

SGI-orbeo Carbon Credit Index



α research

β research

SOCIETE GENERALE INDEX

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The man-induced enhanced greenhouse effect leads to an increase in the average temperature of the planet. If left unchecked, it would potentially cause increasingly severe and perhaps even catastrophic disruptions to the Earth's climate. Market mechanisms have been chosen as one of the key tools to address the climate change risk. The SGI-orbeo Carbon Credit Index provides investors with exposure to carbon credits put in place to regulate greenhouse gases emissions.

How does it work?

Under the Kyoto Protocol, the European Union is committed to **reduce its GHG emissions by 8%** below its 1990 level by 2008-2012. To maximise the chances to meet this objective, the EU has put in place the **EU Emission Trading Scheme (EU ETS)**.

Each participating country has drawn a National Allocation Plan (NAP) setting yearly CO₂ emissions quotas materialized by allocations of **"European Emission Allowances" (EUAs)**. One EUA represents the right to emit 1 ton of CO₂.

CERs (Certified Emission Reduction) and **ERUs (Emission Reduction Unit)** are carbon credits (also worth 1 ton of CO₂) resulting from the implementation of emission reduction projects in emerging countries.

To comply with restrictive CO₂ emission allowances, facilities can either:

- Reduce their emissions,
- Purchase EUAs from others facilities, or
- Acquire carbon credits from Kyoto flexibility mechanisms.

Phase I prices evolution (2005 – 2007): avoiding misunderstandings

Market was initiated by a trial Phase launched in 2005. The objective was to set up market infrastructure, emissions monitoring and reporting before Kyoto Protocol actual start in 2008. Phase I EUA prices dropped dramatically in 2007. This was due to **an over-allocation of EUAs**, by about 10% **against actual emissions**.

Reasons for this over-allocation are twofold:

- **There was no measurement of emissions prior to 2005**, leading to asymmetric information and initial uncertainty,
- Phase I was not legitimate to constrain European plants unilaterally against their international competitors before Kyoto.

Phase I is now over. **It helped the EC obtain data**, thanks to which it could set **much tighter allocation plans for ETS Phase II** (2008-2012). Possible "surprise effects" on emission levels are now limited since they concern emission evolution from one year to the other, and not the absolute level as in Phase I. This, together with the much larger liquidity of present market, practically rules out the possibility of a crash in EUA Phase II prices.

Why invest in the Carbon Market?

The right base to offset equity portfolio carbon footprint

The Index can be used in addition to any portfolio holding to compensate the CO₂ emissions from its underlying activities. It is an easy way for an investor to make its portfolio carbon neutral in an SRI perspective.

A bullish view of prices going forward

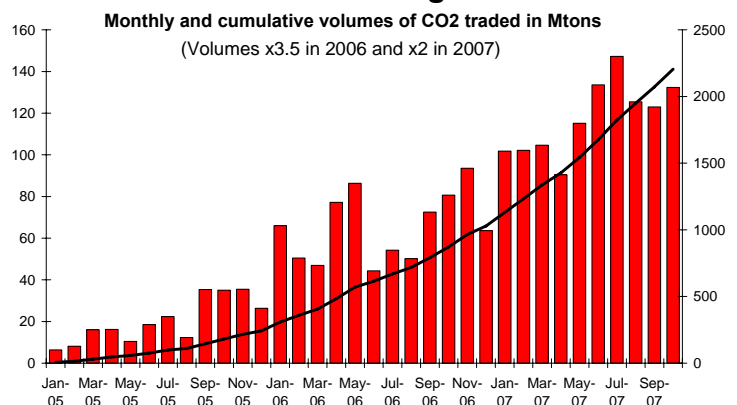
Emissions are directly linked to economic activity. They will increase over time while allowances remain flat year after year.

The scarcity of EUAs will thus increase, more reductions will have to be done for emissions to remain at quotas level. Moreover, the cheapest emission reductions are done first: the cost of abating one ton of CO₂ will also increase over time. These 2 effects combine: **we anticipate the EUA price to exceed €30 /t by 2012.**

A diversifying asset class

Carbon also features interesting characteristics for an asset manager allowing him to diversify his portfolio. A now known example is this summer 2007 price behavior. While equity stocks were plunging, **carbon continued unaffected and proved a resilient underlying.**

Carbon: a new and booming market



Source: ECX European Climate Exchange

SGI-orbeo Carbon Credit Index

Analysis

Index Description

The SGI-orbeo Carbon Credit Index **seeks to leverage on the performance of carbon allowances and credits issued under the Kyoto Protocol**. The Index tries to capture the daily performance of carbon credit prices traded over exchanges and in OTC deals.

