

# Carbon Markets and The World Carbon Fund

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## Carbon Cap Presentation



### Presentation Agenda

1. Carbon Pricing and Emissions Trading Systems
2. Carbon markets research
3. The World Carbon Fund

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## Carbon Pricing and Emissions Trading Systems

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## Market Based Economies Need a Market Based Solution



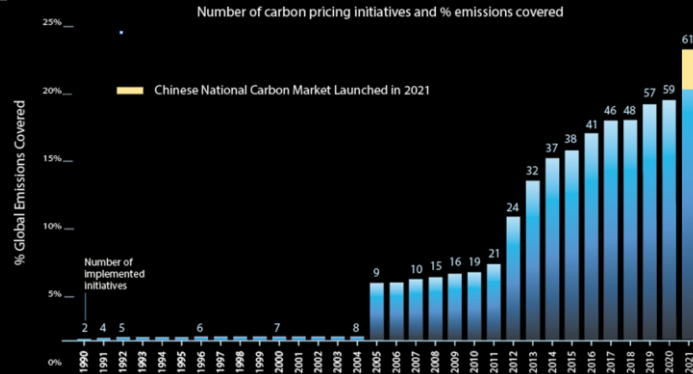
### Carbon Must be Priced to Stimulate Faster Reductions

“There has never been a global movement to put a price on carbon at this level and with this degree of unison.”

Jim Yong Kim, President World Bank Group

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## We are Seeing an Increase in Carbon Pricing Initiatives



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## How Does an Emissions Trading System Work?



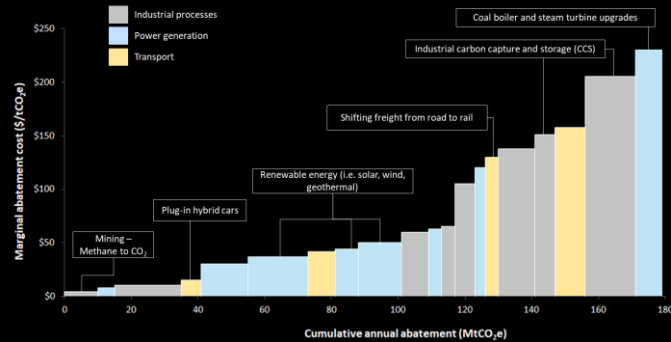
- Objective is to: 1) cap and lower carbon emissions and 2) do this at the lowest cost to society
- Mandatory inclusion for entities with emissions above a threshold, typically >25k tonnes annually
- Entities audited annually and must submit allowances equalling emissions. Penalties are severe
- "Carbon allowances" are allocated and auctioned. Each allowance, permits 1 tonne of CO<sub>2</sub> emissions
- Total supply is capped and reduced annually ensuring environmental targets achieved (cap lowered)
- Entities buy and sell allowances in the market, setting a market price for carbon
- The carbon price is internalised by participants stimulating "least cost abatement"
- A liquid market for carbon also allows hedging and incentivises innovation for low carbon technologies
- Auction revenues from the sale of carbon are used for energy efficiency and low carbon initiatives

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## Abatement Costs Rise Due to Cost and Complexity



The Marginal Abatement Cost Curve Represents the Expected Costs of Emissions Reductions



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## Europe's Cap and Trade ETS: A Major Impact



Since 2005, Emissions in Europe are down 1 Billion tonnes/yr



Europe's Surging Carbon Price Is Helping to Speed the Demise of Coal Plants

Blow for coal power as EU carbon emissions price hits 10-year high

Rising carbon price set to push more coal off the grid

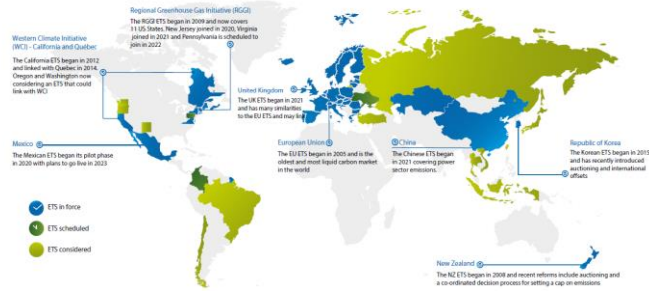
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## 13 ETS in Force with 4 Scheduled and 12 in Consideration



### Emissions Trading is Spreading Globally

13 Emissions Trading Systems in force with 4 scheduled and 12 being considered



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## The Investor

### Carbon Markets Research

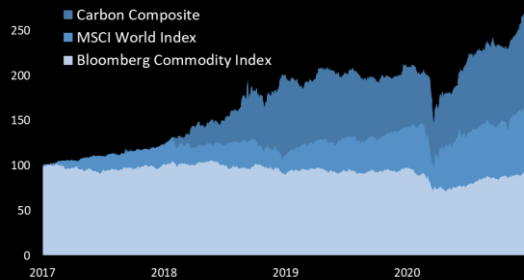
#### Academic Paper: "The Carbon Risk Premium" and CFA Case Study: Carbon as an Emerging Asset Class

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## Carbon Composite Pro-Forma Portfolio Performance



### Carbon Composite vs Equities and Commodities



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## Research: Carbon Composite Portfolio



### Carbon Composite Portfolio pro-forma performance 8 years to Dec 2020

	Carbon Composite	Global Equities	Global Bonds	Global 60:40	Global 54:36:10
Annualised Return	21.7%	10.7%	2.2%	7.4%	9.1%
Annualised Volatility	17.7%	14.2%	4.6%	8.4%	8.2%
Sharpe Ratio	1.19	0.76	0.47	0.82	1.04

