

The Ultimate Guide to Understanding Carbon Credits

A comprehensive overview of carbon markets, credits, and offsets - essential tools for mitigating climate change while creating new market opportunities.

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Carbon Markets Explained



Trading Platform

Markets allow trading of credits and offsets



Growing Rapidly

Renewed interest creating investment surge



State Leadership

California, RGGI states lead U.S. initiatives

Credits vs. Offsets: Key Differences

Carbon Credits

"Permission slips" for emissions

Purchased from government

Flow vertically: companies to regulators

Carbon Offsets

Represent carbon removal

Generated by companies

Flow horizontally between companies

Understanding CO2 Measurements

1 ton

CO2 Equivalent

Basic unit traded in carbon markets

16 tons

Average American

Annual CO2 emissions per person

NY-Vegas

Driving Distance

Equivalent to 1 ton of CO2 emissions



Global Carbon Credit Programs



46 national and 37 subnational jurisdictions now operate carbon pricing initiatives, covering 23% of global emissions.

Carbon Marketplace Structure



How Cap-and-Trade Works



Set Cap

Regulators limit total emissions



Distribute

Companies receive allowances



Reduce/Buy

Companies reduce emissions or buy credits



Lower Cap

Cap decreases over time



Carbon Market Size



Voluntary market projected to grow to \$100-250 billion by 2030, while compliance market already exceeds \$1.5 trillion.



