

Voluntary Carbon Offsets Industry

Economic Trajectory of the Certification and Consulting Sectors

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Oregon Consulting Group

Exceptional Value for Clients, Transformative Experiences for Students

Industry Overview

What is Voluntary Carbon Offsetting?

Voluntary carbon offsetting describes a process where users partner with certification and consulting companies to invest capital in environmental projects that 'neutralize' their greenhouse gas emissions.

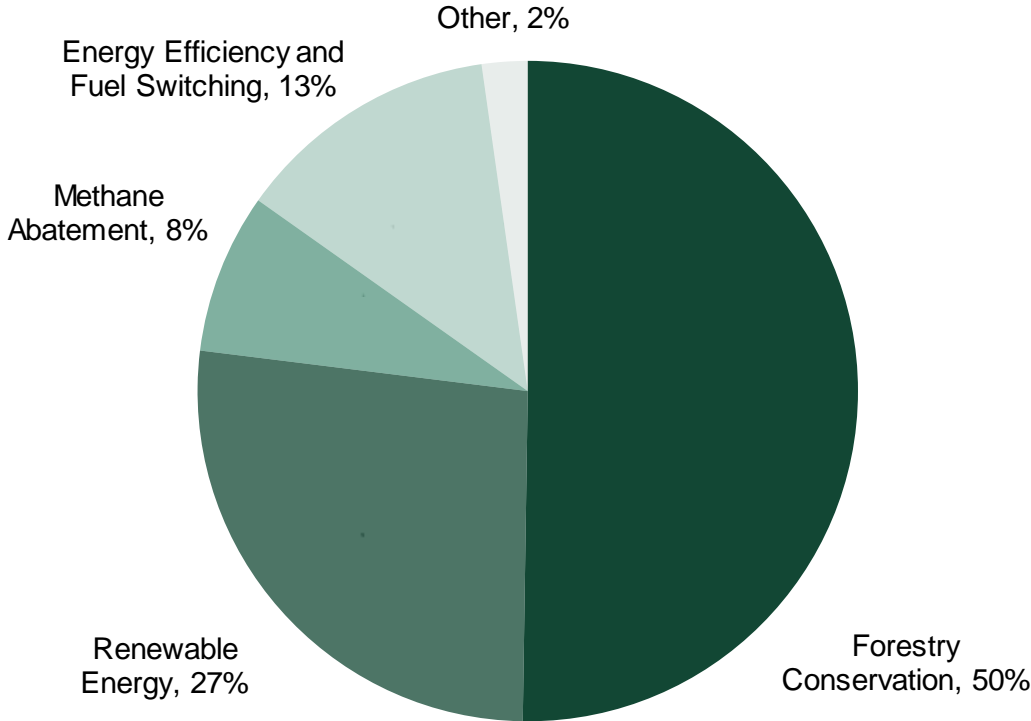
Key Industry Statistics

Estimated Market Value
~\$300 Million

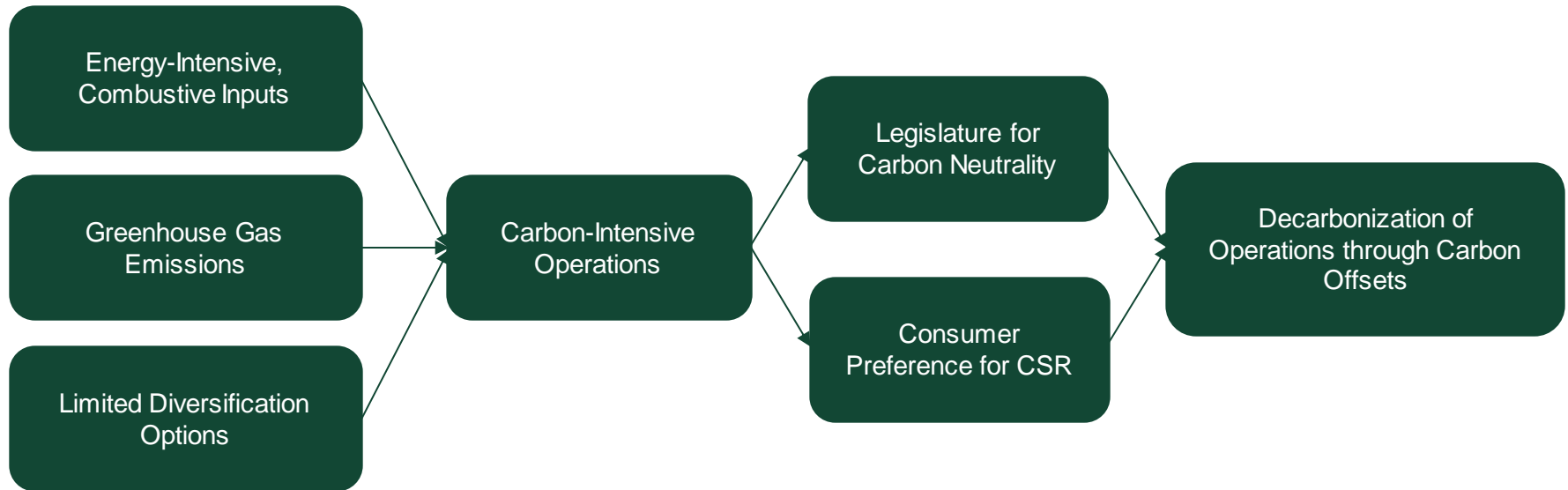
Projected Market Value
Exceed \$5 Billion by 2030

