.1.2 Key Producers and Suppliers in Mexico:

4.1.4.3.1.3 Regulatory Landscape

4.1.4.3.1.4 Business Drivers

4.1.4.3.1.5 Business Challenges

4.1.4.3.2 Applications

4.1.4.3.2.1 Mexico Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.1.4.3.3 Products

4.1.4.3.3.1 Mexico Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.1.4.3.3.2 Mexico Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.2 Europe

4.2.1 Markets

4.2.1.1 Key Producers and Suppliers in Europe

4.2.1.2 Business Drivers

4.2.1.3 Business Challenges

4.2.2 Applications

4.2.2.1 Europe Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.2.3 Products

4.2.3.1 Europe Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.2.3.2 Europe Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.2.4 Europe: Country-Level Analysis

4.2.4.1 Germany

4.2.4.1.1 Markets

- 4.2.4.1.1.1 Buyer Attributes
- 4.2.4.1.1.2 Key Producers and Suppliers in Germany
- 4.2.4.1.1.3 Regulatory Landscape
- 4.2.4.1.1.4 Business Drivers
- 4.2.4.1.1.5 Business Challenges
- 4.2.4.1.2 Applications
 - 4.2.4.1.2.1 Germany Low-Carbon Aluminum Market (by End User), Volume and Value Data
- 4.2.4.1.3 Products
 - 4.2.4.1.3.1 Germany Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data
 - 4.2.4.1.3.2 Germany Low-Carbon Aluminum Market (by Product), Volume and Value Data
- 4.2.4.2 France
 - 4.2.4.2.1 Markets
 - 4.2.4.2.1.1 Buyer Attributes
 - 4.2.4.2.1.2 Key Producers and Suppliers in France
 - 4.2.4.2.1.3 Regulatory Landscape
 - 4.2.4.2.1.4 Business Drivers
 - 4.2.4.2.1.5 Business Challenges
 - 4.2.4.2.2 Applications
 - 4.2.4.2.2.1 France Low-Carbon Aluminum Market (by End User), Volume and Value Data
 - 4.2.4.2.3 Products
 - 4.2.4.2.3.1 France Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data
 - 4.2.4.2.3.2 France Low-Carbon Aluminum Market (by Product), Volume and Value Data
- 4.2.4.3 Italy
 - 4.2.4.3.1 Market
 - 4.2.4.3.1.1 Buyer Attributes
 - 4.2.4.3.1.2 Key Producers and Suppliers in Italy:
 - 4.2.4.3.1.3 Regulatory Landscape
 - 4.2.4.3.1.4 Business Drivers
 - 4.2.4.3.1.5 Business Challenges
 - 4.2.4.3.2 Applications
 - 4.2.4.3.2.1 Italy Low-Carbon Aluminum Market (by End User), Volume and Value Data
 - 4.2.4.3.3 Products

4.2.4.3.3.1 Italy Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.2.4.3.3.2 Italy Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.2.4.4 Spain

4.2.4.4.1 Markets

4.2.4.4.1.1 Buyer Attributes

4.2.4.4.1.2 Key Producers and Suppliers in Spain:

4.2.4.4.1.3 Regulatory Landscape

4.2.4.4.1.4 Business Drivers

4.2.4.4.1.5 Business Challenges

4.2.4.4.2 Applications

4.2.4.4.2.1 Spain Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.2.4.4.3 Products

4.2.4.4.3.1 Spain Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.2.4.4.3.2 Spain Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.2.4.5 Russia

4.2.4.5.1 Markets

4.2.4.5.1.1 Buyer Attributes

4.2.4.5.1.2 Key Producers and Suppliers in Russia:

4.2.4.5.1.3 Regulatory Landscape

4.2.4.5.1.4 Business Drivers

4.2.4.5.1.5 Business Challenges

4.2.4.5.2 Applications

4.2.4.5.2.1 Russia Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.2.4.5.3 Products

4.2.4.5.3.1 Russia Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.2.4.5.3.2 Russia Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.2.4.6 Rest-of-Europe (RoE)

4.2.4.6.1 Markets

4.2.4.6.1.1 Buyers Attributes

4.2.4.6.1.2 Key Producers and Suppliers in Rest-of-Europe:

4.2.4.6.1.3 Business Drivers

4.2.4.6.1.4 Business Challenges

4.2.4.6.2 Applications

4.2.4.6.2.1 Rest-of-Europe Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.2.4.6.3 Products

4.2.4.6.3.1 Rest-of-Europe Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.2.4.6.3.2 Rest-of-Europe Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.3 U.K.