Creating Carbon Offsets

Renewable Energy

Wind, solar, hydro projects reduce fossil fuel dependence

Energy Efficiency

Reducing consumption through improved technology

Carbon Capture

Directly removing CO₂ from atmosphere or emissions

Reforestation

Planting trees and restoring natural carbon sinks



Carbon Credit Verification



Project Development

Creating offset-generating activities



Validation

Third-party review of methodology



Monitoring

Tracking actual emissions reductions



Certification

Final verification and credit issuance



Offset Project Types



Renewable Energy

Wind, solar, hydro, geothermal projects



Energy Efficiency

Efficient cookstoves, building upgrades



Forestry

Reforestation, avoided deforestation

Compliance vs. Voluntary Markets



Compliance Market

Mandatory participation, government regulated



Voluntary Market

Optional participation, market regulated



Combined Impact

Both markets drive emissions reductions



Global Compliance Market Growth

\$1.5T

2024 Value

Trading value of global compliance
market

15.7Gt

CO2 Equivalent

Total carbon traded worldwide

58%

Growth Rate

Increase from \$950B in 2023

Corporate Benefits of Carbon Offsets



Corporate Social Responsibility

Signal commitment to climate action



New Revenue

Sell offsets from carbon-reducing operations



Maximize Impact

Select high-quality offset projects



Address Historical Emissions

Compensate for past carbon footprint





Tesla's Carbon Credit Success

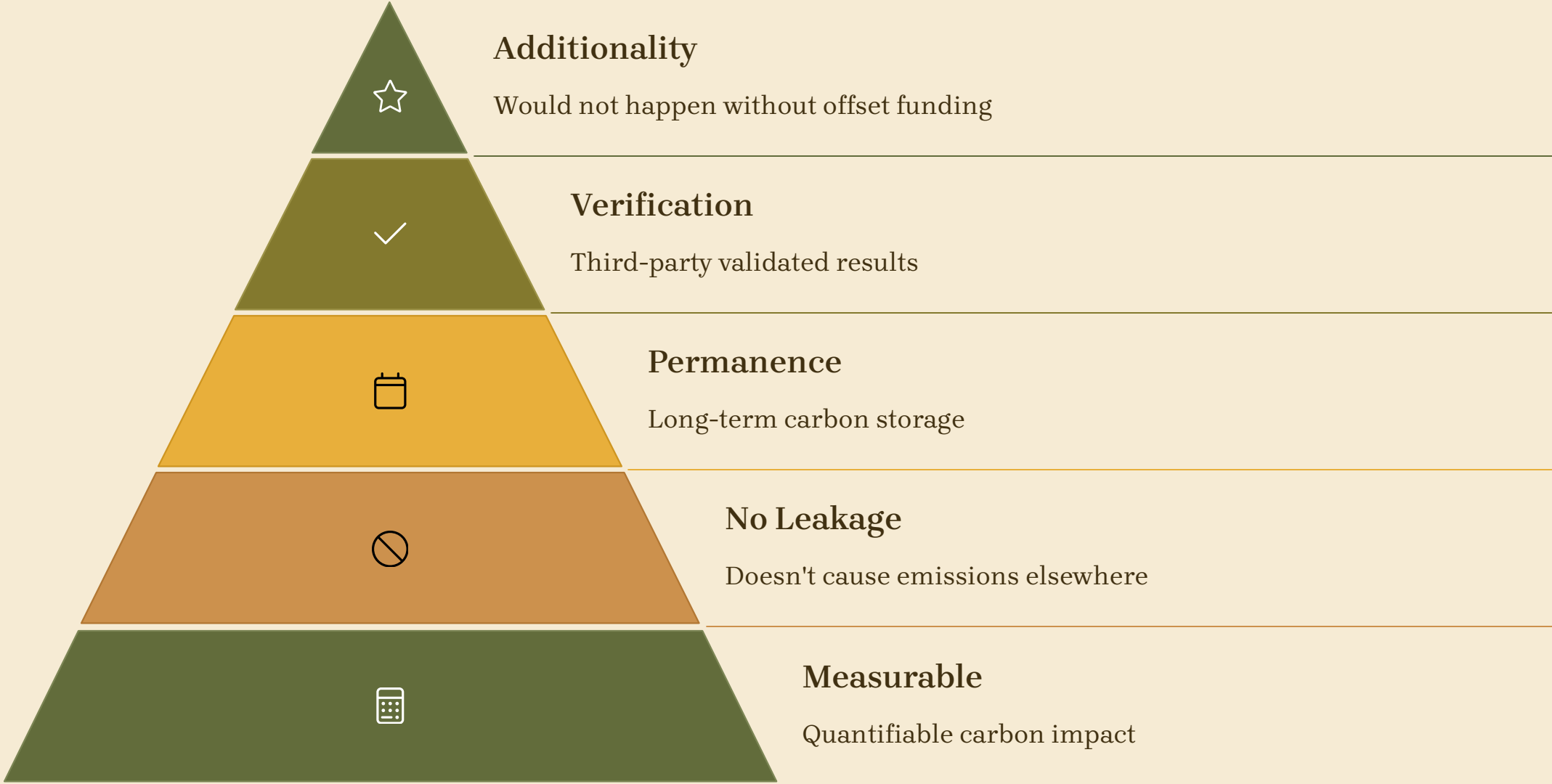
\$1.78B

2023 Revenue

From carbon credit sales alone

Tesla's massive revenue from regulatory carbon credit sales demonstrates how environmentally beneficial businesses can profit from carbon markets.

Carbon Offset Quality Factors





Individual Carbon Offset Options

Calculate Footprint

Determine personal emissions

Choose Provider

Select reputable offset company

Select Projects

Pick offset types that match values

Purchase Offsets

Buy equivalent to your emissions



Corporate Carbon Strategy



Reduce Emissions

Improve efficiency and operations



Purchase Credits

Comply with regulatory requirements



Buy Offsets

Address remaining emissions voluntarily



Communicate

Share climate commitments with stakeholders



Microsoft's Carbon-Negative Pledge

1

2020

Carbon-negative pledge announced

2

2023

25% emissions reduction achieved

3

2030

Target: Carbon-negative operations

4

2050

Remove all historical emissions since founding

Introduction to Blue Carbon

What Is It?

