

Flow Battery Market with COVID-19 Impact, by Type (Redox Flow Battery, Hybrid Flow Battery), Material, Storage (Compact and Large scale), Application (Utilities, Commercial & Industrial, EV Charging Station), and Region - Global Forecast to 2026

<https://marketpublishers.com/r/FE69CC6C7CCEN.html>

Date: June 2021

Pages: 228

Price: US\$ 4,950.00 (Single User License)

ID: FE69CC6C7CCEN

Abstracts

The global flow battery market size is expected to grow from USD 214 million in 2021 to USD 489 million by 2026, at a CAGR of 18.0%. The growth of this market is mainly driven by inherent advantages of flow batteries, increasing investments in renewable energy, high demand for flow batteries in utilities, and increase in telecommunication tower installations. However, factors such as requirement of high initial investment for manufacturing of flow batteries, technical drawbacks and low charge and discharge rates, and lack of proper standards for development of flow battery systems are restraining the market growth.

‘Redox flow battery to dominate the flow battery market in 2020’

The market for the redox flow battery held the largest share in 2020 and is estimated to remain the same during the forecast period. The growth of the segment is attributed to the capabilities of these batteries that help to meet the need for power backup. These batteries are economical and convenient sources to store electrical energy at a grid scale and various other applications.

“Utilities application dominated the flow battery market in 2020.”

The market for utilities application is dominant in 2020 and is estimated to continue its dominance over the forecast period. The adoption of flow batteries is increasing in utilities attributed to the growing need for electrification. Besides, the growing use of

renewable energy across grids has, in turn, increased the need for efficient, flexible, and long operating life energy storage solutions. A flow battery, with all its attractive features, has become the most preferred energy storage technology for utility-based storage as large-scale utilities require technologies that can cost-effectively store renewable energy for future grid use at any location.

“Market in APAC to grow at highest CAGR during the forecast period”

The growth of the region is attributed to the increasing demand for flow batteries in major countries such as Japan and Australia. Besides, the growing adoption of energy storage solutions in industrial, utilities, and other applications, rising demand for flow batteries from the grid and microgrid applications in India and China, and increasing number of operational projects with flow battery installations are expected to fuel the growth of the regional market during the forecast period.

Breakdown of the profiles of primary participants:

By Company Type: Tier 1 - 52%, Tier 2 - 31%, and Tier 3 - 17%

By Designation: C-level Executives - 47%, Directors - 31%, and others - 22%

By Region: North America - 40%, Europe – 16%, APAC - 37%, and RoW - 7%

Major players profiled in this report are as follows: Sumitomo Electric Industries Ltd. (Japan), UniEnergy Technologies (US), ViZn Energy Systems (US), Primus Power (US), ESS, Inc. (US), Redflow Limited (Australia), and Invinity Energy Systems (UK), and others.

Research Coverage

In this report, the flow battery market has been segmented based on type, material, ownership, storage, application, and region. The flow battery market based on type has been segmented into redox flow battery and hybrid flow battery. Based on the material, the market has been segmented into vanadium, zinc-bromine, and others. Based on the ownership, the market has been segregated into customer-owned, third-party owned, utility owned. Based on storage the market is segmented into compact and large-scale. Based on the application, the market has been segment into utilities, commercial & industrial, EV charging station, and other applications. The study also forecasts the size

of the market in four main regions—North America, Europe, APAC, and RoW.

Key Benefits of Buying the Report:

The report would help market leaders/new entrants in this market in the following ways:

This report segments of the flow battery market comprehensively and provides the closest approximation of the overall market size and subsegments that include type, material, ownership, storage, application, and region.

The report would help stakeholders understand the pulse of the market and provide them with information on key drivers, restraints, challenges, and opportunities pertaining to the flow battery market.

This report would help stakeholders understand their competitors better and gain more insights to enhance their position in the business.

The competitive landscape section includes the competitor ecosystem, as well as growth strategies such as product launches, mergers & acquisitions, and expansions carried out by major market players.

Contents

1 INTRODUCTION

- 1.1 STUDY OBJECTIVES
- 1.2 MARKET DEFINITION AND SCOPE
 - 1.2.1 INCLUSIONS AND EXCLUSIONS
- 1.3 STUDY SCOPE
 - 1.3.1 MARKETS COVERED
 - 1.3.2 YEARS CONSIDERED
- 1.4 CURRENCY
- 1.5 LIMITATIONS
- 1.6 STAKEHOLDERS
- 1.7 SUMMARY OF CHANGES

2 RESEARCH METHODOLOGY

2.1 RESEARCH DATA

FIGURE 1 FLOW BATTERY MARKET: RESEARCH DESIGN

- 2.1.1 PRIMARIES
- 2.1.2 SECONDARY & PRIMARY RESEARCH
- 2.1.3 SECONDARY DATA
 - 2.1.3.1 List of major secondary sources
- 2.1.4 PRIMARY DATA
 - 2.1.4.1 Primary interviews with experts
 - 2.1.4.2 Key data from primary sources
 - 2.1.4.3 Key industry insights
 - 2.1.4.4 Breakdown of primaries

2.2 MARKET SIZE ESTIMATION

FIGURE 2 MARKET SIZE ESTIMATION METHODOLOGY: APPROACH (SUPPLY SIDE): REVENUE OF PRODUCTS/SOLUTIONS/SERVICES OF FLOW BATTERY MARKET

- 2.2.1 BOTTOM-UP APPROACH
 - 2.2.1.1 Approach for arriving at market share by bottom-up analysis (demand side)

FIGURE 3 FLOW BATTERY MARKET: BOTTOM-UP APPROACH

- 2.2.2 TOP-DOWN APPROACH
 - 2.2.2.1 Approach for capturing market share by top-down analysis (supply side)