Specifically, its objective is to **outperform carbon indices** which would be based solely on EUAs or weighted according to the import limit of CERs into the EU ETS (13.7% on average).

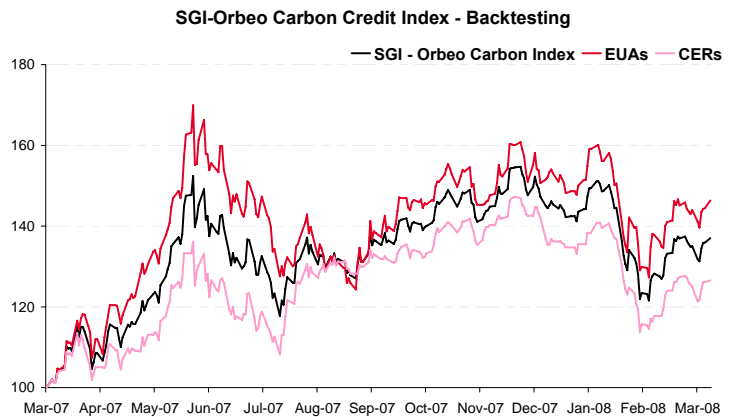
Methodology

The Index replicates the performance of two Future contracts, the **“ECX CFI Futures for EUAs”** and the **“ICE ECX CER Futures for CERs”**. These two underlying indices are **the most transparent indices** available on the markets providing the highest liquidity to investors.

The initial repartition of the Index, **adjustable over time**, is 50% EUAs, 50% CERs.

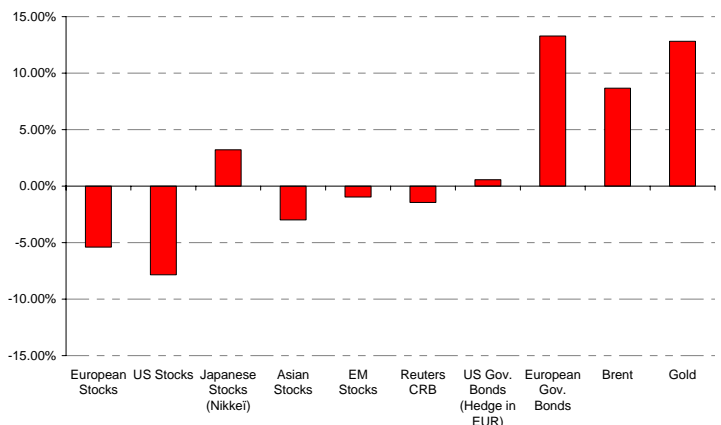
This initial repartition featuring a heavy share of CERs was decided by the Review Committee and is intended to **capture benefit from the present undervaluation of CERs relative to EUAs**. SG/Orbeo's view is that the discount of CERs to EUAs will reduce in 2008 since CERs have the same economic value than EUAs for compliance buyers and are at present in short supply. Moreover, CERs will increasingly be used as the main carbon currency in the different emerging trading schemes. Finally, CERs have consistently proved more resilient to episodes of dropping prices than EUAs.

The back-test shows a poorer performance than with pure EUAs due to the increasing discount of CERs. This is the reason why it should outperform in the future.



SGI Index has been back-tested since March 9th 2007 and has been calculated since March 9th 2007. See the back-testing disclaimer on the following page.

2-year correlation with other asset classes



Source: Reuters

SGI and orbeo to accompany your investment on the long run

An innovative market here to stay

With increasing liquidity and volumes, carbon is emerging as a market where investors can now **commit sizeable amounts with ever less liquidity risk**.

Carbon featured \$25 billion worth of transactions in 2006, about \$55 billion in 2007, of which more than 75% on the European Union Emission Trading Scheme (EU ETS).

CER transactions have been taking off very rapidly since early 2007, along with the continued increase in project investments (100 Mt of CERs issued as of now).

