

# Global Vanadium Redox Battery (VRB) Market by Manufacturers, Countries, Type and Application, Forecast to 2023

<https://marketpublishers.com/r/GYJ7NZ4GPHEN.html>

Date: March 2018

Pages: 107

Price: US\$ 3,480.00 (Single User License)

ID: GYJ7NZ4GPHEN

## Abstracts

The vanadium redox battery (VRB) (or Vanadium flow battery) is a type of rechargeable flow battery that employs vanadium ions in different oxidation states to store chemical potential energy. The vanadium redox battery exploits the ability of vanadium to exist in solution in four different oxidation states, and uses this property to make a battery that has just one electro active element instead of two. For several reasons, including their relatively bulky size, most vanadium batteries are currently used for grid energy storage, such as being attached to power plants or electrical grids.

Scope of the Report:

This report focuses on the Vanadium Redox Battery (VRB) in global market, especially in North America, Europe, Asia-Pacific, South America, Middle East and Africa. This report categorizes the market based on manufacturers, regions, types and applications.

Market Segment by Manufacturers, this report covers

Sumitomo Electric Industries

Rongke Power

UniEnergy Technologies

redT Energy

Vionx Energy

Big Power

Australian Vanadium

Golden Energy Fuel Cell

H2, Inc.

Market Segment by Regions, regional analysis covers

North America (United States, Canada and Mexico)

Europe (Germany, France, UK, Russia and Italy)

Asia-Pacific (China, Japan, Korea, India and Southeast Asia)

South America (Brazil, Argentina, Colombia)

Middle East and Africa (Saudi Arabia, UAE, Egypt, Nigeria and South Africa)

Market Segment by Type, covers

Carbon Paper Electrode

Graphite Felt Electrode

Market Segment by Applications, can be divided into

Large-Scale Energy Storage

Uninterruptible Power Supply

Others

There are 15 Chapters to deeply display the global Vanadium Redox Battery (VRB) market.

Chapter 1, to describe Vanadium Redox Battery (VRB) Introduction, product scope, market overview, market opportunities, market risk, market driving force;

Chapter 2, to analyze the top manufacturers of Vanadium Redox Battery (VRB), with sales, revenue, and price of Vanadium Redox Battery (VRB), in 2016 and 2017;

Chapter 3, to display the competitive situation among the top manufacturers, with sales, revenue and market share in 2016 and 2017;

Chapter 4, to show the global market by regions, with sales, revenue and market share of Vanadium Redox Battery (VRB), for each region, from 2013 to 2018;

Chapter 5, 6, 7, 8 and 9, to analyze the key regions, with sales, revenue and market share by key countries in these regions;

Chapter 10 and 11, to show the market by type and application, with sales market share and growth rate by type, application, from 2013 to 2018;

Chapter 12, Vanadium Redox Battery (VRB) market forecast, by regions, type and application, with sales and revenue, from 2018 to 2023;

Chapter 13, 14 and 15, to describe Vanadium Redox Battery (VRB) sales channel, distributors, traders, dealers, Research Findings and Conclusion, appendix and data source