FIGURE 4 FLOW BATTERY MARKET: TOP-DOWN APPROACH

2.3 MARKET BREAKDOWN & DATA TRIANGULATION

FIGURE 5 DATA TRIANGULATION

2.4 RESEARCH ASSUMPTIONS

2.5 RISK ASSESSMENT

TABLE 1 LIMITATIONS & ASSOCIATED RESULTS

3 EXECUTIVE SUMMARY

FIGURE 6 COVID-19 IMPACT ANALYSIS ON FLOW BATTERY MARKET

3.1 REALISTIC SCENARIO

3.2 PESSIMISTIC SCENARIO

3.3 OPTIMISTIC SCENARIO

FIGURE 7 REDOX FLOW BATTERY SEGMENT TO HOLD LARGEST SIZE OF FLOW BATTERY MARKET BY 2026

FIGURE 8 ZINC-BROMINE MATERIAL SEGMENT TO HOLD LARGEST SHARE OF FLOW BATTERY MARKET IN 2021

FIGURE 9 LARGE-SCALE FLOW BATTERY SEGMENT TO DOMINATE FLOW BATTERY MARKET DURING FORECAST PERIOD

FIGURE 10 UTILITIES APPLICATION SEGMENT TO HOLD LARGEST SHARE OF FLOW BATTERY MARKET BY 2026

FIGURE 11 NORTH AMERICA TO HOLD LARGEST SHARE OF FLOW BATTERY MARKET IN 2021

4 PREMIUM INSIGHTS

4.1 ATTRACTIVE GROWTH OPPORTUNITIES FOR FLOW BATTERY MARKET

FIGURE 12 INCREASE IN NUMBER OF PROJECTS THAT REQUIRE FLOW BATTERIES TO CREATE LUCRATIVE OPPORTUNITIES FOR APAC FLOW BATTERY MARKET

4.2 FLOW BATTERY MARKET, BY TYPE

FIGURE 13 HYBRID FLOW BATTERY SEGMENT TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

4.3 FLOW BATTERY MARKET, BY APPLICATION

FIGURE 14 UTILITIES APPLICATION SEGMENT TO HOLD LARGEST SHARE OF FLOW BATTERY MARKET IN 2026

4.4 FLOW BATTERY MARKET, BY GEOGRAPHY

FIGURE 15 NORTH AMERICA TO HOLD LARGEST SIZE OF FLOW BATTERY MARKET IN 2021

5 MARKET OVERVIEW

5.1 INTRODUCTION

5.2 MARKET DYNAMICS

FIGURE 16 GLOBAL SMART MANUFACTURING PLATFORM MARKET DYNAMICS

5.2.1 DRIVERS

5.2.1.1 Inherent advantages of flow batteries

5.2.1.2 Increasing investments in renewable energy

FIGURE 17 GLOBAL INVESTMENTS IN RENEWABLE ENERGY SOURCES, 2004–2019 (USD BILLION)

5.2.1.3 High demand for flow batteries in utilities

5.2.1.4 Increase in telecommunication tower installations

FIGURE 18 DRIVERS OF FLOW BATTERY MARKET AND THEIR IMPACT

5.2.2 RESTRAINTS

5.2.2.1 Requirement of high initial investment for manufacturing of flow batteries

5.2.2.2 Technical drawbacks and low charge and discharge rates

5.2.2.3 Lack of proper standards for development of flow battery systems

FIGURE 19 RESTRAINTS FOR FLOW BATTERY MARKET AND THEIR IMPACT

5.2.3 OPPORTUNITIES

5.2.3.1 Growing need for power supply attributed to increasing number of data centers

5.2.3.2 Increasing penetration of flow batteries in residential applications

5.2.3.3 Technological innovations with improved capabilities

FIGURE 20 OPPORTUNITIES FOR GLOBAL FLOW BATTERY MARKET AND THEIR IMPACT

5.2.4 CHALLENGES

5.2.4.1 High competition from providers of conventional batteries

5.2.4.2 Decline in deployment rate of flow batteries due to

COVID-19 pandemic

FIGURE 21 CHALLENGES FOR GLOBAL FLOW BATTERY MARKET AND THEIR IMPACT

5.3 VALUE CHAIN

FIGURE 22 VALUE CHAIN ANALYSIS: GLOBAL FLOW BATTERY MARKET

5.4 ECOSYSTEM

FIGURE 23 GLOBAL FLOW BATTERY MARKET: ECOSYSTEM

TABLE 2 FLOW BATTERY MARKET: ECOSYSTEM

5.5 TRENDS/DISRUPTIONS IMPACTING CUSTOMER'S BUSINESS

5.6 PORTER'S FIVE FORCE ANALYSIS

TABLE 3 IMPACT OF EACH FORCE ON FLOW BATTERY MARKET**5.7 CASE STUDY**

5.7.1 USE CASE 1: INVINITY ENERGY SYSTEMS

5.7.2 USE CASE 2: REDFLOW LIMITED.

5.8 TECHNOLOGY TRENDS

5.8.1 SODIUM-SULFUR BATTERY

5.8.2 COBALT-FREE BATTERY

5.8.3 METAL-AIR BATTERY

5.8.4 LIQUID METAL BATTERIES

5.8.5 POTASSIUM METAL BATTERIES

5.9 PRICING ANALYSIS**5.10 TRADE ANALYSIS****FIGURE 24 IMPORT DATA OF BERYLLIUM, CHROMIUM, GERMANIUM, VANADIUM, GALLIUM, HAFNIUM, INDIUM, NIOBIUM, RHENIUM, AND THALLIUM, BY KEY COUNTRIES, 2016–2020 (USD MILLION)****FIGURE 25 EXPORT DATA FOR BERYLLIUM, CHROMIUM, GERMANIUM, VANADIUM, GALLIUM, HAFNIUM, INDIUM, NIOBIUM, RHENIUM, AND THALLIUM, BY KEY COUNTRIES, 2016–2020 (USD MILLION)****5.11 PATENT ANALYSIS****FIGURE 26 TOP COMPANIES WITH HIGHEST NUMBER OF PATENT APPLICATIONS****FIGURE 27 PATENT ANALYSIS RELATED TO FLOW BATTERY MARKET**