Carbon stored in marine ecosystems

Primarily mangroves, tidal marshes, seagrass

Premium carbon credits with multiple benefits



Blue Carbon Power

4x

Carbon Storage

More carbon per area than
terrestrial forests

0.1%

Earth's Surface

Total area covered by mangroves

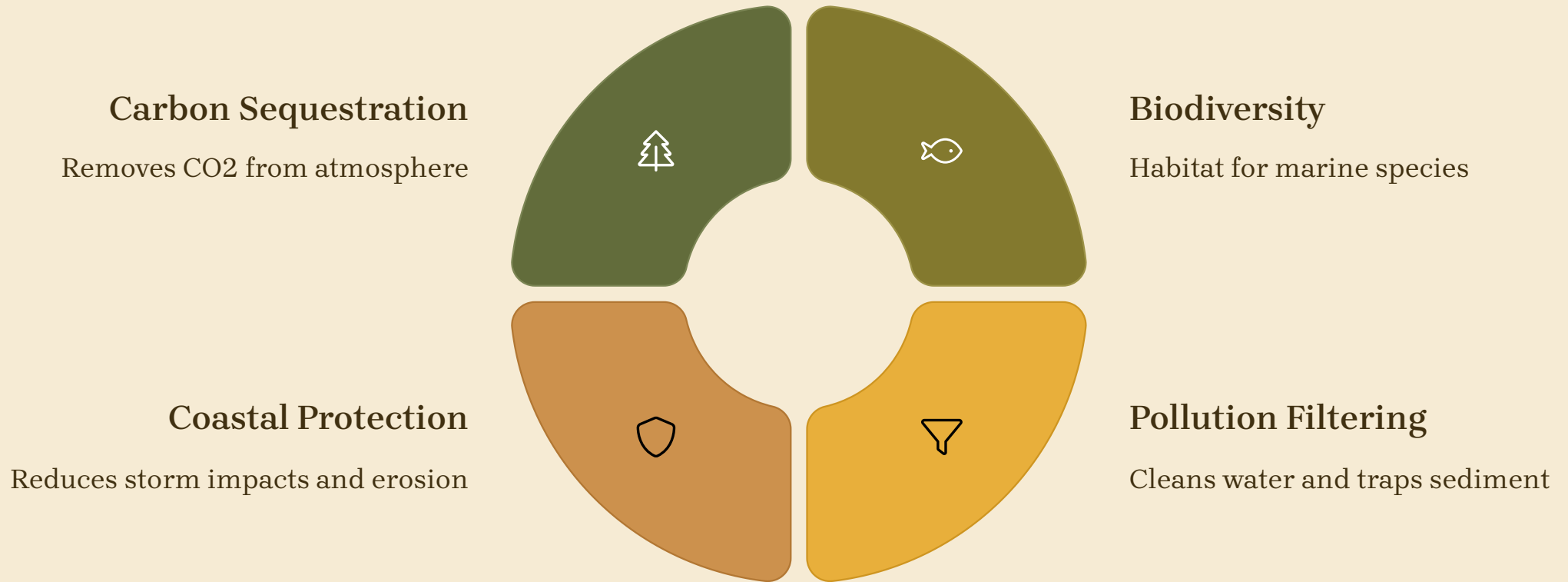
10x

Storage Duration

Longer carbon storage than
tropical forests



Blue Carbon Benefits





Food Production Carbon Impact

1,440kg

Beef Footprint

CO₂e per kg from former
mangrove land

1,603kg

Shrimp Footprint

CO₂e per kg from former
mangrove land

816kg

Dinner Impact

CO₂e from steak and shrimp from
these sources



Global Blue Carbon Potential



14 Million Hectares

Current mangrove forests worldwide



Under Threat

Deforestation for shrimp farming



Equivalent Impact

Like covering CA and NY with rainforests



1 Billion Tons

CO2 released annually from degrading ecosystems



The Future of Carbon Markets



Growing Participation

More companies and individuals joining



New Solutions

Innovative offset projects emerging



Expanding Regulation

More countries implementing carbon pricing



Market Integration

Connecting regional markets globally