The EU is now committed to **achieving a reduction in its CO2 emissions of 20% by 2020 relative to 1990 levels**. This very ambitious target implies tougher caps after 2013, which will sustain prices to high levels and continue to drive larger volumes to the market.

SG and Rhodia's leading edge

Société Générale began trading CO2 in early 2005 and has been a leading commodities market participant for 17 years.

Rhodia pioneered the carbon market by being the first company to develop two of the largest CDM projects.

Société Générale and **Rhodia** joined forces to create **orbeo**. Its market positions and state of the art market intelligence enable **orbeo** to devise informed price forecasts and corresponding trading strategies for all classes of investors and carbon stakeholders.

Index characteristics

Index composition: **Société Générale**

Index calculator: **S&P**

Index calculation: **Excess Return/ Total Return**

Currency: **Euro**

Starting date: **14th March 2008**

Bloomberg codes:

	EUR
Excess Return	SGIXOCC
Total Return	SGIXOCCT

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About SGI

Société Générale Index (SGI) is a leading index provider part of the Société Générale group.

SGI is closely linked to the Global Equities and Derivatives Solutions division, which has been recognized as a global leader in equity derivatives for many years. The SGI offer is organized around two main ranges of indices, each addressing a specific need either in terms of portfolio diversification or alpha generation.

Furthermore, SGI indices can ultimately be combined in more sophisticated core-satellite strategies to extract the added value of both spheres.

- α -research indices seek to deliver an excess return over traditional indices by reflecting the evolution of strategies based on systematic or discretionary investment processes.
- β -research indices aim to provide exposure to new investment themes, alternative markets and asset classes.

The SGI range targets the growing market demand for absolute and uncorrelated return engines, quantitative strategies and niches of growth such as alternative energies, water or sustainable investments.

All SGI indices are fully investable and replicable by delta one products such as certificates or ETFs. They can also be linked to leveraged and structured products for more complex indexation and payoffs.

About orbeo

Operating globally and headquartered in Paris, orbeo is a pioneering joint-venture between Rhodia, a worldwide leader in chemical industry and Société Générale, one of the largest financial services groups in the euro-zone. orbeo is the first such venture to combine industrial and financial expertise in the field of carbon markets.

Through its founding partners, orbeo has unique capabilities and covers the whole carbon value chain, from project to market:

- **Origination:** orbeo is a major buyer of all kinds of CO2 instruments, and provides project development and financing arrangements to all types of providers (project owners and developers),
- **Trading:** orbeo trades all carbon instruments on different market places, and is at the forefront of the innovation in financial instruments
- **Marketing:** orbeo offers advising, carbon portfolio optimization and structuring of customized transactions to all types of customers (industrials, governments, voluntary buyers, investors).

With dedicated resources in Asia, Americas, Europe, Middle East and Africa, orbeo is able to bring together the best teams to accompany growth in carbon markets around the world, and can provide our customers with the best solutions for their emission needs and for their emission reduction opportunities.

The contents of this document are given for purely indicative purposes and have no contractual value.

The accuracy, completeness or relevance of the information provided is not guaranteed although it has been drawn from sources believed to be reliable.

The information presented in this document is based on market data at a given moment and may change from time to time.

Past performance is no guarantee as to future returns.

The SGI Orbeo Carbon Credit Index is the exclusive property of SG. SG has contracted with S&P to maintain and calculate the index.

S&P shall have no liability for errors or omissions in calculating the index.

** The SGI Index was launched on 03/14/2008. This document contains index performance data based on back-casting, i.e., calculations of how the index might have performed prior to launch if it had existed using the same index methodology employed by SG today and based on the initial constituents of the Index. Back-test performance information is purely hypothetical and is provided in this document solely for informational purposes. Back-test performance does not represent actual performance and should not be interpreted as an indication of actual performance. SG prepared the back-test index performance history with respect to the time period 03/09/2007 through 03/14/2008. Index performance is for illustrative purposes only and does not represent actual investment performance. Index performance returns do not reflect management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index.*

Société Générale index

Tour Société Générale
17 cours Valmy
92987 Paris – La Défense Cedex
FRANCE

Mail address: sgindex@sgcib.com
Website: www.sgindex.com
Bloomberg page: SGIX

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