5.11.1 LIST OF MAJOR PATENTS

5.12 MARKET STANDARDS

5.12.1 IEC 62932-1:2020

5.12.1.1 IEC 62932-2-1:2020

5.12.1.2 IEC 62932-2-2:2020

5.12.2 IEC TC 120

5.12.3 CWA 50611: 2013

6 FLOW BATTERY MARKET, BY TYPE**6.1 INTRODUCTION****FIGURE 28 FLOW BATTERY MARKET, BY TYPE****FIGURE 29 REDOX FLOW BATTERY SEGMENT HOLD LARGEST SHARE OF FLOW BATTERY MARKET BY 2026****TABLE 4 FLOW BATTERY MARKET, BY TYPE, 2017–2020 (USD MILLION)****TABLE 5 FLOW BATTERY MARKET, BY TYPE, 2021–2026 (USD MILLION)****6.2 REDOX FLOW BATTERY**

6.2.1 SEVERAL ADVANTAGES ASSOCIATED WITH REDOX FLOW BATTERIES OVER OTHER BATTERIES ARE FUELING THEIR DEMAND

TABLE 6 FLOW BATTERY MARKET FOR REDOX FLOW BATTERY, BY MATERIAL, 2017–2020 (USD MILLION)

TABLE 7 FLOW BATTERY MARKET FOR REDOX FLOW BATTERY, BY MATERIAL, 2021–2026 (USD MILLION)

6.3 HYBRID FLOW BATTERY

6.3.1 HYBRID FLOW BATTERY SEGMENT TO REGISTER HIGHER CAGR DURING FORECAST PERIOD

TABLE 8 FLOW BATTERY MARKET FOR HYBRID FLOW BATTERY, BY MATERIAL, 2017–2020 (USD MILLION)

TABLE 9 FLOW BATTERY MARKET FOR HYBRID FLOW BATTERY, BY MATERIAL, 2021–2026 (USD MILLION)

7 FLOW BATTERY MARKET, BY MATERIAL

7.1 INTRODUCTION

FIGURE 30 FLOW BATTERY MARKET, BY MATERIAL

FIGURE 31 ZINC-BROMINE SEGMENT HELD LARGEST SIZE OF FLOW BATTERY MARKET IN 2021

TABLE 10 FLOW BATTERY MARKET, BY MATERIAL, 2017–2020 (USD MILLION)

TABLE 11 FLOW BATTERY MARKET, BY MATERIAL, 2021–2026 (USD MILLION)

7.2 VANADIUM

7.2.1 GROWING ADOPTION OF VANADIUM IN MANUFACTURING OF REDOX FLOW BATTERIES TO BOOST MARKET GROWTH

7.3 ZINC–BROMINE

7.3.1 ZINC–BROMINE SEGMENT TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

7.4 OTHERS

8 FLOW BATTERY MARKET, BY OWNERSHIP

8.1 INTRODUCTION

FIGURE 32 FLOW BATTERY MARKET, BY OWNERSHIP

8.2 CUSTOMER OWNED

8.2.1 GROWING USE OF CUSTOMER-OWNED FLOW BATTERIES IN VARIOUS APPLICATIONS TO DRIVE MARKET GROWTH

8.3 THIRD-PARTY OWNED

8.3.1 INCREASING PARTNERSHIPS BETWEEN VENDORS AND CUSTOMERS

FOR STORAGE SERVICES TO FUEL DEMAND FOR THIRD-PARTY-OWNED FLOW BATTERIES

8.4 UTILITY OWNED

8.4.1 INCREASING REQUIREMENT FOR ELECTRICITY TO DRIVE DEMAND FOR UTILITY-OWNED FLOW BATTERIES DURING FORECAST PERIOD

9 FLOW BATTERY MARKET, BY STORAGE

9.1 INTRODUCTION

FIGURE 33 FLOW BATTERY MARKET, BY STORAGE

FIGURE 34 LARGE-SCALE FLOW BATTERY SEGMENT TO DOMINATE MARKET DURING FORECAST PERIOD

TABLE 12 FLOW BATTERY MARKET, BY STORAGE, 2017–2020 (USD MILLION)

TABLE 13 FLOW BATTERY MARKET, BY STORAGE, 2021–2026 (USD MILLION)

9.2 COMPACT

9.2.1 GROWING DEMAND FOR COMPACT FLOW BATTERIES IN RESIDENTIAL APPLICATIONS

TABLE 14 FLOW BATTERY MARKET FOR COMPACT STORAGE, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 15 FLOW BATTERY MARKET FOR COMPACT STORAGE, BY APPLICATION, 2021–2026 (USD MILLION)

9.3 LARGE-SCALE

9.3.1 INCREASING DEMAND FOR LARGE-SCALE ENERGY STORAGE SYSTEMS TO BOOST GROWTH OF FLOW BATTERY MARKET

TABLE 16 FLOW BATTERY MARKET FOR LARGE-SCALE STORAGE, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 17 FLOW BATTERY MARKET FOR LARGE-SCALE STORAGE, BY APPLICATION, 2021–2026 (USD MILLION)

10 FLOW BATTERY MARKET, BY APPLICATION

10.1 INTRODUCTION

FIGURE 35 FLOW BATTERY MARKET, BY APPLICATION

FIGURE 36 UTILITIES SEGMENT HELD LARGEST SHARE OF FLOW BATTERY MARKET IN 2021

TABLE 18 FLOW BATTERY MARKET, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 19 FLOW BATTERY MARKET, BY APPLICATION, 2021–2026 (USD MILLION)

10.2 UTILITIES

10.2.1 GROWING ADOPTION OF FLOW BATTERIES IN UTILITIES TO BOOST

MARKET GROWTH

TABLE 20 FLOW BATTERY MARKET, BY UTILITIES, 2017–2020 (USD MILLION)

TABLE 21 FLOW BATTERY MARKET, BY UTILITIES, 2021–2026 (USD MILLION)

FIGURE 37 LARGE-SCALE FLOW BATTERY SEGMENT, BY STORAGE, TO DOMINATE FLOW BATTERY MARKET FOR UTILITIES APPLICATION DURING FORECAST PERIOD

