



The GBP Databases and Indices Working Group –

Summary of Green Fixed Income Indices Providers

June 2017



This material was prepared by the GBP Databases & Indices Working Group, coordinated by HSBC and BNP Paribas, with support from ICMA. The Group expresses special thanks to HSBC, who led the preparation of this document, and to the index providers, who were invited to comment on material relating to their organisation. The working group consisted of the following organisations during mid-2016 to mid-2017:

Working Group Coordinators:

HSBC

BNP Paribas

Working Group Members:

Bank of America Merrill Lynch

California State Teachers' Retirement System (CalSTRS)

Engie

European Investment Bank (EIB)

IFC

Natixis

Standish

This material is neither intended to be exhaustive nor restrictive. Indices providers who do not appear in this material are invited to provide the Working Group with information in order to complete it.

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1. Introduction to document – Green Fixed Income Indices

Definition – per the Green Bond Principles (16 June 2016)

Green Bond:

Green Bonds are any type of bond instruments where the proceeds will be exclusively applied to finance or re-finance in part or in full new and/or existing eligible Green Projects, and which are aligned with the four core components of the Green Bond Principles.

See: <http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/green-bond-principles/>

Since the first green bond in 2008, the market has tripled to around USD38bn in 2014. Total green, social and Sustainability bonds issued in 2016 is around USD105bn per Dealogic. A few research houses predicted the 2017 issuance to be:

Predictions for 2017FY issuance volume	
HSBC Fixed Income Research	USD90bn-120bn
Bloomberg New Energy Finance	USD123bn
ABN Amro	USD90-USD110bn
Natixis	USD144bn
Climate Bonds Initiative	USD130-USD150bn
Credit Agricole	USD100bn
Moody's	USD206bn
Environmental Finance (survey of SRI market participants)	USD120bn-USD160bn

Today the bulk sits within USD and EUR, but China and other EM countries are gearing up for the green bond market

Green Bond Indices

As the market rapidly scales, indices are playing an important role in breaking down some major barriers facing institutional investors in the past — a lack of understanding of the types of green bonds and a lack of clear risk and performance data about them.

Since March 2014, a number of ratings agencies and financial institutions have created indices to exclusively cover green bonds. In March 2014, Solactive launched the first green bond index, followed in July by S&P with their S&P Green Bond Index and the S&P Green Project Bond Index. Bank of America Merrill Lynch launched their index in October 2014 and finally in November 2014, MSCI collaborated with Barclays to launch family of green bond related indices.

Each of these indices has various eligibility criteria for inclusion, which are summarised herein.

The launch of numerous green bond indices is a sign of the market's growing maturity. Moreover, these indices are playing an important role for driving demand for green bonds among institutional investors.

2. Index Summaries

Barclays MSCI Green Bond



Bloomberg Ticker	GBGL
Launch date	Nov 2014

The Bloomberg Barclays MSCI Green Bond index is a multi-currency benchmark that includes local currency debt markets tracked by the Barclays Global Aggregate Index.

Eligibility criteria:	
Sector	Corporate, government-related, treasury and securitized bonds are eligible for the Green Bond Index
Currency	Multi-currency benchmark that includes local currency debt markets tracked by the Bloomberg Barclays Global Aggregate Index. USD-only and EUR-only Green Bond Indices are also available as flagship benchmarks
Green Criteria	To be assessed against six MSCI defined eligible environmental categories.
Green Criteria - detail	<p>To be classified as a green bond, a security's use of proceeds must first fall within at least one of six MSCI defined eligible environmental categories: alternative energy, energy efficiency, pollution prevention and control, sustainable water, green buildings, and climate adaptation (see more detail below). General-purpose bonds are eligible if 90% of the issuer's activities (as measured by revenues) fall within one or more of the eligible MSCI environmental categories.</p> <p>Further, an eligible green bond's prospectus or supporting documentation must clearly identify the specific criteria and process for determining eligible projects or investments, and a formal process to ring-fence net proceeds must be disclosed in the bond prospectus or supporting documentation.</p> <p>At issuance, the issuer must either report on eligible projects or state its commitment to report within one year of issuance. Reporting will be monitored and bonds can be removed if the issuer fails to report at least annually, or if annual reporting indicates that over 10% of proceeds had been used for ineligible projects.</p>
GBP/CBI alignment	Not explicit, MSCI ESG Research green criteria are broadly aligned with GBP.
Amount Outstanding	<p>Fixed minimum issue sizes are set for all local currency markets matching Bloomberg Barclays Global Aggregate Index</p> <p>(USD 300m, CAD/EUR/CHF/AUD 300m, GBP 200m, JPY 35bn, SEK 2.5bn, CZK/THB 10bn, NZD/SGD 500m, CLP 100bn, KRW 500bn, HKD/DKK/NOK/PLN/ZAR/ILS/MYR 2bn)</p>
Credit Quality	Includes only investment-grade bonds using the middle rating of Moody's, S&P, and Fitch
Coupon Type	Includes fixed-rate securities only
Maturity	Does not have a 1-year minimum time to maturity and holds bonds until final maturity
Index rebalanced	<p>MSCI ESG Research picks up newly issued bonds throughout the month and evaluates each bond's documentation for eligibility against the index criteria.</p> <p>Evaluation Date: The formal list of green bonds evaluated by MSCI ESG Research is updated on the 25th calendar day of each month. A technical note is released indicating the bonds to be added and provides justifications for any labeled green bonds considered ineligible, under review, or on watch for removal.</p>

