

# **Hydrogen Storage Market by Storage Form (Physical, Material-Based), Storage Type (Cylinder, Merchant, On-Site, On-board), Application (Chemicals, Oil Refineries, Industrial, Automotive & Transportation, Metalworking), Region - Forecast to 2030**

<https://marketpublishers.com/r/H971C3EBFE5EN.html>

Date: June 2023

Pages: 241

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

ID: H971C3EBFE5EN

## **Abstracts**

The physical hydrogen storage market size is projected to grow from USD 1.5 billion in 2023 to USD 6.3 billion by 2030, at a CAGR of 21.5% during the forecast period. The use of hydrogen storage has increased globally due to the wide acceptability of hydrogen as an alternative energy carrier. This wide acceptance addresses environmental concerns, peak energy demand, and energy security related to the use of fossil fuels. The hydrogen storage market is competitive with many big and small players and is expected to grow at a significant rate during the forecast period.

“Physical form is the dominated segment in the hydrogen storage market in terms of both value and volume in 2022.”

The physical hydrogen storage market was estimated to be USD 1.3 billion in 2022 and is expected to reach USD 6.3 billion by 2030, at a CAGR of 21.8%. One of the primary market drivers is the increase in hydrogen demand from refineries for the desulfurization of fuels such as gasoline and diesel used in transportation applications. Further, hydrogen-powered fuel cells for cars and buses are expected to drive the market during the forecast period.

“On-board segment is expected to register the highest growth in the hydrogen storage market in terms of both value and volume during the forecast period.”

The on-board storage tank is a new concept and a type of storage, which finds

application in the transportation industry in cars, buses, and material handling equipment. The market of on-board physical hydrogen tanks is primarily driven by subsidies offered by the governments of Japan and South Korea for developing hydrogen-powered fuel cell vehicles.

“Chemicals application led the hydrogen storage market in 2022 and expected to hold its dominant position during the forecast period.”

Chemicals were the largest market in 2022 and are anticipated to grow significantly during the forecast period with a CAGR of 18.8% (in terms of value). Hydrogen storage applications in various chemical industries are ammonia, methanol, cyclohexane, hydrogen peroxide, etc. In 2021, approximately 10 million tons of hydrogen were used in the EU industry, mainly as a feedstock for producing ammonia and in the refining industry. Blue and green hydrogen are the key low-CO<sub>2</sub> alternatives that could replace the carbon-intensive grey hydrogen, representing 95% of the current hydrogen production.

The emerging hydrogen economy in the chemical industry is supported by policymaker initiatives at the European and country level, estimating a required investment of € 430 billion by 2030. Moreover, there has been an increase in the number of hydrogen projects being initiated or announced in the chemical industry. Countries outside Europe are formalizing hydrogen strategies and projects. The demand for hydrogen in China is estimated to hit 60 million tons annually by 2050.

“North America is the second-highest dominating region in hydrogen storage market in terms of both value and volume.”

The growth of the market in the region can be attributed to the rise in fuel cell applications, strict regulations regarding emission control, and the inclination to use cleaner fuels. Policies are also being framed to research and encourage the use of clean fuels such as hydrogen for various energy needs. For example, in March 2023, the Biden-Harris Administration, through the US Department of Energy (DOE), announced the availability of USD 750 million for research, development, and demonstration efforts to dramatically reduce the cost of clean hydrogen. The main goal of this initiative is to achieve a 100% clean electrical grid by 2035 and net-zero carbon emissions by 2050. The US accounts for the highest share in the North American physical hydrogen storage market because of the growing usage of hydrogen in grid infrastructure and manufacturing fertilizers and chemicals.

This study has been validated through primary interviews conducted with various industry experts globally. These primary sources have been divided into the following three categories:

By Company Type- Tier 1- 37%, Tier 2- 33%, and Tier 3- 30%

By Designation- C Level- 50%, Director Level- 20%, and Others- 30%

By Region- Europe- 50%, Asia Pacific (APAC) - 20%, North America- 15%, Middle East & Africa (MEA)-10%, Latin America-5%,

The report provides a comprehensive analysis of company profiles :

Air Liquide (France), Worthington Industries, Inc. (US), Luxfer Holdings PLC (UK), Linde plc (Germany), Chart Industries (US), INOXCVA (India), Hexagon Composites ASA (Norway), HBank Technologies Inc. (Taiwan), Pragma Industries (France), Croyolor (France).

### Research Coverage

This report covers the global hydrogen storage market and forecasts the market size until 2030. It includes the following market segmentation – by Form (Physical, Material-based), by Type (Cylinder, On-site, On-board, Merchant/Bulk), by Application (Automotive & Transportation, Chemicals, Oil Refineries, Industrial, Metalworking, and Others), and Region (North America, Europe, Asia Pacific, Middle East & Africa, Latin America). Porter's Five Forces Analysis, along with the drivers, restraints, opportunities, and challenges, have been discussed in the report. It also provides company profiles and competitive strategies adopted by the major players in the global hydrogen storage market.

Key benefits of buying the report:

The report is expected to help market leaders/new entrants in this market in the following ways:

1. This report segments the global hydrogen storage market comprehensively. It provides the closest approximations of the revenues for the overall market and the sub-segments across different verticals and regions.