TABLE 22 FLOW BATTERY MARKET FOR UTILITIES APPLICATION, BY STORAGE, 2017–2020 (USD MILLION)

TABLE 23 FLOW BATTERY MARKET FOR UTILITIES APPLICATION, BY STORAGE, 2021–2026 (USD MILLION)

TABLE 24 FLOW BATTERY MARKET FOR UTILITIES APPLICATION, BY REGION, 2017–2020 (USD MILLION)

TABLE 25 FLOW BATTERY MARKET FOR UTILITIES APPLICATION, BY REGION, 2021–2026 (USD MILLION)

10.3 COMMERCIAL & INDUSTRIAL

10.3.1 COMMERCIAL & INDUSTRIAL SEGMENT TO HOLD SIGNIFICANT MARKET SHARE DURING FORECAST PERIOD

FIGURE 38 NORTH AMERICA TO DOMINATE FLOW BATTERY MARKET FOR COMMERCIAL & INDUSTRIAL APPLICATION DURING FORECAST PERIOD

TABLE 26 FLOW BATTERY MARKET FOR COMMERCIAL & INDUSTRIAL APPLICATION, BY STORAGE, 2017–2020 (USD MILLION)

TABLE 27 FLOW BATTERY MARKET FOR COMMERCIAL & INDUSTRIAL APPLICATION, BY STORAGE, 2021–2026 (USD MILLION)

TABLE 28 FLOW BATTERY MARKET FOR COMMERCIAL & INDUSTRIAL APPLICATION, BY REGION, 2017–2020 (USD MILLION)

TABLE 29 FLOW BATTERY MARKET FOR COMMERCIAL & INDUSTRIAL APPLICATION, BY REGION, 2021–2026 (USD MILLION)

10.4 EV CHARGING STATION

10.4.1 NEED FOR FAST RECHARGING OF VEHICLES HAS INCREASED ADOPTION OF FLOW BATTERIES IN CHARGING STATIONS

TABLE 30 FLOW BATTERY MARKET FOR EV CHARGING STATION APPLICATION, BY STORAGE, 2021–2026 (USD MILLION)

TABLE 31 FLOW BATTERY MARKET FOR EV CHARGING STATION APPLICATION, BY REGION, 2021–2026 (USD MILLION)

10.5 OTHERS

FIGURE 39 LARGE-SCALE FLOW BATTERY TO DOMINATE FLOW BATTERY MARKET FOR OTHER APPLICATIONS DURING FORECAST PERIOD

TABLE 32 FLOW BATTERY MARKET FOR OTHER APPLICATIONS, BY STORAGE, 2017–2020 (USD MILLION)

TABLE 33 FLOW BATTERY MARKET FOR OTHER APPLICATIONS, BY STORAGE, 2021–2026 (USD MILLION)

TABLE 34 FLOW BATTERY MARKET FOR OTHER APPLICATIONS, BY REGION, 2017–2020 (USD THOUSAND)

TABLE 35 FLOW BATTERY MARKET FOR OTHER APPLICATIONS, BY REGION, 2021–2026 (USD THOUSAND)

11 FLOW BATTERY MARKET, BY GEOGRAPHY

11.1 INTRODUCTION

FIGURE 40 FLOW BATTERY MARKET, BY REGION

FIGURE 41 GEOGRAPHIC SNAPSHOT: FLOW BATTERY MARKET

TABLE 36 FLOW BATTERY MARKET, BY REGION, 2017–2020 (USD MILLION)

TABLE 37 FLOW BATTERY MARKET, BY REGION, 2021–2026 (USD MILLION)

11.2 NORTH AMERICA

11.2.1 IMPACT OF COVID-19 NORTH AMERICAN MARKET

FIGURE 42 SNAPSHOT: FLOW BATTERY MARKET IN NORTH AMERICA

FIGURE 43 MEXICO TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 38 FLOW BATTERY MARKET IN NORTH AMERICA, BY COUNTRY, 2017–2020 (USD MILLION)

TABLE 39 FLOW BATTERY MARKET IN NORTH AMERICA, BY COUNTRY, 2021–2026 (USD MILLION)

TABLE 40 FLOW BATTERY MARKET IN NORTH AMERICA, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 41 FLOW BATTERY MARKET IN NORTH AMERICA, BY APPLICATION, 2021–2026 (USD MILLION)

TABLE 42 FLOW BATTERY MARKET IN US, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 43 FLOW BATTERY MARKET IN US, BY APPLICATION, 2021–2026 (USD MILLION)

11.2.2 US

11.2.2.1 Increasing government-led investments in advancements of flow battery systems to fuel market growth

11.2.3 CANADA

11.2.3.1 Growing adoption of flow batteries in various applications to create growth opportunities for Canadian market

FIGURE 44 UTILITY APPLICATION SEGMENT DOMINATED FLOW BATTERY MARKET IN CANADA IN 2021

TABLE 44 FLOW BATTERY MARKET IN CANADA, BY APPLICATION, 2017–2020

(USD MILLION)

TABLE 45 FLOW BATTERY MARKET IN CANADA, BY APPLICATION, 2021–2026

(USD MILLION)

11.2.4 MEXICO

11.2.4.1 Mexico to record highest growth during forecast period

TABLE 46 FLOW BATTERY MARKET IN MEXICO, BY APPLICATION, 2017–2020

(USD THOUSAND)

TABLE 47 FLOW BATTERY MARKET IN MEXICO, BY APPLICATION, 2021–2026

(USD THOUSAND)

11.3 EUROPE

11.3.1 IMPACT OF COVID-19 ON EUROPEAN MARKET

FIGURE 45 SNAPSHOT: FLOW BATTERY MARKET IN EUROPE

FIGURE 46 FLOW BATTERY MARKET IN GERMANY TO REGISTER HIGHEST CAGR DURING FORECAST PERIOD

TABLE 48 FLOW BATTERY MARKET IN EUROPE, BY COUNTRY, 2017–2020 (USD MILLION)