4.3.1 Market

4.3.1.1 Buyer Attributes

4.3.1.2 Key Producers and Suppliers in the U.K.

4.3.1.3 Regulatory Landscape

4.3.1.4 Business Drivers

4.3.1.5 Business Challenges

4.3.2 Applications

4.3.2.1 U.K. Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.3.3 Products

4.3.3.1 U.K. Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.3.3.2 U.K. Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.4 China

4.4.1 Market

4.4.1.1 Buyer Attributes

4.4.1.2 Key Producers and Suppliers in China

4.4.1.3 Regulatory Landscape

4.4.1.4 Business Drivers

4.4.1.5 Business Challenges

4.4.2 Applications

4.4.2.1 China Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.4.3 Products

4.4.3.1 China Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.4.3.2 China Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.5 Asia-Pacific and Japan

4.5.1 Markets

4.5.1.1 Key Producers and Suppliers in Asia-Pacific and Japan

4.5.1.2 Business Drivers

4.5.1.3 Business Challenges

4.5.2 Applications

4.5.2.1 Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.5.3 Products

4.5.3.1 Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.2 Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.5.3.3 Japan

4.5.3.3.1 Markets

4.5.3.3.1.1 Buyer Attributes

4.5.3.3.1.2 Key Producers and Suppliers in Japan

4.5.3.3.1.3 Regulatory Landscape

4.5.3.3.1.4 Business Drivers

4.5.3.3.1.5 Business Challenges

4.5.3.3.2 Applications

4.5.3.3.2.1 Japan Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.5.3.3.3 Products

4.5.3.3.3.1 Japan Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.3.3.2 Japan Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.5.3.4 South Korea

4.5.3.4.1 Markets

4.5.3.4.1.1 Buyer Attributes

4.5.3.4.1.2 Key Producers and Suppliers in South Korea

4.5.3.4.1.3 Regulatory Landscape

4.5.3.4.1.4 Business Drivers

4.5.3.4.1.5 Business Challenges

4.5.3.4.2 Applications

4.5.3.4.2.1 South Korea Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.5.3.4.3 Products

4.5.3.4.3.1 South Korea Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.4.3.2 South Korea Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.5.3.5 India

4.5.3.5.1 Markets

4.5.3.5.1.1 Buyer Attributes

4.5.3.5.1.2 Key Producers and Suppliers in India

4.5.3.5.1.3 Regulatory Landscape

4.5.3.5.1.4 Business Drivers

4.5.3.5.1.5 Business Challenges

4.5.3.5.2 Applications

4.5.3.5.2.1 India Low-Carbon Aluminum Market (by End User), Volume and Value

Data

4.5.3.5.3 Products

4.5.3.5.3.1 India Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.5.3.2 India Low-Carbon Aluminum Market (by Product), Volume and Value

Data

4.5.3.6 ASEAN

4.5.3.6.1 Markets

4.5.3.6.1.1 Buyer Attributes

4.5.3.6.1.2 Key Producers and Suppliers in ASEAN

4.5.3.6.1.3 Business Drivers

4.5.3.6.1.4 Business Challenges

4.5.3.6.2 Applications

4.5.3.6.2.1 ASEAN Low-Carbon Aluminum Market (by End User), Volume and

Value Data

4.5.3.6.3 Products

4.5.3.6.3.1 ASEAN Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.6.3.2 ASEAN Low-Carbon Aluminum Market (by Product), Volume and Value

Data

4.5.3.7 Rest-of-Asia-Pacific and Japan

4.5.3.7.1 Markets

4.5.3.7.1.1 Buyer Attributes

4.5.3.7.1.2 Key Producers and Suppliers in the Rest-of-Asia-Pacific and Japan

4.5.3.7.1.3 Business Drivers

4.5.3.7.1.4 Business Challenges

4.5.3.7.2 Applications

4.5.3.7.2.1 Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.5.3.7.3 Products

4.5.3.7.3.1 Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.5.3.7.3.2 Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.6 Rest-of-the-World

4.6.1 Markets

4.6.1.1 Key Producers and Suppliers in Rest-of-the-World

4.6.1.2 Business Drivers

4.6.1.3 Business Challenges

4.6.2 Applications

4.6.2.1 Rest-of-the-World Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.6.3 Products

4.6.3.1 Rest-of-the-World Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.6.3.2 Rest-of-the-World Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.6.3.3 Middle East and Africa