	Index is rebalanced on the last business day of each month.
Reporting (updated in 2016 for clarifications)	<p>At Issuance: Issuer reports on specific projects to be financed by the proceeds of the bond, OR commitment to report on Use of Proceeds in twelve months' time</p> <p>Ongoing: List of specific projects/investments, including amount disbursed to each individual project, OR list of aggregate projects/investment categories, including amount disbursed to each category, OR qualitative or quantitative environmental impact on the project pool (i.e. ex-ante estimates, ex-post results). Ongoing reporting is reviewed at least annually until the bond reaches maturity OR until net proceeds have been disbursed.</p>
Exclusions	<p>Bond may be removed if Use of Proceeds are not meeting criteria or if there is no reporting to support Use of Proceeds:</p> <p>+15 months of issuance, bond will be placed 'on watch' in green bond technical note if no reporting is available</p> <p>+18 months of issuance, bond will be removed from index if reporting is still not available</p> <p>The flagship index does not use any business activity exclusions, but index variants are available with issuer-level exclusions (e.g. ex-Nuclear, etc.)</p>

Current constitution: As of 31 May 2017

Sector	% MV	Currency	% MV	Quality	% MV
Government Related	61%	EUR	52%	Aaa	35%
Corporates	31%	USD	36%	Aa	23%
Treasuries	7%	GBP	5%	A	22%
Securitized	1%	Other	7%	Baa	18%








Performance: As at 31 May 2017

	USD		EUR		JPY		GBP		CHF	
	Unhedged	Hedged	Unhedged	Hedged	Unhedged	Hedged	Unhedged	Hedged	Unhedged	Hedged
2014	0.20	8.72	14.11	8.72	14.31	8.44	6.44	9.07	11.96	8.43
2015	-5.71	1.05	5.03	0.75	-5.40	0.52	-0.25	1.43	-5.02	-0.46
2016	0.36	3.44	3.36	1.96	-2.69	1.80	19.71	3.14	1.90	1.31
2017*	2.38	2.43	-0.90	1.71	0.17	1.80	1.13	2.04	0.58	1.49

Note: 2017 returns as of 5/31/2017.

	Number Issues (Returns)	Market Value (MM)	Duration (Mod. Adj.)	Maturity	Yield to Worst	OAS	YTD Total Return
Global Green Bond Index	157	122,167	6.89	8.11	1.38	0.65	5.65
Euro Green Bond Index	65	64,720	8.45	9.06	0.60	0.58	7.82
US Green Bond Index	67	43,599	5.44	7.67	2.61	0.80	3.13