TABLE 49 FLOW BATTERY MARKET IN EUROPE, BY COUNTRY, 2021–2026 (USD MILLION)

TABLE 50 FLOW BATTERY MARKET IN EUROPE, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 51 FLOW BATTERY MARKET IN EUROPE, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.3.2 GERMANY

11.3.2.1 Germany to hold largest share of European flow battery market

TABLE 52 FLOW BATTERY MARKET IN GERMANY, BY APPLICATION, 2017–2020 (USD MILLION)

TABLE 53 FLOW BATTERY MARKET IN GERMANY, BY APPLICATION, 2021–2026 (USD MILLION)

11.3.3 UK

11.3.3.1 Increasing focus on new approaches in electrification to drive market growth

FIGURE 47 UTILITIES APPLICATION SEGMENT TO DOMINATE FLOW BATTERY MARKET IN UK CAGR DURING FORECAST PERIOD

TABLE 54 FLOW BATTERY MARKET IN UK, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 55 FLOW BATTERY MARKET IN UK, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.3.4 FRANCE

11.3.4.1 Increasing penetration of renewable energy to increase deployment of flow batteries in France

TABLE 56 FLOW BATTERY MARKET IN FRANCE, BY APPLICATION, 2017–2020
(USD THOUSAND)

TABLE 57 FLOW BATTERY MARKET IN FRANCE, BY APPLICATION, 2021–2026
(USD THOUSAND)

11.3.5 REST OF EUROPE

TABLE 58 FLOW BATTERY MARKET IN ROE, BY APPLICATION, 2017–2020 (USD
THOUSAND)

TABLE 59 FLOW BATTERY MARKET IN ROE, BY APPLICATION, 2021–2026 (USD
THOUSAND)

11.4 APAC

11.4.1 IMPACT OF COVID-19 ON APAC MARKET

FIGURE 48 SNAPSHOT: FLOW BATTERY MARKET IN APAC

FIGURE 49 FLOW BATTERY MARKET IN INDIA TO REGISTER HIGHEST CAGR
DURING FORECAST PERIOD

TABLE 60 FLOW BATTERY MARKET IN APAC, BY COUNTRY, 2017–2020 (USD
MILLION)

TABLE 61 FLOW BATTERY MARKET IN APAC, BY COUNTRY, 2021–2026 (USD
MILLION)

TABLE 62 FLOW BATTERY MARKET IN APAC, BY APPLICATION, 2017–2020 (USD
MILLION)

TABLE 63 FLOW BATTERY MARKET IN APAC, BY APPLICATION, 2021–2026 (USD
MILLION)

11.4.2 CHINA

11.4.2.1 Increasing focus on large-scale energy storage capacity to boost market
growth

TABLE 64 FLOW BATTERY MARKET IN CHINA, BY APPLICATION, 2017–2020 (USD
MILLION)

TABLE 65 FLOW BATTERY MARKET IN CHINA, BY APPLICATION, 2021–2026 (USD
MILLION)

11.4.3 JAPAN

11.4.3.1 Development of microgrids has increased deployment of flow batteries in
Japan

TABLE 66 FLOW BATTERY MARKET IN JAPAN, BY APPLICATION, 2017–2020 (USD
MILLION)

TABLE 67 FLOW BATTERY MARKET IN JAPAN, BY APPLICATION, 2021–2026 (USD
MILLION)

11.4.4 INDIA

11.4.4.1 Increasing government initiatives for modernization of power sector to fuel
growth of market in India

TABLE 68 FLOW BATTERY MARKET IN INDIA, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.4.5 AUSTRALIA

11.4.5.1 Australia held largest share of flow battery market in APAC in 2020

TABLE 69 FLOW BATTERY MARKET IN AUSTRALIA, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 70 FLOW BATTERY MARKET IN AUSTRALIA, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.4.6 REST OF APAC

TABLE 71 FLOW BATTERY MARKET IN ROAPAC, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 72 FLOW BATTERY MARKET IN ROAPAC, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.5 ROW

11.5.1 IMPACT OF COVID-19 ON ROW MARKET

FIGURE 50 AFRICA TO DOMINATE FLOW BATTERY MARKET IN ROW DURING FORECAST PERIOD

TABLE 73 FLOW BATTERY MARKET IN ROW, BY REGION, 2017–2020 (USD THOUSAND)

TABLE 74 FLOW BATTERY MARKET IN ROW, BY REGION, 2021–2026 (USD THOUSAND)

11.5.2 MIDDLE EAST

11.5.2.1 Development and deployment of vanadium redox flow batteries to boost market growth

TABLE 75 FLOW BATTERY MARKET IN MIDDLE EAST, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 76 FLOW BATTERY MARKET IN MIDDLE EAST, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.5.3 SOUTH AMERICA

11.5.3.1 Increasing deployment of energy storage system in various countries of South America to fuel market growth

TABLE 77 FLOW BATTERY MARKET IN SOUTH AMERICA, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 78 FLOW BATTERY MARKET IN SOUTH AMERICA, BY APPLICATION, 2021–2026 (USD THOUSAND)

11.5.4 AFRICA

11.5.4.1 Africa to hold largest share of flow battery market in RoW

TABLE 79 FLOW BATTERY MARKET IN AFRICA, BY APPLICATION, 2017–2020 (USD THOUSAND)

TABLE 80 FLOW BATTERY MARKET IN AFRICA, BY APPLICATION, 2021–2026
(USD THOUSAND)

12 COMPETITIVE LANDSCAPE

12.1 INTRODUCTION

FIGURE 51 KEY DEVELOPMENTS IN FLOW BATTERY MARKET (2019–2021)

12.1.1 REVENUE ANALYSIS OF TOP 3 COMPANIES

FIGURE 52 FLOW BATTERY MARKET: MARKET SHARE ANALYSIS (2020)