Annual Growth Rate
19.9%

Market Share of U.S. Carbon Offsets by Project Type



Identifying Clients from Carbon-Intensive Industries



- ▶ *Royal Dutch Shell*: Pledges to spend \$300 million on carbon offset emissions
- ▶ *Amazon.com Inc*: Pledges to be achieve net carbon neutrality by 2040
- ▶ *Microsoft Corp*: Pledges to be carbon-negative by 2030 (\$1 billion in investment)
- ▶ *U.S. Freight Transportation Sector*: Annual offset impact of 100+ million metric tons of carbon dioxide

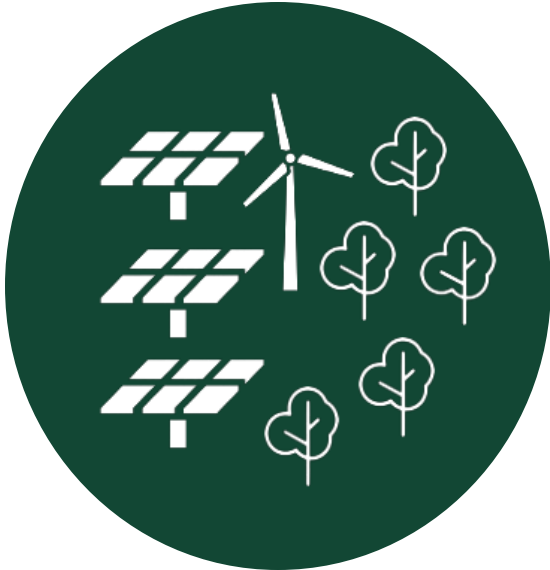
Strategies to Attract Clients from Carbon-Intensive Industries

1. Continue Impact Investing in Carbon Offset Schemes



Impact investments in forestry conservation and renewable energy development schemes

Greater sequestration of greenhouse gases and increased production of social 'co-benefits'