4.6.3.3.1 Markets

4.6.3.3.1.1 Buyer Attributes

4.6.3.3.1.2 Key Producers and Suppliers in the Middle East and Africa

4.6.3.3.1.3 Business Drivers

4.6.3.3.1.4 Business Challenges

4.6.3.3.2 Applications

4.6.3.3.2.1 Middle East and Africa Low-Carbon Aluminum Market (by End User), Volume and Value Data

4.6.3.3.3 Products

4.6.3.3.3.1 Middle East and Africa Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.6.3.3.3.2 Middle East and Africa Low-Carbon Aluminum Market (by Product), Volume and Value Data

4.6.3.4 South America

4.6.3.4.1 Markets

4.6.3.4.1.1 Buyer Attributes

4.6.3.4.1.2 Key Producers and Suppliers in South America

4.6.3.4.1.3 Business Drivers

4.6.3.4.1.4 Business Challenges

4.6.3.4.2 Applications

4.6.3.4.2.1 South America Low-Carbon Aluminum Market (by End User), Volume

and Value Data

4.6.3.4.3 Products

4.6.3.4.3.1 South America Low-Carbon Aluminum Market (by Source of Production), Volume and Value Data

4.6.3.4.3.2 South America Low-Carbon Aluminum Market (by Product), Volume and Value Data

5 MARKETS – COMPETITIVE BENCHMARKING AND COMPANY PROFILES

5.1 Competitive Benchmarking

5.1.1 Competitive Position Matrix

5.1.2 Product Matrix of Key Companies, By Source of Production

5.1.3 Market Share Analysis of Key Companies, 2021

5.2 Company Profiles

5.2.1 Vedanta Aluminum and Power

5.2.1.1 Company Overview

5.2.1.1.1 Role of Vedanta Aluminum and Power in the Low-Carbon Aluminum Market

5.2.1.1.2 Production Sites

5.2.1.1.3 Product Portfolio

5.2.1.2 Business Strategies

5.2.1.2.1 Market Developments and Product Developments

5.2.1.3 Analyst View

5.2.2 EN+ Group

5.2.2.1 Company Overview

5.2.2.1.1 Role of EN+ Group in the Low-Carbon Aluminum Market

5.2.2.1.2 Production Sites

5.2.2.1.3 Product Portfolio

5.2.2.2 Business Strategies

5.2.2.2.1 Market Developments and Product Developments

5.2.2.3 Corporate Strategies

5.2.2.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts

5.2.2.4 Analyst View

5.2.3 Century Aluminum Company

5.2.3.1 Company Overview

5.2.3.1.1 Role of Century Aluminum Company in the Low-Carbon Aluminum Market

5.2.3.1.2 Production Sites

5.2.3.1.3 Product Portfolio

5.2.3.2 Business Strategies

- 5.2.3.2.1 Market Developments and Product Developments
- 5.2.3.3 Corporate Strategies
 - 5.2.3.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
- 5.2.3.4 Analyst View
- 5.2.4 Emirates Global Aluminium PJSC
 - 5.2.4.1 Company Overview
 - 5.2.4.1.1 Role of Emirates Global Aluminium PJSC in the Low-Carbon Aluminum Market
 - 5.2.4.1.2 Production Sites
 - 5.2.4.1.3 Product Portfolio
 - 5.2.4.2 Business Strategies
 - 5.2.4.2.1 Market Developments and Product Developments
 - 5.2.4.3 Corporate Strategies
 - 5.2.4.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.4.4 Analyst View
- 5.2.5 Norsk Hydro ASA
 - 5.2.5.1 Company Overview
 - 5.2.5.1.1 Role of Norsk Hydro ASA in the Low-Carbon Aluminum Market
 - 5.2.5.1.2 Production Sites
 - 5.2.5.1.3 Product Portfolio
 - 5.2.5.2 Business Strategies
 - 5.2.5.2.1 Market Developments and Product Developments
 - 5.2.5.3 Corporate Strategies
 - 5.2.5.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.5.4 R&D Analysis
 - 5.2.5.5 Analyst View
- 5.2.6 Alcoa Corporation
 - 5.2.6.1 Company Overview
 - 5.2.6.1.1 Role of Alcoa Corporation in the Low-Carbon Aluminum Market
 - 5.2.6.1.2 Production Sites
 - 5.2.6.1.3 Product Portfolio
 - 5.2.6.2 Corporate Strategies
 - 5.2.6.2.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.6.3 R&D Analysis
 - 5.2.6.4 Analyst View
- 5.2.7 China Hongqiao Group Limited
 - 5.2.7.1 Company Overview
 - 5.2.7.1.1 Role of China Hongqiao Group Limited in the Low-Carbon Aluminum Market