12.2 MARKET SHARE ANALYSIS OF TOP 5 PLAYERS, 2020

TABLE 81 FLOW BATTERY MARKET: DEGREE OF COMPETITION

12.3 COMPETITIVE EVALUATION QUADRANT, 2020

12.3.1 STAR

12.3.2 EMERGING LEADER

12.3.3 PERVASIVE

12.3.4 PARTICIPANT

FIGURE 53 FLOW BATTERY MARKET (GLOBAL) COMPANY EVALUATION
QUADRANT, 2020

12.4 SMALL- AND MEDIUM-SIZED ENTERPRISES (SME) EVALUATION
QUADRANT, 2020

12.4.1 PROGRESSIVE COMPANY

12.4.2 RESPONSIVE COMPANY

12.4.3 DYNAMIC COMPANY

12.4.4 STARTING BLOCK

FIGURE 54 FLOW BATTERY MARKET (GLOBAL) SME EVALUATION QUADRANT,
2020

12.4.5 FLOW BATTERY MARKET: COMPANY FOOTPRINT

TABLE 82 COMPANY PRODUCT FOOTPRINT

TABLE 83 COMPANY APPLICATION FOOTPRINT

TABLE 84 COMPANY REGION FOOTPRINT

TABLE 85 COMPANY FOOTPRINT

12.5 COMPETITIVE SITUATIONS AND TRENDS

12.5.1 PRODUCT LAUNCHES AND DEVELOPMENTS

TABLE 86 FLOW BATTERY MARKET: PRODUCT LAUNCHES AND
DEVELOPMENTS, FEBRUARY 2021–MARCH 2021

12.5.2 DEALS

TABLE 87 FLOW BATTERY MARKET: DEALS, JANUARY 2019–MARCH 2021

13 COMPANY PROFILES

(Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats))*

13.1 KEY PLAYERS

13.1.1 INVINITY ENERGY SYSTEMS

TABLE 88 INVINITY ENERGY SYSTEMS: BUSINESS OVERVIEW

FIGURE 55 INVINITY ENERGY SYSTEMS: COMPANY SNAPSHOT

13.1.2 SUMITOMO ELECTRIC INDUSTRIES, LTD.

TABLE 89 SUMITOMO ELECTRIC INDUSTRIES, LTD.: BUSINESS OVERVIEW

FIGURE 56 SUMITOMO ELECTRIC INDUSTRIES, LTD.: COMPANY SNAPSHOT

13.1.3 REDFLOW LIMITED

TABLE 90 REDFLOW LIMITED: BUSINESS OVERVIEW

FIGURE 57 REDFLOW LIMITED: COMPANY SNAPSHOT

13.1.4 ESS, INC.

TABLE 91 ESS, INC.: BUSINESS OVERVIEW

13.1.5 UNIENERGY TECHNOLOGIES

TABLE 92 UNIENERGY TECHNOLOGIES: BUSINESS OVERVIEW

13.1.6 VIZN ENERGY SYSTEMS

TABLE 93 VIZN ENERGY SYSTEMS: BUSINESS OVERVIEW

13.1.7 PRIMUS POWER

TABLE 94 PRIMUS POWER: BUSINESS OVERVIEW

13.1.8 LARGO CLEAN ENERGY

TABLE 95 LARGO CLEAN ENERGY: BUSINESS OVERVIEW

FIGURE 58 LARGO CLEAN ENERGY: COMPANY SNAPSHOT

13.1.9 LOCKHEED MARTIN CORPORATION

TABLE 96 LOCKHEED MARTIN CORPORATION: BUSINESS OVERVIEW

FIGURE 59 LOCKHEED MARTIN CORPORATION: COMPANY SNAPSHOT

13.1.10 SCHMID GROUP

TABLE 97 SCHMID GROUP: BUSINESS OVERVIEW

13.1.11 ELESTOR

TABLE 98 ELESTOR: BUSINESS OVERVIEW

13.1.12 VRB ENERGY

TABLE 99 VRB ENERGY: BUSINESS OVERVIEW

13.1.13 JENABATTERIES GMBH

TABLE 100 JENABATTERIES GMBH: BUSINESS OVERVIEW

13.1.14 CELLCUBE ENERGY STORAGE SYSTEMS INC.

TABLE 101 CELLCUBE ENERGY STORAGE SYSTEMS INC.: BUSINESS OVERVIEW

13.2 OTHER PLAYERS

- 13.2.1 H2, INC.
- 13.2.2 KEMIWATT
- 13.2.3 VOLTERION
- 13.2.4 VOLTSTORAGE GMBH
- 13.2.5 NANOFLOWCELL
- 13.2.6 DALIAN RONGKE POWER CO., LTD.
- 13.2.7 VANADIS POWER GMBH
- 13.2.8 LE SYSTEM CO., LTD.
- 13.2.9 STOREN TECHNOLOGIES INC.
- 13.2.10 V-FLOW TECH
- 13.2.11 RFC POWER

*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies

14 ADJACENT & RELATED MARKETS

14.1 INTRODUCTION

14.2 LIMITATIONS

14.3 LITHIUM-ION BATTERY MARKET, BY INDUSTRY

14.3.1 INTRODUCTION

TABLE 102 LITHIUM-ION BATTERY MARKET, BY INDUSTRY, 2017–2025 (USD MILLION)

14.3.2 CONSUMER ELECTRONICS

TABLE 103 LITHIUM-ION BATTERY MARKET FOR CONSUMER ELECTRONICS, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 104 LITHIUM-ION BATTERY MARKET FOR CONSUMER ELECTRONICS, BY TYPE, 2017–2025 (USD MILLION)

TABLE 105 LITHIUM-ION BATTERY MARKET FOR CONSUMER ELECTRONICS, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 106 LITHIUM-ION BATTERY MARKET FOR CONSUMER ELECTRONICS, BY REGION, 2017–2025 (USD MILLION)

14.3.2.1 Smartphones

14.3.2.1.1 Lightweight and high-density lithium-ion batteries are the power source for complex smartphone devices, due to their light weight and high energy density

14.3.2.2 UPS

14.3.2.2.1 Lithium-ion batteries have longer runtime than their counterparts and faster recharge time that make lithium-ion-based UPS highly efficient