Strategies to Attract Clients from Carbon-Intensive Industries

2. Standardize Reporting Principles and Certification Strategies for Ecological Carbon Offset

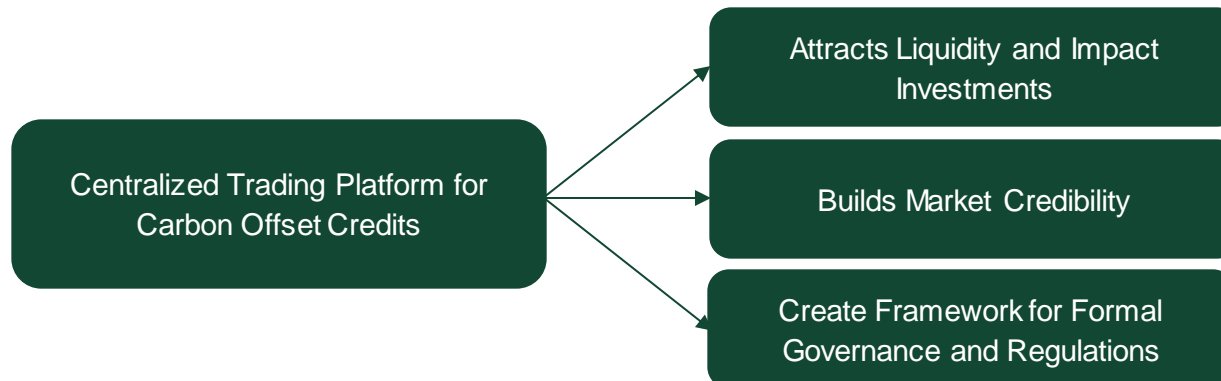
Schemes



Energy
CERTIFIED



3. Create a Common Trading Platform for Carbon Offset Credits



The Economic Trajectory of the Carbon Offsets Industry in the United States

Amidst a reality where climate change presents an urgent challenge to the corporate world, carbon offsetting has emerged as an effective strategy companies can turn toward to mitigate their greenhouse gas (GHG) emissions. Carbon offsetting describes a process where users invest capital in GHG-reducing, environmental projects in an effort to neutralize their own emissions. In the United States, carbon-intensive companies, such as those from the transportation sector, voluntarily partner with third-party certification organizations to quantify the impact of their carbon offset efforts and better identify investment opportunities in projects that effectively reduce GHG emissions.

The market value of the certification and consulting sector of the voluntary carbon offsets industry, which focuses on assessing and quantifying the impact of carbon reduction and sequestration schemes, is around \$295.7 million as of 2018, representing a 48.5% increase in value in comparison to 2016 (Zwick, 2019). Contingent with this growth, the carbon offsets industry is estimated to exceed \$5 billion in value by 2030 (Watson, 2021). While the potential of this market is promising, there are two key considerations that will determine the economic trajectory of this industry:

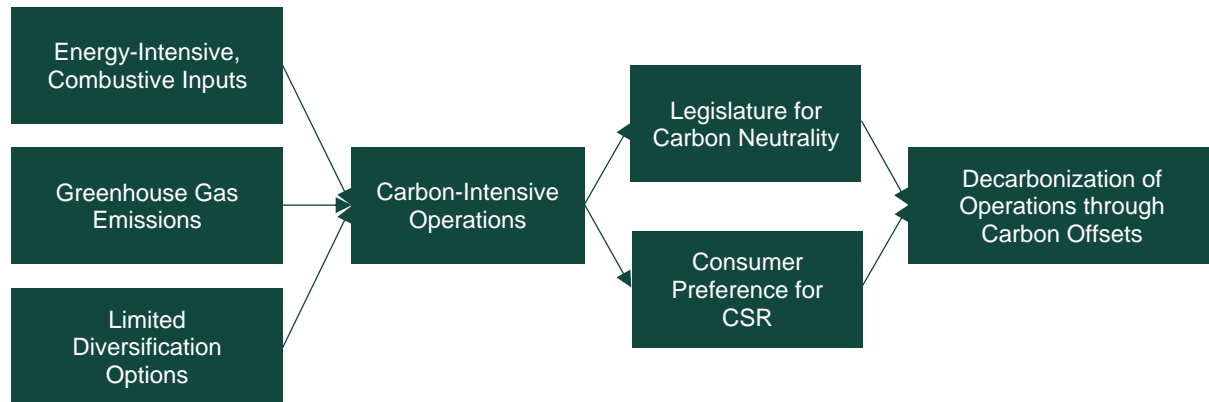
1. Targeting energy-intensive, mechanical industries that are looking for methods of decarbonizing their operations
2. Transparent uniformity surrounding certification processes, reporting principles, and trading schemes

Decarbonization of Energy-Intensive, Mechanical Industries

The transportation sector and energy-intensive processing industries (EPIs) are the two industries that are characterized by high energy inputs and carbon-heavy outputs

in their operations. Whether it be automobiles or aircrafts, vehicles in the U.S. transportation sector heavily rely on combustion processes, which draw on fossil fuels for energy and release potent GHGs into the atmosphere as byproducts. This carbon-intensive process positions the transportation industry as one of the biggest GHG emitters in the country, accounting for nearly 28% of national emissions (Morrow et al., 2009). Further, the improved efficiency and decreased cost of fracking to extract oil over the past several decades gives the industry little incentive to depart from its carbon-intensive operations. Similar to the transportation sector, EPIs also rely on energy-intensive, combustive processes when converting raw metals into basic materials such as aluminum and glass. In addition to emitting high levels of GHGs, mechanical plants within this sector are characterized by strong economies of scale and high capital intensity; this discourages companies from exploring alternative, low-carbon practices (Wesseling et al., 2017).