2. The report helps stakeholders understand the pulse of the hydrogen storage market and provides them with information on key market drivers, restraints, challenges, and opportunities.
3. This report will help stakeholders to understand competitors better and gain more insights to better their position in their businesses. The competitive landscape section includes the competitor ecosystem, new product development, agreement, contract, expansion, and acquisition.

#### Reasons to buy the report:

The report will help leaders/new entrants in this market by providing them with the closest approximations of the revenues for the overall hydrogen storage market and the sub-segments. This report will help stakeholders to understand the competitive landscape and gain more insights and position their businesses and market strategies in a better way.

#### The report provides insights on the following pointers:

Analysis of key drivers (Rising demand for low-emission fuels, increased hydrogen demand in other applications, use of hydrogen storage tanks for transportation, and government investments and initiatives to drive market), restraints (Limited availability of hydrogen refueling infrastructure in developed economies and less efficient in terms of power storage ), opportunities (Development of low-weight storage tank for transportation and new applications for hydrogen-powered fuel cells), and challenges (High competition from alternative fuel, high flammability, fluctuating oil prices ) influencing the growth of the hydrogen storage market

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the hydrogen storage market

Market Development: Comprehensive information about lucrative markets – the report analyses the hydrogen storage market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the hydrogen storage market

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like Air Liquide (France), Worthington Industries, Inc. (US), Luxfer Holdings PLC (UK), Linde plc (Germany), Chart Industries (US), INOXCVA (India),, among others in the hydrogen storage market

## Contents

### 1 INTRODUCTION

#### 1.1 STUDY OBJECTIVES

#### 1.2 MARKET DEFINITION

##### 1.2.1 INCLUSIONS AND EXCLUSIONS

#### 1.3 STUDY SCOPE

##### 1.3.1 HYDROGEN STORAGE MARKET SEGMENTATION

##### 1.3.2 REGIONS COVERED

##### 1.3.3 YEARS CONSIDERED

#### 1.4 CURRENCY CONSIDERED

#### 1.5 UNITS CONSIDERED

#### 1.6 LIMITATIONS

#### 1.7 STAKEHOLDERS

#### 1.8 SUMMARY OF CHANGES

### 2 RESEARCH METHODOLOGY

#### 2.1 RESEARCH APPROACH

##### FIGURE 1 HYDROGEN STORAGE MARKET: RESEARCH DESIGN

#### 2.2 BASE NUMBER CALCULATION

##### 2.2.1 SUPPLY-SIDE APPROACH

##### 2.2.2 DEMAND-SIDE APPROACH

#### 2.3 FORECAST NUMBER CALCULATION

##### 2.3.1 SUPPLY SIDE

##### 2.3.2 DEMAND SIDE

#### 2.4 RESEARCH DATA

##### 2.4.1 SECONDARY DATA

###### 2.4.1.1 Key data from secondary sources

##### 2.4.2 PRIMARY DATA

###### 2.4.2.1 Key data from primary sources

###### 2.4.2.2 Key primary participants

###### 2.4.2.3 Breakdown of primary interviews

###### 2.4.2.4 Key industry insights

#### 2.5 MARKET SIZE ESTIMATION

##### 2.5.1 BOTTOM-UP APPROACH

##### FIGURE 2 HYDROGEN STORAGE MARKET: BOTTOM-UP APPROACH

##### 2.5.2 TOP-DOWN APPROACH

## FIGURE 3 HYDROGEN STORAGE MARKET: TOP-DOWN APPROACH

### 2.6 DATA TRIANGULATION

## FIGURE 4 HYDROGEN STORAGE MARKET: DATA TRIANGULATION

### 2.7 FACTOR ANALYSIS

### 2.8 ASSUMPTIONS

### 2.9 GROWTH FORECAST

### 2.10 LIMITATIONS

### 2.11 RISK ANALYSIS

### 2.12 RECESSION IMPACT

## 3 EXECUTIVE SUMMARY

FIGURE 5 GAS FORM DOMINATED PHYSICAL HYDROGEN STORAGE MARKET IN 2022

FIGURE 6 ON-SITE SEGMENT LED PHYSICAL HYDROGEN STORAGE MARKET IN 2022

FIGURE 7 TRANSPORTATION APPLICATION TO RECORD FASTEST GROWTH DURING FORECAST PERIOD

FIGURE 8 CHINA TO ACCOUNT FOR LARGEST SHARE DURING FORECAST PERIOD

FIGURE 9 ASIA PACIFIC TO REGISTER HIGHEST GROWTH DURING FORECAST PERIOD

## 4 PREMIUM INSIGHTS

4.1 ATTRACTIVE OPPORTUNITIES FOR PLAYERS IN PHYSICAL HYDROGEN STORAGE MARKET

FIGURE 10 HIGH DEMAND FOR HYDROGEN STORAGE FROM END-USE INDUSTRIES TO DRIVE MARKET

4.2 PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE

FIGURE 11 CYLINDER STORAGE TYPE DOMINATED MARKET IN 2022

4.3 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION

FIGURE 12 CHEMICALS SEGMENT LED MARKET IN 2022

4.4 PHYSICAL HYDROGEN STORAGE MARKET, BY KEY COUNTRY

FIGURE 13 CHINA MARKET TO GROW AT HIGHEST CAGR DURING FORECAST PERIOD

## 5 MARKET OVERVIEW

## 5.1 INTRODUCTION

## 5.2 MARKET DYNAMICS

### FIGURE 14 DRIVERS, RESTRAINTS, OPPORTUNITIES, AND CHALLENGES IN HYDROGEN STORAGE MARKET

#### 5.2.1 DRIVERS

- 5.2.1.1 Rising demand for low-emission fuels
- 5.2.1.2 Increased hydrogen demand from various applications
- 5.2.1.3 Use of hydrogen storage tanks for transportation
- 5.2.1.4 Development of hydrogen infrastructure across various countries
- 5.2.1.5 Government investments and initiatives

