

Carbon Credit Market Assessment, By Type [Government Compliance (California Cap-And-Trade, European Union ETS, The China National ETS, Others), Voluntary/Third-Party Compliance, and Others], By End-user [Power & Energy Generation, Aerospace, Marine, Agriculture, Manufacturing Sector (Chemical Processing, Oil & Gas, Metallurgy, Others), Building & Construction, Automotive, Waste Management and Others], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Carbon Credit Market size was valued at USD 794.93 billion in 2022 which is expected to reach USD 3655.10 billion in 2030 with a CAGR of 21.01% for the forecast period between 2023 and 2030. The awareness of rising global warming has forced researchers to come up with effective solutions. The release of greenhouse gas (GHG) has significantly increased which is creating immense threats to the environment. There are various measures adopted to curb the associated problem like reducing carbon emissions, lowering carbon particulates from the atmosphere, etc. Carbon credits as one the major emission scrubbing tools are expected to have a positive impact across the globe as numerous countries are adopting measures to abide by the regulations.

The carbon credit proposal was introduced back in 1997 by the United Nations' Intergovernmental Panel on Climate Change (IPCC) to restrict the emissions of carbon and other harmful syn gases such as carbon monoxide, methane, nitrogen, etc. A carbon credit is defined as a tradable permit or certificate that is equivalent to one ton of

carbon dioxide or various greenhouse gas reduced, separated, or avoided. It represents a trading system under which one can sell and buy carbon credits. Traded carbon credits are informally known as carbon offsets and companies can earn carbon credits by limiting the carbon footprint while performing operations. Unlikely conventional trading, carbon trading is very different where the carbon credits show variation based on the project type, supply, demand, etc. Companies that are prone to emit a larger amount of greenhouse gases are viable to purchase carbon credits to restrict their emissions.

Compliances and Regulations for Industries to Adopt Carbon Credit Norms

There are several sectors that fall under the regulation act of the carbon market such as large industrial operations, electricity generation, transportation of oils, and natural gas. An emissions trading system (ETS) that operates on the principle of “cap-and-trade” governs the regulations of the carbon credit market. Under the Kyoto Protocol, carbon credits which are called Certified Emission Reduction (CER) were separately allotted for developing countries such as India, South Africa, Thailand, etc. where the industries can use these credits for supporting sustainable development by offsetting the carbon emissions from industries.

Around 200 countries are under a deal and implemented Article 6 of the 2015 Paris Agreement where these countries can buy offset credits that are helpful in combating carbon dioxide emissions. Different jurisdictions accompany different industrial sectors which are regularly updated according to the emissions generated by the companies. These entities are forced to reduce GHG emissions to a significant ratio by less than 1990 GHG level and simultaneously develop technologies to achieve net-zero GHG emissions. The industries that are extreme polluters and exceed their assigned credits are forced to buy permits from others that have surplus credits via legal trade. EKI Energy Services Ltd. (EKI) has signed an MOU with UK-based Inclusive Energy Ltd (IE) by strengthening the target to digitalize carbon MRV for energy projects in the voluntary carbon sector. Forest-rich countries like Costa Rica, Cambodia are performing well in the voluntary sector by creating opportunities in the market to ensure investments in various growing industries such as power, energy, land mass, etc.

Challenges of Carbon Credits for Business Decarbonization

The volume of currently available carbon credits across the globe is very less according to the demand and is projected to increase by a significant number in the upcoming year. The voluntary carbon industry has been expanding exponentially over recent

years as it provides a platform to purchase carbon credits for remaining unavoidable emissions without any government interference. A proper understanding is required to deal with legal terms of engagement with carbon traders. Tradable carbon credits are generally issued by various carbon standards and schemes under which the projects need to follow the enforced methodologies for evaluating the net carbon gain.

Benefits of Generating Carbon Credits using Different Projects

Numerous ways can be implemented to counteract the emissions of carbon and GHG by any company. A company can utilize the concept of carbon offsets as a preventative measure to lower its own carbon emissions. Myclimate, which is headquartered in Zurich, Switzerland executed its application in more than 30 countries by financing around 16.38 million tons of carbon reduction and is bound by the regulations of the UN Sustainable Development Goals. A prominent contribution by Myclimate can be evaluated as it implements solutions such as promoting energy efficiency, sourcing hydropower projects, improving landfill and purifying aquatic life. Over 24 million tree plantations, installation of 1.02 million efficient cookers, etc. already benefited around 10.3 million people across the globe.

Preservation and restoration of depleted forest land mass by implementing forestry projects such as NIHT Topaiyo REDD+ will contribute to balancing the carbon content from the atmosphere. Implemented in the island province of New Ireland in Papua New Guinea it represents an agriculture forestry and land-related project that can produce 1,327,440 verified credits for the corresponding 3 years. With an average of 1.83 million credits generated per year, it carries the potential to create around 55,090,789 credits over the entire life of the project.

Replacement of conventional energy with a renewable and sustainable source will reduce the emissions of harmful gases and GHG. Implementation of projects to supply pure water to every household such that the extra energy required for purifying can be eradicated. Restoration of coastal and marine ecosystems to preserve aquatic life. Execution of landfill projects to improve waste disposal systems such that the release of GHG gases can be converted into usable fuels.