- 5.2.7.1.2 Production Sites
- 5.2.7.1.3 Product Portfolio
- 5.2.7.2 Business Strategies
 - 5.2.7.2.1 Product Developments and Market Developments
- 5.2.7.3 Corporate Strategies
 - 5.2.7.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
- 5.2.7.4 R&D Analysis
- 5.2.7.5 Analyst View
- 5.2.8 Capral Limited
 - 5.2.8.1 Company Overview
 - 5.2.8.1.1 Role of Capral Limited in the Low-Carbon Aluminum Market
 - 5.2.8.1.2 Production Sites
 - 5.2.8.1.3 Product Portfolio
 - 5.2.8.2 Business Strategies
 - 5.2.8.2.1 Product Developments and Market Developments
 - 5.2.8.3 Corporate Strategies
 - 5.2.8.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.8.4 Analyst View
- 5.2.9 Constellium SE
 - 5.2.9.1 Company Overview
 - 5.2.9.1.1 Role of Constellium SE in the Low-Carbon Aluminum Market
 - 5.2.9.1.2 Production Sites
 - 5.2.9.1.3 Product Portfolio
 - 5.2.9.2 Business Strategies
 - 5.2.9.2.1 Product Developments and Market Developments
 - 5.2.9.3 Corporate Strategies
 - 5.2.9.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.9.4 R&D Analysis
 - 5.2.9.5 Analyst View
- 5.2.10 Reynaers Aluminium
 - 5.2.10.1 Company Overview
 - 5.2.10.1.1 Role of Reynaers Aluminium in the Low-Carbon Aluminum Market
 - 5.2.10.1.2 Production Sites
 - 5.2.10.1.3 Product Portfolio
 - 5.2.10.2 Analyst View
- 5.2.11 Granges
 - 5.2.11.1 Company Overview
 - 5.2.11.1.1 Role of Granges in the Low-Carbon Aluminum Market
 - 5.2.11.1.2 Production Sites

- 5.2.11.1.3 Product Portfolio
- 5.2.11.2 Business Strategies
 - 5.2.11.2.1 Product Developments and Market Developments
- 5.2.11.3 Corporate Strategies
 - 5.2.11.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
- 5.2.11.4 Analyst View
- 5.2.12 Nanshan America
 - 5.2.12.1 Company Overview
 - 5.2.12.1.1 Role of Nanshan America in the Low-Carbon Aluminum Market
 - 5.2.12.1.2 Production Sites
 - 5.2.12.1.3 Product Portfolio
 - 5.2.12.2 Analyst View
- 5.2.13 Rio Tinto
 - 5.2.13.1 Company Overview
 - 5.2.13.1.1 Role of Rio Tinto in the Low-Carbon Aluminum Market
 - 5.2.13.1.2 Production Sites
 - 5.2.13.1.3 Product Portfolio
 - 5.2.13.2 Business Strategies
 - 5.2.13.2.1 Product Developments and Market Developments
 - 5.2.13.3 Corporate Strategies
 - 5.2.13.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.13.4 R&D Analysis
 - 5.2.13.5 Analyst View
- 5.2.14 CBA
 - 5.2.14.1 Company Overview
 - 5.2.14.1.1 Role of CBA in the Low-Carbon Aluminum Market
 - 5.2.14.1.2 Production Sites
 - 5.2.14.1.3 Product Portfolio
 - 5.2.14.2 Business Strategies
 - 5.2.14.2.1 Product Developments and Market Developments
 - 5.2.14.3 Corporate Strategies
 - 5.2.14.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts
 - 5.2.14.4 Analyst View
- 5.2.15 South32
 - 5.2.15.1 Company Overview
 - 5.2.15.1.1 Role of South32 in the Low-Carbon Aluminum Market
 - 5.2.15.1.2 Production Sites
 - 5.2.15.1.3 Product Portfolio
 - 5.2.15.2 Analyst View