### TABLE 1 POLICIES BY MAJOR ECONOMIES TO STIMULATE HYDROGEN DEMAND

#### 5.2.2 RESTRAINTS

- 5.2.2.1 Limited availability of hydrogen refueling infrastructure
- 5.2.2.2 Less efficient in terms of power storage
- 5.2.2.3 High cost of composite material-based tanks

#### 5.2.3 OPPORTUNITIES

- 5.2.3.1 Development of low-weight storage tanks for transportation
- 5.2.3.2 New applications for hydrogen-powered fuel cells
- 5.2.3.3 Development of electric cars using hydrogen fuel

#### 5.2.4 CHALLENGES

- 5.2.4.1 High competition from alternative fuels
- 5.2.4.2 High flammability
- 5.2.4.3 Fluctuating oil prices

## 5.3 INDUSTRY TRENDS

### 5.3.1 PORTER'S FIVE FORCES ANALYSIS

### FIGURE 15 HYDROGEN STORAGE MARKET: PORTER'S FIVE FORCES ANALYSIS

- 5.3.1.1 Threat of new entrants
- 5.3.1.2 Threat of substitutes
- 5.3.1.3 Bargaining power of buyers
- 5.3.1.4 Bargaining power of suppliers
- 5.3.1.5 Intensity of competitive rivalry

### TABLE 2 HYDROGEN STORAGE MARKET: PORTER'S FIVE FORCES ANALYSIS

## 5.4 TECHNOLOGY ANALYSIS

### TABLE 3 BASIC TYPES OF HYDROGEN STORAGE TANKS

## 5.5 ECOSYSTEM MAPPING

### FIGURE 16 HYDROGEN STORAGE MARKET: ECOSYSTEM MAP

## 5.6 VALUE CHAIN ANALYSIS

### FIGURE 17 HYDROGEN STORAGE MARKET: VALUE CHAIN ANALYSIS

## 5.7 SUPPLY CHAIN ANALYSIS



## 5.8 PRICING ANALYSIS

### 5.8.1 AVERAGE SELLING PRICE OF APPLICATIONS OFFERED BY KEY PLAYERS

FIGURE 18 AVERAGE SELLING PRICE OF KEY PLAYERS FOR TOP THREE APPLICATIONS (USD/KG)

### 5.8.2 AVERAGE SELLING PRICE, BY TYPE

FIGURE 19 AVERAGE SELLING PRICE BASED ON TYPE (USD/KG)

### 5.8.3 AVERAGE SELLING PRICE, BY APPLICATION

FIGURE 20 AVERAGE SELLING PRICE BASED ON APPLICATIONS (USD/KG)

### 5.8.4 AVERAGE SELLING PRICE, BY REGION

TABLE 4 HYDROGEN STORAGE AVERAGE SELLING PRICE, BY REGION

## 5.9 KEY STAKEHOLDERS AND BUYING CRITERIA

### 5.9.1 KEY STAKEHOLDERS IN BUYING PROCESS

FIGURE 21 INFLUENCE OF STAKEHOLDERS ON BUYING PROCESS FOR TOP THREE APPLICATIONS

TABLE 5 IMPACT ON BUYING PROCESS FOR TOP THREE APPLICATIONS

### 5.9.2 BUYING CRITERIA

FIGURE 22 KEY BUYING CRITERIA FOR TOP THREE APPLICATIONS

TABLE 6 KEY BUYING CRITERIA

## 5.10 IMPORT–EXPORT SCENARIO

### 5.10.1 US

### 5.10.2 FRANCE

### 5.10.3 GERMANY

### 5.10.4 INDIA

## 5.11 PATENT ANALYSIS

### 5.11.1 INTRODUCTION

### 5.11.2 METHODOLOGY

### 5.11.3 DOCUMENT TYPES

TABLE 7 HYDROGEN STORAGE MARKET: GLOBAL PATENTS

FIGURE 23 GLOBAL PATENT ANALYSIS, BY DOCUMENT TYPE

FIGURE 24 GLOBAL PATENT PUBLICATION TREND, 2012–2022

### 5.11.4 INSIGHTS

### 5.11.5 LEGAL STATUS

FIGURE 25 HYDROGEN STORAGE MARKET: LEGAL STATUS OF PATENTS

### 5.11.6 JURISDICTION ANALYSIS

FIGURE 26 GLOBAL JURISDICTION ANALYSIS

### 5.11.7 TOP APPLICANTS

FIGURE 27 ZHEJIANG UNIVERSITY REGISTERED HIGHEST NUMBER OF PATENTS BETWEEN 2012 TO 2022

### 5.11.8 PATENTS BY ZHEJIANG UNIVERSITY

#### 5.11.9 PATENTS BY HUANENG CLEAN ENERGY RESEARCH INSTITUTE

#### 5.11.10 TOP 10 PATENT OWNERS (US) IN LAST 10 YEARS

### 5.12 TARIFF AND REGULATIONS

#### 5.12.1 REGULATIONS IN HYDROGEN STORAGE MARKET

##### 5.12.1.1 US

##### 5.12.1.2 Japan

##### 5.12.1.3 Europe

##### 5.12.1.4 China

#### 5.12.2 REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 8 NORTH AMERICA: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 9 EUROPE: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 10 ASIA PACIFIC: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