## Contents

### 1 MARKET OVERVIEW

- 1.1 Vanadium Redox Battery (VRB) Introduction
- 1.2 Market Analysis by Type
  - 1.2.1 Carbon Paper Electrode
  - 1.2.2 Graphite Felt Electrode
- 1.3 Market Analysis by Applications
  - 1.3.1 Large-Scale Energy Storage
  - 1.3.2 Uninterruptible Power Supply
  - 1.3.3 Others
- 1.4 Market Analysis by Regions
  - 1.4.1 North America (United States, Canada and Mexico)
    - 1.4.1.1 United States Market Status and Outlook (2013-2023)
    - 1.4.1.2 Canada Market Status and Outlook (2013-2023)
    - 1.4.1.3 Mexico Market Status and Outlook (2013-2023)
  - 1.4.2 Europe (Germany, France, UK, Russia and Italy)
    - 1.4.2.1 Germany Market Status and Outlook (2013-2023)
    - 1.4.2.2 France Market Status and Outlook (2013-2023)
    - 1.4.2.3 UK Market Status and Outlook (2013-2023)
    - 1.4.2.4 Russia Market Status and Outlook (2013-2023)
    - 1.4.2.5 Italy Market Status and Outlook (2013-2023)
  - 1.4.3 Asia-Pacific (China, Japan, Korea, India and Southeast Asia)
    - 1.4.3.1 China Market Status and Outlook (2013-2023)
    - 1.4.3.2 Japan Market Status and Outlook (2013-2023)
    - 1.4.3.3 Korea Market Status and Outlook (2013-2023)
    - 1.4.3.4 India Market Status and Outlook (2013-2023)
    - 1.4.3.5 Southeast Asia Market Status and Outlook (2013-2023)
  - 1.4.4 South America, Middle East and Africa
    - 1.4.4.1 Brazil Market Status and Outlook (2013-2023)
    - 1.4.4.2 Egypt Market Status and Outlook (2013-2023)
    - 1.4.4.3 Saudi Arabia Market Status and Outlook (2013-2023)
    - 1.4.4.4 South Africa Market Status and Outlook (2013-2023)
    - 1.4.4.5 Nigeria Market Status and Outlook (2013-2023)
- 1.5 Market Dynamics
  - 1.5.1 Market Opportunities
  - 1.5.2 Market Risk
  - 1.5.3 Market Driving Force

## 2 MANUFACTURERS PROFILES

### 2.1 Sumitomo Electric Industries

#### 2.1.1 Business Overview

#### 2.1.2 Vanadium Redox Battery (VRB) Type and Applications

##### 2.1.2.1 Type

##### 2.1.2.2 Type

#### 2.1.3 Sumitomo Electric Industries Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### 2.2 Rongke Power

#### 2.2.1 Business Overview

#### 2.2.2 Vanadium Redox Battery (VRB) Type and Applications

##### 2.2.2.1 Type

##### 2.2.2.2 Type

#### 2.2.3 Rongke Power Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### 2.3 UniEnergy Technologies

#### 2.3.1 Business Overview

#### 2.3.2 Vanadium Redox Battery (VRB) Type and Applications

##### 2.3.2.1 Type

##### 2.3.2.2 Type

#### 2.3.3 UniEnergy Technologies Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### 2.4 redT Energy

#### 2.4.1 Business Overview

#### 2.4.2 Vanadium Redox Battery (VRB) Type and Applications

##### 2.4.2.1 Type

##### 2.4.2.2 Type

#### 2.4.3 redT Energy Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### 2.5 Vionx Energy

#### 2.5.1 Business Overview

#### 2.5.2 Vanadium Redox Battery (VRB) Type and Applications

##### 2.5.2.1 Type

##### 2.5.2.2 Type

#### 2.5.3 Vionx Energy Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### 2.6 Big Power

- 2.6.1 Business Overview
- 2.6.2 Vanadium Redox Battery (VRB) Type and Applications
  - 2.6.2.1 Type
  - 2.6.2.2 Type
- 2.6.3 Big Power Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)
- 2.7 Australian Vanadium
  - 2.7.1 Business Overview
  - 2.7.2 Vanadium Redox Battery (VRB) Type and Applications
    - 2.7.2.1 Type
    - 2.7.2.2 Type
  - 2.7.3 Australian Vanadium Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)
- 2.8 Golden Energy Fuel Cell
  - 2.8.1 Business Overview
  - 2.8.2 Vanadium Redox Battery (VRB) Type and Applications
    - 2.8.2.1 Type
    - 2.8.2.2 Type
  - 2.8.3 Golden Energy Fuel Cell Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)
- 2.9 H2, Inc.
  - 2.9.1 Business Overview
  - 2.9.2 Vanadium Redox Battery (VRB) Type and Applications
    - 2.9.2.1 Type
    - 2.9.2.2 Type
  - 2.9.3 H2, Inc. Vanadium Redox Battery (VRB) Sales, Price, Revenue, Gross Margin and Market Share (2016-2017)