MSCI ESG RESEARCH GREEN BOND TAXONOMY

 <p>ALTERNATIVE ENERGY</p>	<p>Products, services, or infrastructure projects supporting renewable energy and alternative fuels.</p> <table border="0"> <tr> <td>Wind</td> <td>Hydro (Specific Criteria)</td> <td>Biomass</td> </tr> <tr> <td>Solar</td> <td>Biogas</td> <td>Waste energy</td> </tr> <tr> <td>Geothermal</td> <td>Biofuels</td> <td>Wave tidal</td> </tr> </table>	Wind	Hydro (Specific Criteria)	Biomass	Solar	Biogas	Waste energy	Geothermal	Biofuels	Wave tidal
Wind	Hydro (Specific Criteria)	Biomass								
Solar	Biogas	Waste energy								
Geothermal	Biofuels	Wave tidal								
 <p>ENERGY EFFICIENCY</p>	<p>Products, services, infrastructure, or technologies addressing the demand for energy while minimizing environmental impact</p> <ul style="list-style-type: none"> • Demand-side management • Battery technology • Fuel cells/hydrogen systems • Smart grid • Industrial automation • Energy storage • Superconductors • Nat gas comb. heat & power • LED Lighting • Environmental IT • Compact fluorescent lighting • Insulation • Hybrid/electric vehicles • Clean transport infrastructure • IT optimization 									
 <p>POLLUTION PREVENTION</p>	<p>Products, services, or projects that support pollution prevention, waste minimization, or recycling to alleviate unsustainable waste generating.</p> <ul style="list-style-type: none"> • Environmental remediation • Waste treatment (ex landfill and incineration) • Reuse & recycling of waste • Conventional pollution control 									
 <p>SUSTAINABLE WATER</p>	<p>Products, services, and projects that attempt to resolve water scarcity and water quality issues, including minimizing and monitoring current water use and demand increases, improving the quality of water supply, and improving the availability and reliability of water.</p> <ul style="list-style-type: none"> • Water infra & distribution • Rainwater harvesting • Smart metering devices • Drought-resistant seeds • Desalinization • Waste water treatment 									
 <p>GREEN BUILDING</p>	<p>Design, construction, redevelopment, retrofitting, or acquisition of 'green' certified properties, subject to local building criteria</p> <ul style="list-style-type: none"> • Green certified properties (LEED, BREEAM, etc.) • Uncertified green properties (top 15% on energy efficiency) 									
 <p>CLIMATE ADAPTATION</p>	<p>Projects that reduce the vulnerability of social or environmental systems to the effects of risks related to climate change by maintaining or increasing adaptive capacity, reducing sensitivity to climate change or increasing climate resilience, including:</p> <ul style="list-style-type: none"> • Flood Protection, Climate Resiliency Services, etc. 									
 <p>OTHER</p>	<p>Other environmental activities that do not fit into the categories above, including sustainable forestry / agriculture</p>									

About the publishers:

<p>Bloomberg</p>	<p>Bloomberg offers a fresh perspective on the traditional world of indexing. Independent and unbiased, these indices are broadly available. With expertise in capital markets, data, pricing, analytics, distribution and research, Bloomberg Indices provide the global investment community with comprehensive solutions to fulfil their benchmarking needs.</p> <p>Contacts: indexhelp@bloomberg.net www.bloombergindices.com Singapore +656308225</p>
<p>MSCI</p>	<p>MSCI Inc. is a leading provider of investment decision support tools to investors globally. MSCI's range of products and services include indexes, portfolio risk and performance analytics, and ESG data and research. MSCI is headquartered in New York, with research and commercial offices around the world. MSCI ESG Research and ESG Indices, contact esgclientservice@msci.com, visit www.msci.com/esg; for bond issuers or representing a bond issuer esg_corporate_communications@msci.com</p> <p>Contacts: ESG Client Service Asia Pacific +612 9033 9339 America +1 212 804 5299 Europe, Middle East and Africa +44 207 618 2510</p>

BAML Green Bond Index



Bloomberg Ticker	GREN
Launch date	Oct 2014

BAML Green Bond Index is designed to track the performance of debt issued by quasi-governments and corporations where the proceeds of the issue are to be used solely for projects and activities that promote climate or other environmental sustainability purposes.