TABLE 11 REST OF THE WORLD: REGULATORY BODIES, GOVERNMENT AGENCIES, AND OTHER ORGANIZATIONS

#### 5.12.3 HYDROGEN STORAGE MARKET: REGULATORY FRAMEWORK

TABLE 12 REGULATORY FRAMEWORK: HYDROGEN STORAGE MARKET, BY REGION

#### 5.12.4 STANDARDS IN HYDROGEN STORAGE MARKET

TABLE 13 US: CURRENT STANDARD CODES FOR HYDROGEN CYLINDERS

TABLE 14 EUROPE: CURRENT STANDARD CODES FOR HYDROGEN CYLINDERS

TABLE 15 ASIA PACIFIC: CURRENT STANDARD CODES FOR HYDROGEN CYLINDERS

### 5.13 CASE STUDY ANALYSIS

FIGURE 28 HYDROGEN STORAGE MARKET: CASE STUDY ANALYSIS

### 5.14 TRENDS AND DISRUPTIONS IMPACTING CUSTOMER BUSINESS

FIGURE 29 HYDROGEN STORAGE MARKET: TRENDS AND DISRUPTIONS IMPACTING CUSTOMER BUSINESS

### 5.15 KEY CONFERENCES AND EVENTS, 2023–2024

TABLE 16 HYDROGEN STORAGE MARKET: KEY CONFERENCES AND EVENTS

## 6 HYDROGEN STORAGE MARKET, BY FORM

### 6.1 INTRODUCTION

FIGURE 30 PHYSICAL FORM TO DOMINATE MARKET DURING FORECAST PERIOD

TABLE 17 HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)

TABLE 18 HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

## 6.2 PHYSICAL HYDROGEN STORAGE

6.2.1 INCREASING DEMAND FOR STATIONARY APPLICATIONS TO DRIVE MARKET

6.2.2 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION

FIGURE 31 ASIA PACIFIC TO LEAD MARKET DURING FORECAST PERIOD

TABLE 19 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 20 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 21 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 22 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

6.2.3 PHYSICAL HYDROGEN STORAGE MARKET, BY FORM TYPE

FIGURE 32 GAS FORM TO LEAD PHYSICAL HYDROGEN STORAGE MARKET DURING FORECAST PERIOD

TABLE 23 PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)

TABLE 24 PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)

TABLE 25 PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)

TABLE 26 PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

6.2.3.1 Gas form: Physical hydrogen storage market, by region

FIGURE 33 ASIA PACIFIC TO LEAD GAS FORM SEGMENT DURING FORECAST PERIOD

TABLE 27 GAS FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 28 GAS FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 29 GAS FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 30 GAS FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

### 6.2.3.2 Liquid form: Physical hydrogen storage market, by region

FIGURE 34 ASIA PACIFIC TO DOMINATE LIQUID FORM SEGMENT DURING FORECAST PERIOD

TABLE 31 LIQUID FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 32 LIQUID FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 33 LIQUID FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 34 LIQUID FORM: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

## 6.3 MATERIAL-BASED HYDROGEN STORAGE

### 6.3.1 INVOLVES ABSORPTION OR ADSORPTION MECHANISMS

## 7 PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE

### 7.1 INTRODUCTION

FIGURE 35 ON-SITE STORAGE SEGMENT TO DOMINATE DURING FORECAST PERIOD

TABLE 35 PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)

TABLE 36 PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)

TABLE 37 PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)

TABLE 38 PHYSICAL HYDROGEN STORAGE MARKET, TYPE, 2023–2030 (USD THOUSAND)

### 7.2 CYLINDERS

7.2.1 USE OF HYDROGEN CYLINDERS IN END-USE INDUSTRIES TO DRIVE MARKET

FIGURE 36 ASIA PACIFIC TO DOMINATE CYLINDER SEGMENT DURING FORECAST PERIOD

TABLE 39 CYLINDER PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 40 CYLINDER PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 41 CYLINDER PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 42 CYLINDER PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,

2023–2030 (USD THOUSAND)

### 7.3 MERCHANT/BULK

7.3.1 HIGH DEMAND FOR MERCHANT HYDROGEN IN METALWORKING INDUSTRIES TO PROPEL MARKET

TABLE 43 MERCHANT/BULK PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 44 MERCHANT/BULK PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 45 MERCHANT/BULK PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 46 MERCHANT/BULK PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

### 7.4 ON-SITE

7.4.1 REGULATORY STANDARDS FOR POLLUTION CONTROL TO FUEL DEMAND FOR ON-SITE HYDROGEN TANKS

TABLE 47 ON-SITE PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 48 ON-SITE PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 49 ON-SITE PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 50 ON-SITE PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