Impact of COVID-19

During the COVID-19 pandemic, the European Union (EU) Emissions Trading System was adversely affected, and the value of carbon price fluctuated drastically. The impact of the pandemic can also be realized as carbon prices have undergone remarkable

structural changes. Various important factors such as oil prices, and interbank dismantling rates were responsible for the outrageous carbon price.

The COVID-19 outbreak has forced many places to go under prolonged lockdowns and social life was also miserable which enforced shut down of many profitable organizations. The initial hit of COVID on Italy created instability where the EU carbon price plummeted in a short span of time from USD 27.8/ton to USD 16.68 in January 2020. In July 2020, with the decline in carbon prices, the EU introduced a USD 849 (?750) billion green recovery plan which gradually stabilized the carbon sector and carbon price started to rise.

Impact of Russia-Ukraine War

The invasion of Russia on Ukraine has drastically increased the price of oil which subsequently affected many sectors. Carbon credit prices are plunged down rapidly which lowers the cost of emitting carbon from most polluting industries. The invasion led to a surge in demand for fossil fuels where the companies must look for carbon emissions which consequently forced companies to lend more carbon credits.

European countries are highly reliant on Russia's natural gas as the EU's gas imports were around 45% in 2021. The annexation of Russia over Ukraine led to put sanctions on Russia's energy which restricts Russia to extend its trade with other countries. According to a published report by Refinitiv on March 2022, the carbon credit for European Union Alliance (EUA) subsequently crashed from USD 106.91 per metric tons to USD 61.9/t in a consecutive duration of 5 days, which was around 35% drop in the price.

Key Players Landscape and Outlook

Prominent companies are heavily putting their investments in sustainability goals to lower or remove carbon emissions from the surroundings. The projects are accredited by accounting firms which verify the number of emission reductions and provide certification to use carbon offsets. Terrapass is a carbon credit organization headquartered in California, USA where the carbon offsets are certified by independent 3rd parties such as Verified Carbon Standard, American Carbon Registry, etc. They can reduce over 1 million metric tons of GHG emissions per year under their A-Gas Voluntary Emission Reduction Project.

To tackle global climate change and work under the United Nations Sustainable

Development Goals, low-carbon technologies are not enough. In June 2023, Climate Impact X launches CIX Exchange to balance the flow of carbon market liquidity and transparency. Its working window operates in the intersection of Asia-Pacific and European trading hours.

Contents

1. RESEARCH METHODOLOGY

2. PROJECT SCOPE & DEFINITIONS

3. IMPACT OF COVID-19 ON THE GLOBAL CARBON CREDIT MARKET

4. IMPACT OF RUSSIA-UKRAINE WAR

5. EXECUTIVE SUMMARY

6. VOICE OF CUSTOMER

6.1. Market Awareness and Product Information

6.2. Brand Awareness and Loyalty

6.3. Factors Considered in Purchase Decision

6.3.1. Brand Name

6.3.2. Quality

6.3.3. Quantity

6.3.4. Price

6.3.5. Product Specification

6.3.6. Application Specification

6.3.7. VOC/Toxicity Content

6.3.8. Availability of Product

6.4. Frequency of Purchase

6.5. Medium of Purchase

7. GLOBAL CARBON CREDIT MARKET OUTLOOK, 2016-2030F

7.1. Market Size & Forecast

7.1.1. By Value

7.1.2. By Volume

7.2. By Type

7.2.1. Government Compliance

7.2.1.1. California Cap-And-Trade

7.2.1.2. European Union ETS

7.2.1.3. The China National ETS

7.2.1.4. Others

- 7.2.2. Voluntary/Third-Party Compliance
- 7.3. By End-user
 - 7.3.1. Power & Energy Generation
 - 7.3.2. Aerospace
 - 7.3.3. Marine
 - 7.3.4. Agriculture
 - 7.3.5. Manufacturing Sector
 - 7.3.5.1. Chemical Processing
 - 7.3.5.2. Oil & Gas
 - 7.3.5.3. Metallurgy
 - 7.3.5.4. Others
 - 7.3.6. Building & Construction
 - 7.3.7. Automotive
 - 7.3.8. Waste Management
 - 7.3.9. Others
- 7.4. By Region
 - 7.4.1. North America
 - 7.4.2. Europe
 - 7.4.3. South America
 - 7.4.4. Asia-Pacific
 - 7.4.5. Middle East and Africa
- 7.5. By Company Market Share (%), 2022

8. GLOBAL CARBON CREDIT MARKET OUTLOOK, BY REGION, 2016-2030F

- 8.1. North America*
 - 8.1.1. By Type
 - 8.1.1.1. Government Compliance
 - 8.1.1.1.1. California Cap-And-Trade
 - 8.1.1.1.2. European Union ETS
 - 8.1.1.1.3. The China National ETS
 - 8.1.1.1.4. Others
 - 8.1.1.2. Voluntary/Third-Party Compliance
 - 8.1.2. By End-user
 - 8.1.2.1. Power & Energy Generation
 - 8.1.2.2. Aerospace
 - 8.1.2.3. Marine
 - 8.1.2.4. Agriculture
 - 8.1.2.5. Manufacturing Sector