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## Research: Carbon Markets Exhibit low cross correlation



No cross correlation and low correlation to all asset classes and strategies (36 months to Oct 2021)

Correlation Matrix	CCA Carbon	RGGI Carbon	NZU Carbon	Global Commodities	US Reits	Euro Equities	US Equities	Global Equities	Hedge Funds
EU Carbon	3%	11%	4%	32%	26%	36%	30%	33%	36%
CCA Carbon		28%	9%	10%	17%	4%	16%	16%	12%
RGGI Carbon			9%	14%	26%	19%	24%	26%	25%
NZU Carbon				18%	14%	15%	13%	18%	19%
Global Commodities					32%	40%	40%	45%	49%
US Reits						55%	79%	79%	63%
European Equities							65%	77%	82%
US Equities								97%	72%

Low cross correlation

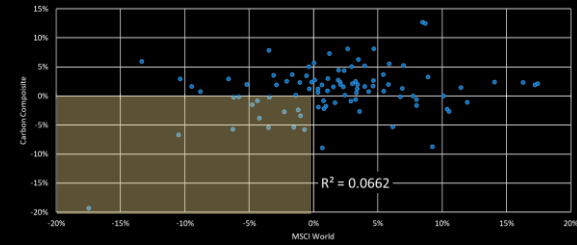
Low correlation to other asset classes

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## Research: Carbon Uncorrelated to Equity Markets



No correlation in monthly returns between global equities and carbon (2013 -2020)



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## What Carbon Price Do We Need to Meet Paris Targets



Based on the Emissions Reductions Needed for Paris, a Carbon Price can be Calculated

Carbon pricing Source	2030 Carbon Price (US\$)
Stern Stiglitz Review <sup>1</sup>	75
IEA Perspectives for the Energy Transition <sup>2</sup>	120
IIASA SSP Scenarios 2 Degrees <sup>3</sup>	131
UK REA Bioenergy Strategy <sup>4</sup>	125
<b>Average</b>	<b>113</b>

<sup>1</sup> Stern Stiglitz Review: High-Level Commission on Carbon Prices, 2017, Report of the High-Level Commission on Carbon Prices, Washington, DC: World Bank, License: Creative Commons Attribution CC BY 4.0 IGO

<sup>2</sup> IEA Perspectives for the Energy Transition: International Energy Agency, 2017, Energy Technology Perspectives.

<sup>3</sup> IIASA SSP Scenarios 2 Degrees: International Institute for Applied Systems Analysis, 2019, Shared Socioeconomic Pathways (SSP) Scenario Database.

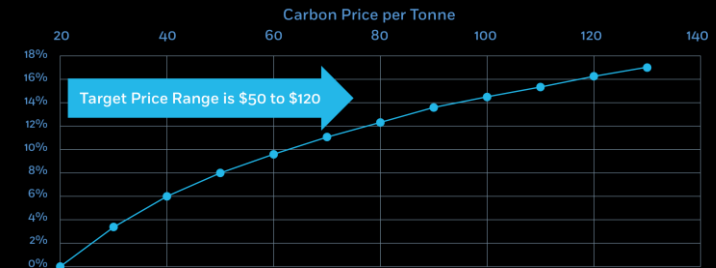
<sup>4</sup> UK REA Bioenergy Strategy: Brown, A., 2019, Bioenergy Strategy Phase 3: Delivering the UK's bioenergy potential, Renewable Energy Association (REA).

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## A Carbon Risk Premium of 6% to 8% pa by 2030



Annualised Return vs Carbon Prices to 2030




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# The World Carbon Fund

## Generating Absolute Returns and Climate Impact

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### World Carbon Fund



- The World Carbon Fund targets absolute returns and a direct impact on climate change
- The fund invests into multiple liquid carbon markets holding physical carbon, futures and options
- The team have years of experience in carbon pricing, carbon trading and portfolio management
- 90%+ of participants within carbon markets are "end users" creating alpha opportunities
- "ETS markets are now large and liquid, trading \$2-4 billion per day and expanding globally
- Fund launched March 2020, now has a 2 year track record and is +70% since launch
- The fund is structured as an Irish QIAIF and has monthly liquidity
- 20% of performance fees used to purchase and permanently retire carbon allowances

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### World Carbon Fund +70% Since Launch and +54% YTD



Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2020	-	-0.49%	8.45%	-5.15%	-7.34%	4.23%	1.71%	2.48%	-0.23%	-0.45%	2.70%	4.15%	9.46%
2021	-11.48%	6.05%	-0.73%	4.89%	2.18%	10.13%	-1.20%	6.34%	16.88%	4.60%	6.96%	2.06%	54.23%

**Figure 1: Total monthly traded value across EU ETS, WCI and RGGI**

**Figure 2: European ETS Power generation by fuel type**

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## Saint-Tropez, France

July 24, 2017

"Right now, we are facing a man-made disaster of global scale. Our greatest threat in thousands of years.

If we don't take action, the collapse of our civilisations and the extinction of much of the natural world is on the horizon."

**Sir David Attenborough**

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## Climate Change: The Largest Threat to Humanity



### Carbon Cap Mission Statement

*Raise awareness of climate change  
and provide solutions directly related  
to the capping and reduction of  
carbon dioxide emissions*

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