### 7.5 ON-BOARD

7.5.1 USE OF FUEL CELLS IN AUTOMOTIVE & TRANSPORTATION SECTOR TO BOOST DEMAND FOR ON-BOARD HYDROGEN STORAGE

TABLE 51 ON-BOARD PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 52 ON-BOARD PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 53 ON-BOARD PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 54 ON-BOARD PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)

## 8 HYDROGEN STORAGE MARKET, BY APPLICATION

### 8.1 INTRODUCTION

TABLE 55 PHYSICAL HYDROGEN STORAGE: APPLICATIONS

FIGURE 37 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION,  
2018–2030

TABLE 56 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION,  
2018–2022 (UNITS)

TABLE 57 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION,  
2018–2022 (USD THOUSAND)

TABLE 58 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION,  
2023–2030 (UNITS)

TABLE 59 PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION,  
2023–2030 (USD THOUSAND)

## 8.2 CHEMICALS

8.2.1 INCREASING USE OF HYDROGEN IN CHEMICALS INDUSTRY TO DRIVE  
MARKET

TABLE 60 CHEMICALS: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2018–2022 (UNITS)

TABLE 61 CHEMICALS: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2018–2022 (USD THOUSAND)

TABLE 62 CHEMICALS: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2023–2030 (UNITS)

TABLE 63 CHEMICALS: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2023–2030 (USD THOUSAND)

## 8.3 OIL REFINERIES

8.3.1 DESULFURIZATION OF FUELS TO PROPEL MARKET

TABLE 64 OIL REFINERIES: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (UNITS)

TABLE 65 OIL REFINERIES: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (USD THOUSAND)

TABLE 66 OIL REFINERIES: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (UNITS)

TABLE 67 OIL REFINERIES: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (USD THOUSAND)

## 8.4 INDUSTRIAL

8.4.1 INCREASED USE IN INDUSTRIAL PROCESSES TO FUEL DEMAND FOR  
HYDROGEN

TABLE 68 INDUSTRIAL: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2018–2022 (UNITS)

TABLE 69 INDUSTRIAL: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2018–2022 (USD THOUSAND)

TABLE 70 INDUSTRIAL: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,



2023–2030 (UNITS)

TABLE 71 INDUSTRIAL: PHYSICAL HYDROGEN STORAGE MARKET, BY REGION,  
2023–2030 (USD THOUSAND)

8.5 AUTOMOTIVE & TRANSPORTATION

8.5.1 RISING DEMAND FOR HYDROGEN-POWERED VEHICLES TO DRIVE  
MARKET

TABLE 72 AUTOMOTIVE & TRANSPORTATION: PHYSICAL HYDROGEN STORAGE  
MARKET, BY REGION, 2018–2022 (UNITS)

TABLE 73 AUTOMOTIVE & TRANSPORTATION: PHYSICAL HYDROGEN STORAGE  
MARKET, BY REGION, 2018–2022 (USD THOUSAND)

TABLE 74 AUTOMOTIVE & TRANSPORTATION: PHYSICAL HYDROGEN STORAGE  
MARKET, BY REGION, 2023–2030 (UNITS)

TABLE 75 AUTOMOTIVE & TRANSPORTATION: PHYSICAL HYDROGEN STORAGE  
MARKET, BY REGION, 2023–2030 (USD THOUSAND)

8.6 METALWORKING

8.6.1 USE OF HYDROGEN IN PLASMA TO CLEAN METAL SURFACES TO DRIVE  
MARKET

TABLE 76 METALWORKING: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (UNITS)

TABLE 77 METALWORKING: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (USD THOUSAND)

TABLE 78 METALWORKING: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (UNITS)

TABLE 79 METALWORKING: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (USD THOUSAND)

8.7 OTHER APPLICATIONS

TABLE 80 OTHER APPLICATIONS: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (UNITS)

TABLE 81 OTHER APPLICATIONS: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2018–2022 (USD THOUSAND)

TABLE 82 OTHER APPLICATIONS: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (UNITS)

TABLE 83 OTHER APPLICATIONS: PHYSICAL HYDROGEN STORAGE MARKET, BY  
REGION, 2023–2030 (USD THOUSAND)

## **9 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION**

9.1 INTRODUCTION

FIGURE 38 CHINA TO BE FASTEST-GROWING PHYSICAL HYDROGEN STORAGE

*Hydrogen Storage Market by Storage Form (Physical, Material-Based), Storage Type (Cylinder, Merchant, On-Site,...*

**MARKET DURING FORECAST PERIOD**

**TABLE 84 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (UNITS)**

**TABLE 85 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2018–2022 (USD THOUSAND)**

**TABLE 86 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (UNITS)**

**TABLE 87 PHYSICAL HYDROGEN STORAGE MARKET, BY REGION, 2023–2030 (USD THOUSAND)**

**9.2 NORTH AMERICA****9.2.1 RECESSION IMPACT ON NORTH AMERICA**

**FIGURE 39 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET SNAPSHOT**

**9.2.2 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM**

**TABLE 88 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)**

**TABLE 89 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)**

**TABLE 90 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)**

**TABLE 91 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)**

**9.2.3 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE**

**TABLE 92 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)**

**TABLE 93 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)**

**TABLE 94 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)**

**TABLE 95 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (USD THOUSAND)**

**9.2.4 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION**

**TABLE 96 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)**

**TABLE 97 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)**

**TABLE 98 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)**



TABLE 99 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

9.2.5 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY

TABLE 100 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (UNITS)