### **3 GLOBAL VANADIUM REDOX BATTERY (VRB) SALES, REVENUE, MARKET SHARE AND COMPETITION BY MANUFACTURER (2016-2017)**

- 3.1 Global Vanadium Redox Battery (VRB) Sales and Market Share by Manufacturer (2016-2017)
- 3.2 Global Vanadium Redox Battery (VRB) Revenue and Market Share by Manufacturer (2016-2017)
- 3.3 Market Concentration Rate
  - 3.3.1 Top 3 Vanadium Redox Battery (VRB) Manufacturer Market Share
  - 3.3.2 Top 6 Vanadium Redox Battery (VRB) Manufacturer Market Share
- 3.4 Market Competition Trend

## **4 GLOBAL VANADIUM REDOX BATTERY (VRB) MARKET ANALYSIS BY REGIONS**

### 4.1 Global Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Regions

4.1.1 Global Vanadium Redox Battery (VRB) Sales and Market Share by Regions (2013-2018)

4.1.2 Global Vanadium Redox Battery (VRB) Revenue and Market Share by Regions (2013-2018)

4.2 North America Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

4.3 Europe Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

4.4 Asia-Pacific Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

4.5 South America Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

4.6 Middle East and Africa Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **5 NORTH AMERICA VANADIUM REDOX BATTERY (VRB) BY COUNTRIES**

### 5.1 North America Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Countries

5.1.1 North America Vanadium Redox Battery (VRB) Sales and Market Share by Countries (2013-2018)

5.1.2 North America Vanadium Redox Battery (VRB) Revenue and Market Share by Countries (2013-2018)

5.2 United States Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

5.3 Canada Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

5.4 Mexico Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **6 EUROPE VANADIUM REDOX BATTERY (VRB) BY COUNTRIES**

### 6.1 Europe Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Countries

6.1.1 Europe Vanadium Redox Battery (VRB) Sales and Market Share by Countries (2013-2018)

6.1.2 Europe Vanadium Redox Battery (VRB) Revenue and Market Share by Countries (2013-2018)

6.2 Germany Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

6.3 UK Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

- 6.4 France Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 6.5 Russia Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 6.6 Italy Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **7 ASIA-PACIFIC VANADIUM REDOX BATTERY (VRB) BY COUNTRIES**

- 7.1 Asia-Pacific Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Countries
  - 7.1.1 Asia-Pacific Vanadium Redox Battery (VRB) Sales and Market Share by Countries (2013-2018)
  - 7.1.2 Asia-Pacific Vanadium Redox Battery (VRB) Revenue and Market Share by Countries (2013-2018)
- 7.2 China Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 7.3 Japan Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 7.4 Korea Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 7.5 India Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 7.6 Southeast Asia Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **8 SOUTH AMERICA VANADIUM REDOX BATTERY (VRB) BY COUNTRIES**

- 8.1 South America Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Countries
  - 8.1.1 South America Vanadium Redox Battery (VRB) Sales and Market Share by Countries (2013-2018)
  - 8.1.2 South America Vanadium Redox Battery (VRB) Revenue and Market Share by Countries (2013-2018)
- 8.2 Brazil Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 8.3 Argentina Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)
- 8.4 Colombia Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **9 MIDDLE EAST AND AFRICA VANADIUM REDOX BATTERY (VRB) BY COUNTRIES**

- 9.1 Middle East and Africa Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Countries
  - 9.1.1 Middle East and Africa Vanadium Redox Battery (VRB) Sales and Market Share by Countries (2013-2018)
  - 9.1.2 Middle East and Africa Vanadium Redox Battery (VRB) Revenue and Market



Share by Countries (2013-2018)