- 8.1.2.5.1. Chemical Processing
- 8.1.2.5.2. Oil & Gas
- 8.1.2.5.3. Metallurgy
- 8.1.2.5.4. Others
- 8.1.2.6. Building & Construction
- 8.1.2.7. Automotive
- 8.1.2.8. Waste Management
- 8.1.2.9. Others
- 8.1.3. United States*
- 8.1.3.1. By Type
 - 8.1.3.1.1. Government Compliance
 - 8.1.3.1.1.1. California Cap-And-Trade
 - 8.1.3.1.1.2. European Union ETS
 - 8.1.3.1.1.3. The China National ETS
 - 8.1.3.1.1.4. Others
 - 8.1.3.1.2. Voluntary/Third-Party Compliance
- 8.1.3.2. By End-user
 - 8.1.3.2.1. Power & Energy Generation
 - 8.1.3.2.2. Aerospace
 - 8.1.3.2.3. Marine
 - 8.1.3.2.4. Agriculture
 - 8.1.3.2.5. Manufacturing Sector
 - 8.1.3.2.5.1. Chemical Processing
 - 8.1.3.2.5.2. Oil & Gas
 - 8.1.3.2.5.3. Metallurgy
 - 8.1.3.2.5.4. Others
 - 8.1.3.2.6. Building & Construction
 - 8.1.3.2.7. Automotive
 - 8.1.3.2.8. Waste Management
 - 8.1.3.2.9. Others
- 8.1.4. Canada
- 8.1.5. Mexico

*All segments will be provided for all regions and countries covered

- 8.2. Europe
 - 8.2.1. Germany
 - 8.2.2. France
 - 8.2.3. Italy
 - 8.2.4. United Kingdom
 - 8.2.5. Russia

- 8.2.6. Netherlands
- 8.2.7. Spain
- 8.2.8. Turkey
- 8.2.9. Poland
- 8.3. South America
 - 8.3.1. Brazil
 - 8.3.2. Argentina
- 8.4. Asia-Pacific
 - 8.4.1. India
 - 8.4.2. China
 - 8.4.3. Japan
 - 8.4.4. Australia
 - 8.4.5. Vietnam
 - 8.4.6. South Korea
 - 8.4.7. Indonesia
 - 8.4.8. Philippines
- 8.5. Middle East & Africa
 - 8.5.1. Saudi Arabia
 - 8.5.2. UAE
 - 8.5.3. South Africa

9. SUPPLY SIDE ANALYSIS

- 9.1. Capacity, By Company
- 9.2. Production, By Company
- 9.3. Operating Efficiency, By Company
- 9.4. Key Plant Locations (Up to 25)

10. MARKET MAPPING, 2022

- 10.1. By Type
- 10.2. By End-user
- 10.3. By Region

11. MACRO ENVIRONMENT AND INDUSTRY STRUCTURE

- 11.1. Supply Demand Analysis
- 11.2. Import Export Analysis – Volume and Value
- 11.3. Supply/Value Chain Analysis

11.4. PESTEL Analysis

11.4.1. Political Factors

11.4.2. Economic System

11.4.3. Social Implications

11.4.4. Technological Advancements

11.4.5. Environmental Impacts

11.4.6. Legal Compliances and Regulatory Policies (Statutory Bodies Included)

11.5. Porter's Five Forces Analysis

11.5.1. Supplier Power

11.5.2. Buyer Power

11.5.3. Substitution Threat

11.5.4. Threat from New Entrant

11.5.5. Competitive Rivalry

12. MARKET DYNAMICS

12.1. Growth Drivers

12.2. Growth Inhibitors (Challenges, Restraints)

13. KEY PLAYERS LANDSCAPE

13.1. Competition Matrix of Top Five Market Leaders

13.2. Market Revenue Analysis of Top Five Market Leaders (in %, 2022)

13.3. Mergers and Acquisitions/Joint Ventures (If Applicable)

13.4. SWOT Analysis (For Five Market Players)

13.5. Patent Analysis (If Applicable)

14. PRICING ANALYSIS

15. CASE STUDIES

16. KEY PLAYERS OUTLOOK

16.1. Native Energy

16.1.1. Company Details

16.1.2. Key Management Personnel

16.1.3. Products & Services

16.1.4. Financials (As reported)

16.1.5. Key Market Focus & Geographical Presence

- 16.1.6. Recent Developments
- 16.2. 3 Degrees
- 16.3. Terrapass
- 16.4. Natureoffice GmbH
- 16.5. Forest Carbon
- 16.6. Climate Impact X PTE LTD
- 16.7. Cool Effect, Inc.
- 16.8. South Pole Group
- 16.9. WGL Holdings, Inc.
- 16.10. Carbon Credit Capital

*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

17. STRATEGIC RECOMMENDATIONS

18. ABOUT US & DISCLAIMER

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