TABLE 101 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (USD THOUSAND)

TABLE 102 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (UNITS)

TABLE 103 NORTH AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (USD THOUSAND)

9.2.6 US

9.2.6.1 Upcoming projects and investments to drive market

TABLE 104 US: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 105 US: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 106 US: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 107 US: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION 2023–2030 (USD THOUSAND)

9.2.7 CANADA

9.2.7.1 Emission reduction plans to fuel demand for hydrogen storage

TABLE 108 CANADA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 109 CANADA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 110 CANADA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 111 CANADA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

9.3 ASIA PACIFIC

9.3.1 RECESSION IMPACT ON ASIA PACIFIC

FIGURE 40 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET SNAPSHOT

9.3.2 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM

TABLE 112 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)

TABLE 113 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM,

2018–2022 (USD THOUSAND)

TABLE 114 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)

TABLE 115 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

9.3.3 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE

TABLE 116 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)

TABLE 117 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)

TABLE 118 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)

TABLE 119 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (USD THOUSAND)

9.3.4 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION

TABLE 120 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 121 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 122 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 123 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

9.3.5 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY

TABLE 124 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (UNITS)

TABLE 125 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (USD THOUSAND)

TABLE 126 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (UNITS)

TABLE 127 ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (USD THOUSAND)

9.3.6 SOUTH KOREA

9.3.6.1 High FCEV deployment to drive market

TABLE 128 SOUTH KOREA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 129 SOUTH KOREA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 130 SOUTH KOREA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 131 SOUTH KOREA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.3.7 CHINA

##### 9.3.7.1 Carbon neutrality targets to drive energy management systems

TABLE 132 CHINA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 133 CHINA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 134 CHINA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 135 CHINA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.3.8 INDIA

##### 9.3.8.1 Developments in industrial sector to drive market

TABLE 136 INDIA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 137 INDIA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 138 INDIA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 139 INDIA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.3.9 JAPAN

##### 9.3.9.1 National hydrogen strategies for emission reduction to boost market

TABLE 140 JAPAN: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 141 JAPAN: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 142 JAPAN: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 143 JAPAN: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.3.10 REST OF ASIA PACIFIC

TABLE 144 REST OF ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 145 REST OF ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 146 REST OF ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 147 REST OF ASIA PACIFIC: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

## 9.4 EUROPE

### 9.4.1 RECESSION IMPACT ON EUROPE

FIGURE 41 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET SNAPSHOT

### 9.4.2 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM

TABLE 148 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)

TABLE 149 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)

TABLE 150 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)

TABLE 151 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

### 9.4.3 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE

TABLE 152 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)

TABLE 153 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)

TABLE 154 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)

TABLE 155 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (USD THOUSAND)

### 9.4.4 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION

TABLE 156 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 157 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 158 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 159 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

### 9.4.5 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY

TABLE 160 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (UNITS)

TABLE 161 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (USD THOUSAND)

TABLE 162 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (UNITS)

TABLE 163 EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (USD THOUSAND)

#### 9.4.6 GERMANY

##### 9.4.6.1 Funding for R&D projects to drive market

TABLE 164 GERMANY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 165 GERMANY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 166 GERMANY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 167 GERMANY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.4.7 ITALY

##### 9.4.7.1 Efforts to achieve net zero emission target to boost market

TABLE 168 ITALY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 169 ITALY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 170 ITALY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 171 ITALY: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.4.8 UK

##### 9.4.8.1 Increasing use of hydrogen-powered vehicles to propel market

TABLE 172 UK: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 173 UK: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 174 UK: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 175 UK: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.4.9 FRANCE

##### 9.4.9.1 Demand for hydrogen tanks at refueling stations to drive market

TABLE 176 FRANCE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 177 FRANCE: PHYSICAL HYDROGEN STORAGE MARKET, BY

APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 178 FRANCE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 179 FRANCE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.4.10 NETHERLANDS

9.4.10.1 Increasing requirement for transportation fuels and stringent emission regulations to propel market

TABLE 180 NETHERLANDS: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 181 NETHERLANDS: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 182 NETHERLANDS: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION 2023–2030 (UNITS)

TABLE 183 NETHERLANDS: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.4.11 REST OF EUROPE

TABLE 184 REST OF EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 185 REST OF EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 186 REST OF EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 187 REST OF EUROPE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.5 MIDDLE EAST & AFRICA

##### 9.5.1 RECESSION IMPACT ON MIDDLE EAST & AFRICA

9.5.2 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM

TABLE 188 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)

TABLE 189 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)

TABLE 190 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)

TABLE 191 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

9.5.3 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE



TABLE 192 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)

TABLE 193 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)

TABLE 194 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)

TABLE 195 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (USD THOUSAND)

9.5.4 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION

TABLE 196 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 197 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 198 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 199 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

9.5.5 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY

TABLE 200 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (UNITS)