14.3.2.3 Laptops

14.3.2.3.1 Li-ion batteries for laptops are low maintenance, do not require scheduled cycling, and display no memory effect

14.3.2.4 Others (Games, Gardening Tools, and Drilling)

14.3.2.4.1 Lithium-ion batteries enable the use of other equipment in remote areas and during power failure

14.3.3 AUTOMOTIVE

TABLE 107 LITHIUM-ION BATTERY MARKET FOR AUTOMOTIVE, 2017–2025 (THOUSAND UNITS)

TABLE 108 LITHIUM-ION BATTERY CONFIGURATIONS ACROSS AUTO APPLICATIONS

TABLE 109 LITHIUM-ION BATTERY MARKET FOR AUTOMOTIVE, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 110 LITHIUM-ION BATTERY MARKET FOR AUTOMOTIVE, BY TYPE, 2017–2025 (USD MILLION)

TABLE 111 LITHIUM-ION BATTERY MARKET FOR AUTOMOTIVE, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 112 LITHIUM-ION BATTERY MARKET FOR AUTOMOTIVE, BY REGION, 2017–2025 (USD MILLION)

14.3.3.1 Battery electric vehicles

14.3.3.1.1 Lithium-ion batteries provide high power density and high thermal stability to battery electric vehicle

14.3.3.2 Plug-in hybrid electric vehicles

14.3.3.2.1 Increasing demand for Li-ion batteries for hybrid electric vehicles that decrease carbon emissions and minimize the global warming temperature

14.3.4 AEROSPACE & DEFENSE

TABLE 113 LITHIUM-ION BATTERY MARKET FOR AEROSPACE & DEFENSE, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 114 LITHIUM-ION BATTERY MARKET FOR AEROSPACE & DEFENSE, BY TYPE, 2017–2025 (USD MILLION)

TABLE 115 LITHIUM-ION BATTERY MARKET FOR AEROSPACE & DEFENSE, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 116 LITHIUM-ION BATTERY MARKET FOR AEROSPACE & DEFENSE, BY REGION, 2017–2025 (USD MILLION)

14.3.4.1 Commercial aircraft

14.3.4.1.1 Adoption by leading players such as Boeing and Airbus creates positive environment for lithium-ion batteries

14.3.4.2 Defense

14.3.4.2.1 Lithium-ion batteries are an optimum choice for various military applications and all-terrain vehicles.

14.3.5 MARINE

TABLE 117 LITHIUM-ION BATTERY MARKET FOR MARINE, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 118 LITHIUM-ION BATTERY MARKET FOR MARINE, BY TYPE, 2017–2025 (USD MILLION)

TABLE 119 LITHIUM-ION BATTERY MARKET FOR MARINE, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 120 LITHIUM-ION BATTERY MARKET FOR MARINE, BY REGION, 2017–2025 (USD MILLION)

14.3.5.1 Commercial

14.3.5.1.1 Lithium-ion batteries for commercial ships deliver power supply for longer durations and are environment-friendly

14.3.5.2 Tourism

14.3.5.2.1 Lithium-ion batteries are becoming popular for electric boats as they have high energy density without any risk of fire or explosion

14.3.5.3 Defense

14.3.5.3.1 Lithium-ion battery technology can provide greater energy with maximum charging rate improving the performance of submarines

14.3.6 MEDICAL

14.3.6.1 Market for low battery type to hold the largest share during forecast period
TABLE 121 LITHIUM-ION BATTERY MARKET FOR MEDICAL, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 122 LITHIUM-ION BATTERY MARKET FOR MEDICAL, BY TYPE, 2017–2025 (USD MILLION)

TABLE 123 LITHIUM-ION BATTERY MARKET FOR MEDICAL, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 124 LITHIUM-ION BATTERY MARKET FOR MEDICAL, BY REGION, 2017–2025 (USD MILLION)

14.3.7 INDUSTRIAL

TABLE 125 LITHIUM-ION BATTERY MARKET FOR INDUSTRIAL, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 126 LITHIUM-ION BATTERY MARKET FOR INDUSTRIAL, BY TYPE, 2017–2025 (USD MILLION)

TABLE 127 LITHIUM-ION BATTERY MARKET FOR INDUSTRIAL, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 128 LITHIUM-ION BATTERY MARKET FOR INDUSTRIAL, BY REGION, 2017–2025 (USD MILLION)

14.3.7.1 Mining equipment

14.3.7.1.1 Safety concerns will increase the demand for Li-ion battery-based mining

equipment

14.3.7.2 Construction equipment

14.3.7.2.1 Advancements in lithium-ion battery technology are improving the performance and efficiency of construction equipment

14.3.7.3 Forklifts, Automated Guided Vehicles (AGV), and Automated Mobile Robots (AMR)

14.3.7.3.1 Lithium-ion batteries provide inherent safety performance, better toxicity profile, and are more energy-efficient with significantly longer cycle life than lead-acid batteries

14.3.8 POWER

14.3.8.1 above 36v lithium-ion batteries segment holds the largest share during forecast period

TABLE 129 LITHIUM-ION BATTERY MARKET FOR POWER, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 130 LITHIUM-ION BATTERY MARKET FOR POWER, BY TYPE, 2017–2025 (USD MILLION)

TABLE 131 LITHIUM-ION BATTERY MARKET FOR POWER, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 132 LITHIUM-ION BATTERY MARKET FOR POWER, BY REGION, 2017–2025 (USD MILLION)

14.3.9 TELECOMMUNICATION

14.3.9.1 Lithium-ion batteries provide outstanding cyclic life, excellent charge acceptance, and remote monitoring

TABLE 133 LITHIUM-ION BATTERY MARKET FOR TELECOM, BY VOLTAGE, 2017–2025 (USD MILLION)

TABLE 134 LITHIUM-ION BATTERY MARKET FOR TELECOM, BY TYPE, 2017–2025 (USD MILLION)

TABLE 135 LITHIUM-ION BATTERY MARKET FOR TELECOM, BY POWER CAPACITY, 2017–2025 (USD MILLION)