9.2 Saudi Arabia Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

9.3 UAE Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

9.4 Egypt Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

9.5 Nigeria Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

9.6 South Africa Vanadium Redox Battery (VRB) Sales and Growth Rate (2013-2018)

## **10 GLOBAL VANADIUM REDOX BATTERY (VRB) MARKET SEGMENT BY TYPE**

10.1 Global Vanadium Redox Battery (VRB) Sales, Revenue and Market Share by Type (2013-2018)

10.1.1 Global Vanadium Redox Battery (VRB) Sales and Market Share by Type (2013-2018)

10.1.2 Global Vanadium Redox Battery (VRB) Revenue and Market Share by Type (2013-2018)

10.2 Carbon Paper Electrode Sales Growth and Price

10.2.1 Global Carbon Paper Electrode Sales Growth (2013-2018)

10.2.2 Global Carbon Paper Electrode Price (2013-2018)

10.3 Graphite Felt Electrode Sales Growth and Price

10.3.1 Global Graphite Felt Electrode Sales Growth (2013-2018)

10.3.2 Global Graphite Felt Electrode Price (2013-2018)

## **11 GLOBAL VANADIUM REDOX BATTERY (VRB) MARKET SEGMENT BY APPLICATION**

11.1 Global Vanadium Redox Battery (VRB) Sales Market Share by Application (2013-2018)

11.2 Large-Scale Energy Storage Sales Growth (2013-2018)

11.3 Uninterruptible Power Supply Sales Growth (2013-2018)

11.4 Others Sales Growth (2013-2018)

## **12 VANADIUM REDOX BATTERY (VRB) MARKET FORECAST (2018-2023)**

12.1 Global Vanadium Redox Battery (VRB) Sales, Revenue and Growth Rate (2018-2023)

12.2 Vanadium Redox Battery (VRB) Market Forecast by Regions (2018-2023)

12.2.1 North America Vanadium Redox Battery (VRB) Market Forecast (2018-2023)

12.2.2 Europe Vanadium Redox Battery (VRB) Market Forecast (2018-2023)

12.2.3 Asia-Pacific Vanadium Redox Battery (VRB) Market Forecast (2018-2023)

- 12.2.4 South America Vanadium Redox Battery (VRB) Market Forecast (2018-2023)
- 12.2.5 Middle East and Africa Vanadium Redox Battery (VRB) Market Forecast (2018-2023)
- 12.3 Vanadium Redox Battery (VRB) Market Forecast by Type (2018-2023)
  - 12.3.1 Global Vanadium Redox Battery (VRB) Sales Forecast by Type (2018-2023)
  - 12.3.2 Global Vanadium Redox Battery (VRB) Market Share Forecast by Type (2018-2023)
- 12.4 Vanadium Redox Battery (VRB) Market Forecast by Application (2018-2023)
  - 12.4.1 Global Vanadium Redox Battery (VRB) Sales Forecast by Application (2018-2023)
  - 12.4.2 Global Vanadium Redox Battery (VRB) Market Share Forecast by Application (2018-2023)

## **13 SALES CHANNEL, DISTRIBUTORS, TRADERS AND DEALERS**

- 13.1 Sales Channel
  - 13.1.1 Direct Marketing
  - 13.1.2 Indirect Marketing
  - 13.1.3 Marketing Channel Future Trend
- 13.2 Distributors, Traders and Dealers

## **14 RESEARCH FINDINGS AND CONCLUSION**

## **15 APPENDIX**

- 15.1 Methodology
- 15.2 Data Source@LOT

## List Of Tables

### LIST OF TABLES AND FIGURES

Figure Vanadium Redox Battery (VRB) Picture

Table Product Specifications of Vanadium Redox Battery (VRB)

Figure Global Sales Market Share of Vanadium Redox Battery (VRB) by Types in 2017

Table Va

## I would like to order

Product name: Global Vanadium Redox Battery (VRB) Market by Manufacturers, Countries, Type and Application, Forecast to 2023

Product link: <https://marketpublishers.com/r/GYJ7NZ4GPHEN.html>

Price: US\$ 3,480.00 (Single User License / Electronic Delivery)

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

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/GYJ7NZ4GPHEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970