TABLE 201 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (USD THOUSAND)

TABLE 202 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (UNITS)

TABLE 203 MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (USD THOUSAND)

9.5.6 UAE

9.5.6.1 Increasing R&D investment in hydrogen infrastructure to drive market

TABLE 204 UAE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 205 UAE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 206 UAE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 207 UAE: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

9.5.7 SOUTH AFRICA

#### 9.5.7.1 Efforts for decarbonization to fuel demand for hydrogenated products

TABLE 208 SOUTH AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 209 SOUTH AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 210 SOUTH AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 211 SOUTH AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.5.8 REST OF MIDDLE EAST & AFRICA

TABLE 212 REST OF MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 213 REST OF MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 214 REST OF MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 215 REST OF MIDDLE EAST & AFRICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

### 9.6 LATIN AMERICA

#### 9.6.1 RECESSION IMPACT ON LATIN AMERICA

#### 9.6.2 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM

TABLE 216 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (UNITS)

TABLE 217 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2018–2022 (USD THOUSAND)

TABLE 218 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (UNITS)

TABLE 219 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY FORM, 2023–2030 (USD THOUSAND)

#### 9.6.3 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE

TABLE 220 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (UNITS)

TABLE 221 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2018–2022 (USD THOUSAND)

TABLE 222 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (UNITS)

TABLE 223 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY TYPE, 2023–2030 (USD THOUSAND)

#### 9.6.4 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY



## APPLICATION

TABLE 224 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 225 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 226 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 227 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

## 9.6.5 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY

TABLE 228 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (UNITS)

TABLE 229 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2018–2022 (USD THOUSAND)

TABLE 230 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (UNITS)

TABLE 231 LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY COUNTRY, 2023–2030 (USD THOUSAND)

## 9.6.6 BRAZIL

### 9.6.6.1 Technological advancements to facilitate transition to low-carbon economy

TABLE 232 BRAZIL: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 233 BRAZIL: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 234 BRAZIL: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 235 BRAZIL: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

## 9.6.7 MEXICO

### 9.6.7.1 Partnerships and collaborations with other economies to drive market

TABLE 236 MEXICO: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 237 MEXICO: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 238 MEXICO: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 239 MEXICO: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

#### 9.6.8 REST OF LATIN AMERICA

TABLE 240 REST OF LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (UNITS)

TABLE 241 REST OF LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2018–2022 (USD THOUSAND)

TABLE 242 REST OF LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (UNITS)

TABLE 243 REST OF LATIN AMERICA: PHYSICAL HYDROGEN STORAGE MARKET, BY APPLICATION, 2023–2030 (USD THOUSAND)

### 10 COMPETITIVE LANDSCAPE

#### 10.1 INTRODUCTION

#### 10.2 MARKET SHARE ANALYSIS

TABLE 244 DEGREE OF COMPETITION: HYDROGEN STORAGE MARKET

#### 10.3 MARKET RANKING ANALYSIS

FIGURE 42 RANKING OF TOP FIVE PLAYERS IN HYDROGEN STORAGE MARKET

#### 10.4 REVENUE ANALYSIS OF TOP MARKET PLAYERS

FIGURE 43 REVENUE ANALYSIS OF KEY PLAYERS IN HYDROGEN STORAGE MARKET

#### 10.5 COMPANY EVALUATION MATRIX

TABLE 245 COMPANY PRODUCT FOOTPRINT

TABLE 246 COMPANY APPLICATION FOOTPRINT

TABLE 247 COMPANY REGION FOOTPRINT

#### 10.6 COMPETITIVE LANDSCAPE MAPPING

##### 10.6.1 STARS

##### 10.6.2 PERVASIVE PLAYERS

##### 10.6.3 PARTICIPANTS

##### 10.6.4 EMERGING LEADERS

FIGURE 44 HYDROGEN STORAGE MARKET (GLOBAL): COMPETITIVE LEADERSHIP MAPPING, 2022

#### 10.7 STRENGTH OF PRODUCT PORTFOLIO

FIGURE 45 PRODUCT PORTFOLIO ANALYSIS OF TOP PLAYERS IN HYDROGEN STORAGE MARKET

#### 10.8 BUSINESS STRATEGY EXCELLENCE

FIGURE 46 BUSINESS STRATEGY OF TOP PLAYERS IN HYDROGEN STORAGE MARKET

#### 10.9 MARKET EVALUATION FRAMEWORK

TABLE 248 HYDROGEN STORAGE MARKET: NEW PRODUCT DEVELOPMENTS,

2018–2023

TABLE 249 HYDROGEN STORAGE MARKET: DEALS, 2018–2023

TABLE 250 HYDROGEN STORAGE MARKET: OTHER DEVELOPMENTS, 2018–2023

10.10 COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES

TABLE 251 HYDROGEN STORAGE MARKET: KEY STARTUPS/SMES

TABLE 252 HYDROGEN STORAGE MARKET: COMPETITIVE BENCHMARKING OF KEY STARTUPS/SMES

10.11 SME EVALUATION MATRIX

10.11.1 PROGRESSIVE COMPANIES

10.11.2 RESPONSIVE COMPANIES

10.11.3 DYNAMIC COMPANIES

10.11.4 STARTING BLOCKS

FIGURE 47 HYDROGEN STORAGE MARKET: SME MATRIX, 2022

## **11 COMPANY PROFILES**

### **11.1 KEY PLAYERS**

(Business overview, Products offered, Recent developments, MnM view, Right to win, Strategic choices, and Weaknesses and competitive threats)\*