TABLE 136 LITHIUM-ION BATTERY MARKET FOR TELECOM, BY REGION, 2017–2025 (USD MILLION)

14.4 LITHIUM-ION BATTERY MARKET, BY GEOGRAPHY

14.4.1 INTRODUCTION

TABLE 137 LITHIUM-ION BATTERY MARKET, BY REGION, 2017–2025 (USD MILLION)

14.4.2 NORTH AMERICA

TABLE 138 LITHIUM-ION BATTERY MARKET IN NORTH AMERICA, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 139 LITHIUM-ION BATTERY IN NORTH AMERICA, BY TYPE, 2017–2025

(USD MILLION)

TABLE 140 LITHIUM-ION BATTERY MARKET IN NORTH AMERICA, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.2.1 US

14.4.2.1.1 Market driven by the automotive & transportation industry and renewable energy sector

TABLE 141 LITHIUM-ION BATTERY MARKET IN THE US, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.2.2 CANADA

14.4.2.2.1 Market is expected to grow at the highest CAGR during forecast period

TABLE 142 LITHIUM-ION BATTERY MARKET IN CANADA, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.2.3 Mexico

14.4.2.3.1 Availability of low-cost labor, electricity, and necessary infrastructure favorable for setting up battery manufacturing units

TABLE 143 LITHIUM-ION BATTERY MARKET IN MEXICO, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.3 EUROPE

TABLE 144 LITHIUM-ION BATTERY MARKET IN EUROPE, BY COUNTRY, 2017–2025 (USD MILLION)

TABLE 145 LITHIUM-ION BATTERY IN EUROPE, BY TYPE, 2017–2025 (USD MILLION)

TABLE 146 LITHIUM-ION BATTERY MARKET IN EUROPE, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.3.1 Germany

14.4.3.1.1 Presence of key battery and electric vehicle manufacturers and stringent government guidelines boosting the growth of the market

TABLE 147 LITHIUM-ION BATTERY MARKET IN GERMANY, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.3.2 UK

14.4.3.2.1 Government initiatives for the growth of EVs will support the growth of lithium-ion battery market

TABLE 148 LITHIUM-ION BATTERY MARKET IN UK, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.3.3 The Netherlands

14.4.3.3.1 Second-largest share of lithium-ion battery market in Europe

TABLE 149 LITHIUM-ION BATTERY MARKET IN THE NETHERLANDS, BY INDUSTRY, 2017–2025 (USD MILLION)

14.4.3.4 Norway

14.4.3.4.1 Increasing sales of EVs create future growth opportunities for market
TABLE 150 LITHIUM-ION BATTERY MARKET IN NORWAY, BY INDUSTRY,
2017–2025 (USD MILLION)

14.4.3.5 Rest of Europe

14.4.3.5.1 Major investment in the region contributing to growth of the market
TABLE 151 LITHIUM-ION BATTERY MARKET IN REST OF EUROPE, BY INDUSTRY,
2017–2025 (USD MILLION)

14.4.4 APAC

TABLE 152 LITHIUM-ION BATTERY MARKET IN APAC, BY COUNTRY, 2017–2025
(USD MILLION)

TABLE 153 LITHIUM-ION BATTERY MARKET IN APAC, BY TYPE, 2017–2025 (USD
MILLION)

TABLE 154 LITHIUM-ION BATTERY MARKET IN APAC, BY INDUSTRY, 2017–2025
(USD MILLION)

14.4.4.1 China

14.4.4.1.1 Largest share of the market in APAC

TABLE 155 LITHIUM-ION BATTERY MARKET IN CHINA, BY INDUSTRY, 2017–2025
(USD MILLION)

14.4.4.2 Japan

14.4.4.2.1 Expansion of R&D resources by battery giants supporting the growth of
the market

TABLE 156 LITHIUM-ION BATTERY MARKET IN JAPAN, BY INDUSTRY, 2017–2025
(USD MILLION)

14.4.4.3 India

14.4.4.3.1 Growing adoption of electrified transport expected to drive the market in
the automotive industry

TABLE 157 LITHIUM-ION BATTERY MARKET IN INDIA, BY INDUSTRY, 2017–2025
(USD MILLION)

14.4.4.4 Rest of APAC

14.4.4.4.1 Government support for EVs and growing use of consumer electronics
creates demand for lithium-ion batteries

TABLE 158 LITHIUM-ION BATTERY MARKET IN REST OF APAC, BY INDUSTRY,
2017–2025 (USD MILLION)

14.4.5 REST OF THE WORLD (ROW)

TABLE 159 LITHIUM-ION BATTERY MARKET IN ROW, BY REGION (USD MILLION)

TABLE 160 LITHIUM-ION BATTERY IN ROW, BY TYPE, 2017–2025 (USD MILLION)

TABLE 161 LITHIUM-ION BATTERY MARKET IN ROW, BY INDUSTRY, 2017–2025
(USD MILLION)

14.4.5.1 Middle East & Africa

14.4.5.1.1 Growing investments in advanced technologies for generating green and renewable energy sources have improved the market in the Middle East

14.4.5.2 South America

14.4.5.2.1 Investment in the mining sector and huge lithium reserves contributing to growth of the market

15 APPENDIX

15.1 INSIGHTS OF INDUSTRY EXPERTS

15.2 DISCUSSION GUIDE

15.3 KNOWLEDGE STORE: MARKETSandMARKETS' SUBSCRIPTION PORTAL

15.4 AVAILABLE CUSTOMIZATIONS

15.5 RELATED REPORTS

15.6 AUTHOR DETAILS

I would like to order

Product name: Flow Battery Market with COVID-19 Impact, by Type (Redox Flow Battery, Hybrid Flow Battery), Material, Storage (Compact and Large scale), Application (Utilities, Commercial & Industrial, EV Charging Station), and Region - Global Forecast to 2026

Product link: <https://marketpublishers.com/r/FE69CC6C7CCEN.html>

Price: US\$ 4,950.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/FE69CC6C7CCEN.html>