5.2.16 PT Indonesia Asahan Aluminium

5.2.16.1 Company Overview

5.2.16.1.1 Role of PT Indonesia Asahan Aluminium in the Low-Carbon Aluminum Market

5.2.16.1.2 Production Sites

5.2.16.1.3 Product Portfolio

5.2.16.2 Analyst View

5.2.17 Novelis

5.2.17.1 Company Overview

5.2.17.1.1 Role of Novelis in the Low-Carbon Aluminum Market

5.2.17.1.2 Production Sites

5.2.17.1.3 Product Portfolio

5.2.17.2 Business Strategies

5.2.17.2.1 Product Developments and Market Developments

5.2.17.3 R&D Analysis

5.2.17.4 Analyst View

5.2.18 Eti Aluminium

5.2.18.1 Company Overview

5.2.18.1.1 Role of Eti Aluminium in the Low-Carbon Aluminum Market

5.2.18.1.2 Production Sites

5.2.18.1.3 Product Portfolio

5.2.18.2 Business Strategies

5.2.18.2.1 Product Developments and Market Developments

5.2.18.3 Analyst View

5.2.19 Hammerer Aluminium Industries

5.2.19.1 Company Overview

5.2.19.1.1 Role of Hammerer Aluminium Industries in the Low-Carbon Aluminum Market

5.2.19.1.2 Production Sites

5.2.19.1.3 Product Portfolio

5.2.19.2 Business Strategies

5.2.19.2.1 Market Developments and Product Developments

5.2.19.3 Corporate Strategies

5.2.19.3.1 Partnerships, Collaborations, Agreements, Investments, and Contracts

5.2.19.4 Patent Analysis

5.2.19.5 Analyst View

5.2.20 Aluminium Dunkerque

5.2.20.1 Company Overview

5.2.20.1.1 Role of Aluminium Dunkerque in the Low-Carbon Aluminum Market

- 5.2.20.1.2 Production Sites
- 5.2.20.1.3 Product Portfolio
- 5.2.20.2 Business Strategies
 - 5.2.20.2.1 Market Developments and Product Developments
- 5.2.20.3 Analyst View

6 RESEARCH METHODOLOGY

- 6.1 Primary Data Sources
- 6.2 BIS Data Sources
- 6.3 Assumptions and Limitations

List Of Figures

LIST OF FIGURES

- Figure 1: Global Low-Carbon Aluminum Market, \$Billion, 2021, 2022, and 2031
- Figure 2: Global Low-Carbon Aluminum Market (by End User), \$Billion, 2021 and 2031
- Figure 3: Global Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021 and 2031
- Figure 4: Global Low-Carbon Aluminum Market (by Product), \$Billion, 2021 and 2031
- Figure 5: Global Low-Carbon Aluminum Market (by Region), \$Billion, 2021 and 2031
- Figure 6: Global Low-Carbon Aluminum Market Coverage
- Figure 7: Share of Renewable vs. Conventional Energy Sources with Private Participation in Emerging Markets and Developing Economies (EMDEs), by Projects
- Figure 8: Share of Renewable vs. Conventional Energy Sources with Private Participation in Emerging Markets and Developing Economies (EMDEs), by Investment
- Figure 9: Supply Chain Analysis of the Low-Carbon Aluminum Market
- Figure 10: Global Aircraft Deliveries (by Region, Number of Aircraft), 2018-2022
- Figure 11: Global Automotive Production Units, 2019-2021
- Figure 12: Embodied Carbon (Carbon Footprint) per Kg of Primary Aluminium Ingot
- Figure 13: Product Benchmarking
- Figure 14: Total Year-Wise Patents Filed for Global Low-Carbon Aluminum Market, January 2019-December 2022
- Figure 15: Patent Analysis (by Status), January 2019-December 2022
- Figure 16: Patent Analysis (by Organization), January 2019-December 2022
- Figure 17: Aluminum Trade Analysis – Net Trade (by Region), Kilotons, 2019-2021
- Figure 18: Research Methodology
- Figure 19: Top-Down and Bottom-Up Approach
- Figure 20: Low-Carbon Aluminum Market: Influencing Factors
- Figure 21: Assumptions and Limitations

List Of Tables

LIST OF TABLES

Table 1: Consortiums and Associations

Table 2: Regulatory/Certification Bodies

Table 3: Key Product Developments

Table 4: Key Market Developments (2018-2021)