#### **11.1.1 AIR LIQUIDE**

TABLE 253 AIR LIQUIDE: COMPANY OVERVIEW

FIGURE 48 AIR LIQUIDE: COMPANY SNAPSHOT

TABLE 254 AIR LIQUIDE: DEALS

#### **11.1.2 LINDE PLC**

TABLE 255 LINDE PLC: COMPANY OVERVIEW

FIGURE 49 LINDE PLC: COMPANY SNAPSHOT

TABLE 256 LINDE PLC: DEALS

#### **11.1.3 WORTHINGTON INDUSTRIES, INC.**

TABLE 257 WORTHINGTON INDUSTRIES INC.: COMPANY OVERVIEW

FIGURE 50 WORTHINGTON INDUSTRIES INC.: COMPANY SNAPSHOT

TABLE 258 WORTHINGTON INDUSTRIES INC.: DEALS

TABLE 259 WORTHINGTON INDUSTRIES, INC.: OTHER DEVELOPMENTS

#### **11.1.4 LUXFER HOLDINGS PLC**

TABLE 260 LUXFER HOLDINGS PLC: COMPANY OVERVIEW

FIGURE 51 LUXFER HOLDINGS PLC: COMPANY SNAPSHOT

TABLE 261 LUXFER HOLDINGS PLC: DEALS

#### **11.1.5 PRAGMA INDUSTRIES**

TABLE 262 PRAGMA INDUSTRIES: COMPANY OVERVIEW

#### **11.1.6 HEXAGON COMPOSITES ASA**

TABLE 263 HEXAGON COMPOSITES ASA: COMPANY OVERVIEW

FIGURE 52 HEXAGON COMPOSITES ASA: COMPANY SNAPSHOT

TABLE 264 HEXAGON COMPOSITES ASA: DEALS

TABLE 265 HEXAGON COMPOSITES ASA: OTHER DEVELOPMENTS

11.1.7 HBANK TECHNOLOGIES INC.

TABLE 266 HBANK TECHNOLOGIES INC.: COMPANY OVERVIEW

11.1.8 INOXCVA

TABLE 267 INOXCVA: COMPANY OVERVIEW

FIGURE 53 INOXCVA: COMPANY SNAPSHOT

TABLE 268 INOXCVA: DEALS

TABLE 269 INOXCVA: OTHER DEVELOPMENTS

11.1.9 CHART INDUSTRIES, INC.

TABLE 270 CHART INDUSTRIES, INC.: COMPANY OVERVIEW

FIGURE 54 CHART INDUSTRIES, INC.: COMPANY SNAPSHOT

TABLE 271 CHART INDUSTRIES, INC.: DEALS

11.1.10 CRYOLOR

TABLE 272 CRYOLOR: COMPANY OVERVIEW

11.2 OTHER PLAYERS

11.2.1 CRYOFAB

TABLE 273 CRYOFAB: COMPANY OVERVIEW

11.2.2 CALVERA HYDROGEN S.A.

TABLE 274 CALVERA HYDROGEN S.A.: COMPANY OVERVIEW

11.2.3 STEELHEAD COMPOSITES, INC.

TABLE 275 STEELHEAD COMPOSITES, INC.: COMPANY OVERVIEW

11.2.4 FIBA TECHNOLOGIES, INC.

TABLE 276 FIBA TECHNOLOGIES, INC.: COMPANY OVERVIEW

11.2.5 GARDNER CRYOGENICS

TABLE 277 GARDNER CRYOGENICS: COMPANY OVERVIEW

11.2.6 AUGUSTE CRYOGENICS

TABLE 278 AUGUSTE CRYOGENICS: COMPANY OVERVIEW

11.2.7 MACOMBER CRYOGENICS

TABLE 279 MACOMBER CRYOGENICS: COMPANY OVERVIEW

11.2.8 BNH GAS TANKS LLP

TABLE 280 BNH GAS TANKS LLP: COMPANY OVERVIEW

11.2.9 MAHYTEC

TABLE 281 MAHYTEC: COMPANY OVERVIEW

11.2.10 NPROXX

\*Details on Business overview, Products offered, Recent developments, MnM view, Right to win, Strategic choices, and Weaknesses and competitive threats might not be

captured in case of unlisted companies.

## **12 APPENDIX**

12.1 DISCUSSION GUIDE

12.2 KNOWLEDGESTORE: MARKETSANDMARKETS' SUBSCRIPTION PORTAL

12.3 CUSTOMIZATION OPTIONS

12.4 RELATED REPORTS

12.5 AUTHOR DETAILS

## I would like to order

Product name: Hydrogen Storage Market by Storage Form (Physical, Material-Based), Storage Type (Cylinder, Merchant, On-Site, On-board), Application (Chemicals, Oil Refineries, Industrial, Automotive & Transportation, Metalworking), Region - Forecast to 2030

Product link: <https://marketpublishers.com/r/H971C3EBFE5EN.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](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/H971C3EBFE5EN.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