However, with the Paris Agreement and United Nations Environment Programme urging companies to achieve carbon neutrality by 2070, these industries are projected to heavily invest in decarbonization schemes in the coming decades. U.S. state officials, such as Governor Newsom of California, are also drafting executive orders for their states to establish and maintain negative net GHG emissions by 2045 (Aines and Peridas, 2020). Compounded, changing consumer preferences pressure carbon-intensive industries to practice corporate social responsibility and mitigate their impact on the environment. These circumstances position the transportation industry and EPIs as two key markets the voluntary carbon offsets industry should target in its efforts to identify clients seeking its certification and consulting services.



Strategies to Attract Clients from Energy-Intensive, Mechanical Industries

1. *Continue Impact Investing in Carbon Offset Schemes*

a. Forestry conservation and renewable energy development, the two most effective carbon offset projects, deliver clear environmental positives, such as sequestering carbon dioxide from the atmosphere or preventing the emission of GHGs, while producing social ‘co-benefits,’ such as employment opportunities and improved energy access (Broekhoff et al., 2019). Impact investment in these schemes will increase the scale and effectiveness of renewable energy grids and cultivate healthier, more expansive forests that will provide material values for local economies and better sequester GHGs from the atmosphere. These benefits would allow the carbon offsets industry to present more appealing ecological and social deliverables to its clients.

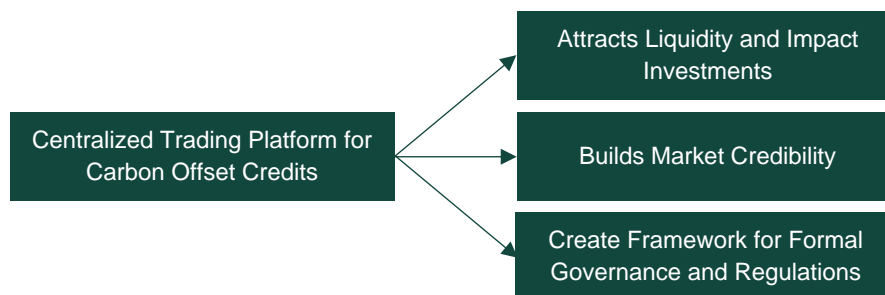
2. *Establish a Standardized Set of Reporting Principles and Certification Strategies for Natural Climate Solutions (NCS) Impact Schemes*

a. NCS refers to conservation, restoration, and sustainable management efforts that aim to sequester GHGs and protect ecosystem services while

yielding social benefits. While NCS is an effective strategy for carbon offsets, there has yet to be a national, standardized system that requires companies to report the impact of their nature-based carbon storing investments (Haya et al., 2020). Creating a standardized set of reporting principles and certification processes, such as carbon credits or the Verified Carbon Standard (VCS), for these NCS will push the industry to uphold transparent uniformity in its metrics (Needelman et al., 2018). This would allow the industry to establish a clear risk-return tradeoff for investors and cultivate credibility.

3. *Create a Common Trading Platform for Carbon Offset Credits*

- a. The localized, dissimilar trading mechanisms for voluntary carbon offsets has created an access barrier for users, such as airline corporations, who are interested in joining the ‘offsets marketplace’. By creating a common, highly accessible trading platform centered around ‘carbon offset credits,’ the industry can send a strong signal to investors on the credibility of its market, attract liquidity, and provide a backdrop of formal governance around trading (HSBC Centre of Sustainable Finance, 2020).



In a future where the mitigation and reduction of carbon emissions will be vital to sustaining the global economy, the certification and consulting services offered by the voluntary carbon offsets industry has several avenues for expansion and growth. The strategies outlined above, while important, fall under a larger collection of efforts that are capable of yielding economic value and environmental protection.

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