Table 5: Key Partnerships and Joint Ventures

Table 6: Global Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 7: Global Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 8: Global Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 9: Global Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 10: Global Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 11: Global Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 12: Average Global and Regional Level Pricing Analysis, Low-Carbon Primary Aluminum, \$/Ton, 2021-2031

Table 13: Average Global and Regional Level Pricing Analysis, Recycled Aluminum, \$/Ton, 2021-2031

Table 14: Greenhouse Gas Emissions Intensity – Primary Aluminum, Tons of CO₂e per Ton of Primary Aluminum, 2021

Table 15: Greenhouse Gas Emissions – Aluminum Sector, Overall CO₂ Emissions, Million Tons, 2021

Table 16: 12. List of Key Operating Aluminum Plants, 2021

Table 17: Global Low-Carbon Aluminum Market (by Region), Kilotons, 2021-2031

Table 18: Global Low-Carbon Aluminum Market (by Region), \$Billion, 2021-2031

Table 19: North America Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 20: North America Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 21: North America Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 22: North America Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 23: North America Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 24: North America Low-Carbon Aluminum Market (by Product), \$Billion,

2021-2031

Table 25: U.S. Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 26: U.S. Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 27: U.S. Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 28: U.S. Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 29: U.S. Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 30: U.S. Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 31: Canada Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 32: Canada Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 33: Canada Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 34: Canada Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 35: Canada Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 36: Canada Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 37: Mexico Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 38: Mexico Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 39: Mexico Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 40: Mexico Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 41: Mexico Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 42: Mexico Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 43: Europe Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 44: Europe Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 45: Europe Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 46: Europe Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 47: Europe Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 48: Europe Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 49: Germany Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 50: Germany Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 51: Germany Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 52: Germany Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 53: Germany Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 54: Germany Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 55: France Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 56: France Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 57: France Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 58: France Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 59: France Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 60: France Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 61: Italy Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 62: Italy Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 63: Italy Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 64: Italy Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 65: Italy Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 66: Italy Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 67: Spain Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 68: Spain Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 69: Spain Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 70: Spain Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 71: Spain Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 72: Spain Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 73: Russia Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 74: Russia Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 75: Russia Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 76: Russia Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 77: Russia Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 78: Russia Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 79: Rest-of-Europe Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 80: Rest-of-Europe Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 81: Rest-of-Europe Low-Carbon Aluminum Market (by Source of Production),

Kilotons, 2021-2031

Table 82: Rest-of-Europe Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 83: Rest-of-Europe Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 84: Rest-of-Europe Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 85: U.K. Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 86: U.K. Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 87: U.K. Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 88: U.K. Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 89: U.K. Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 90: U.K. Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 91: China Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 92: China Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 93: China Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 94: China Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 95: China Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 96: China Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 97: Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 98: Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 99: Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 100: Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 101: Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 102: Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 103: Japan Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 104: Japan Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 105: Japan Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 106: Japan Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 107: Japan Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 108: Japan Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 109: South Korea Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 110: South Korea Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 111: South Korea Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 112: South Korea Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 113: South Korea Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 114: South Korea Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 115: India Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 116: India Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 117: India Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 118: India Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 119: India Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 120: India Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 121: ASEAN Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 122: ASEAN Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 123: ASEAN Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 124: ASEAN Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 125: ASEAN Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 126: ASEAN Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 127: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 128: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 129: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 130: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Source of

Production), \$Billion, 2021-2031

Table 131: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 132: Rest-of-Asia-Pacific and Japan Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 133: Rest-of-the-World Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 134: Rest-of-the-World Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 135: Rest-of-the-World Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 136: Rest-of-the-World Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 137: Rest-of-the-World Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 138: Rest-of-the-World Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 139: Middle East and Africa Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 140: Middle East and Africa Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 141: Middle East and Africa Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 142: Middle East and Africa Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 143: Middle East and Africa Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 144: Middle East and Africa Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 145: South America Low-Carbon Aluminum Market (by End User), Kilotons, 2021-2031

Table 146: South America Low-Carbon Aluminum Market (by End User), \$Billion, 2021-2031

Table 147: South America Low-Carbon Aluminum Market (by Source of Production), Kilotons, 2021-2031

Table 148: South America Low-Carbon Aluminum Market (by Source of Production), \$Billion, 2021-2031

Table 149: South America Low-Carbon Aluminum Market (by Product), Kilotons, 2021-2031

Table 150: South America Low-Carbon Aluminum Market (by Product), \$Billion, 2021-2031

Table 151: Product Matrix of Key Companies, By Source of Production

Table 152: Market Shares of Key Companies, 2021

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