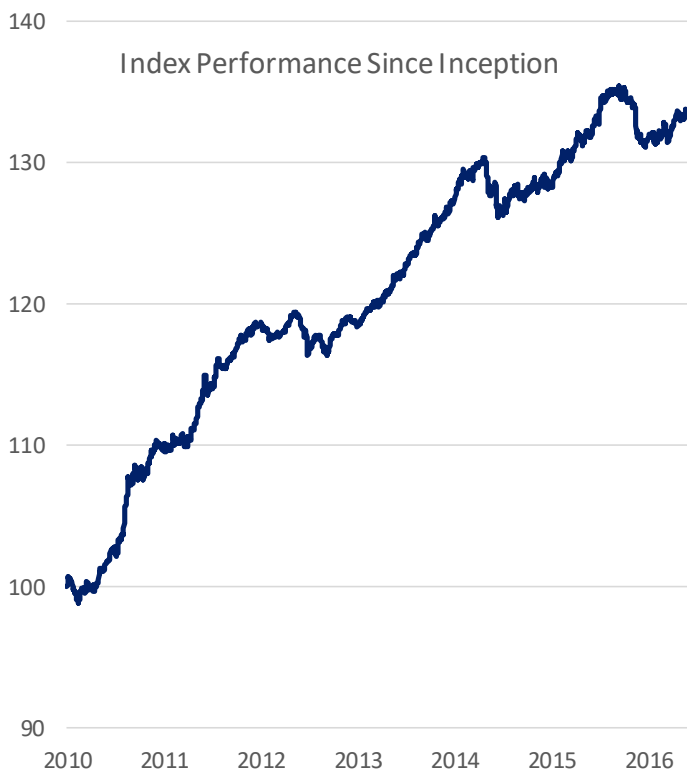
<http://newsroom.bankofamerica.com/press-releases/economic-and-industry-outlooks/bofa-merrill-lynch-global-research-launches-green-bond>

Eligibility criteria:	
Sector	Includes debt of corporate and quasi-government issuers, but excludes securitized and collateralized securities
Currency/issue size	Qualifying emerging markets currencies are selected annually and fixed minimum issue sizes are set for each. Currently qualifying currencies/minimum issue sizes are: Developed market currencies: AUD 100; CAD 100; EUR 250; GBP 100; JPY 20,000; SEK 1,250; and USD 250. Emerging market currencies: BRL 150; CLP 50,000; CNH 500; CNY 500; COP 200,000; CZK 2,000; EGP 500; HKD 750; HUF 20,000; IDR 1,000,000; ILS 300; INR 5,000; KRW 100,000; LKR 40,000; MAD 750; MXN 1,250; MYR 300; NGN 15,000; PEN 250; PHP 4,000; PLN 300; RON 300; RUB 3,000; SGD 100; THB 3,000; TRY 150; TWD 3,000; VND 2,000,000; and ZAR 750. Note: Securities denominated in a qualifying emerging market currency must settle on Euroclear. "Dual Currency bonds" (bonds denominated in an EM currency but that settle in a hard currency, such as USD) are included in the index.
Green Criteria	Qualifying bonds must have a clearly designated use of proceeds that is solely applied toward projects or activities that promote climate change mitigation or adaptation or other environmental sustainability purposes. General debt obligations of corporations that are involved in green industries are not included.
GBP/CBI alignment	Not explicit
Credit Quality	Includes only investment-grade bonds based on an average of Moody's, S&P, and Fitch
Coupon Type	Includes securities with a fixed coupon schedule. Also, includes fixed-to-floating rate securities provided they are callable within the fixed rate period and are at least one month from the last call prior to the date the bond transitions from a fixed to a floating rate security.
Maturity	At least 18 months to final maturity at the time of issuance, at least one month remaining term to final maturity as of the rebalancing date
Index rebalanced	Monthly on the last calendar day of the month
Currency Rebalanced	Qualifying emerging markets currencies are selected annually on June 30th, and any resultant changes are implemented on the September 30th rebalancing
Qualifying bonds	Zero Coupon Bonds; Pay in kind securities (including toggle notes); Callable perpetual securities (at least one year from call date); Capital securities where conversion can be mandated by regulatory authority; Hybrid capital securities.
Excluded bonds	Contingent capital securities ("cocos"); Municipal securities; Inflation linked securities; Equity linked securities; Legally defaulted securities.

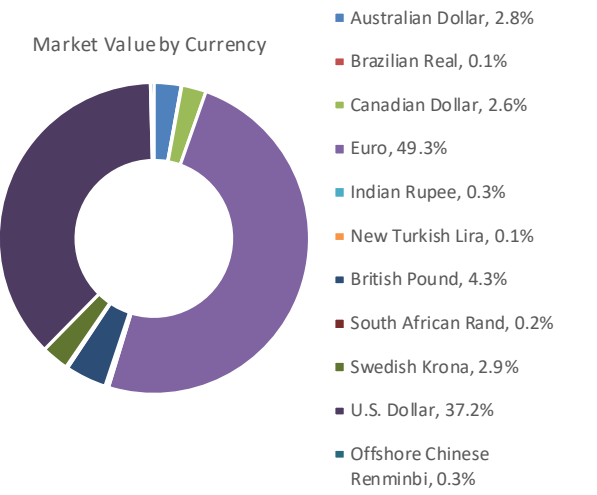
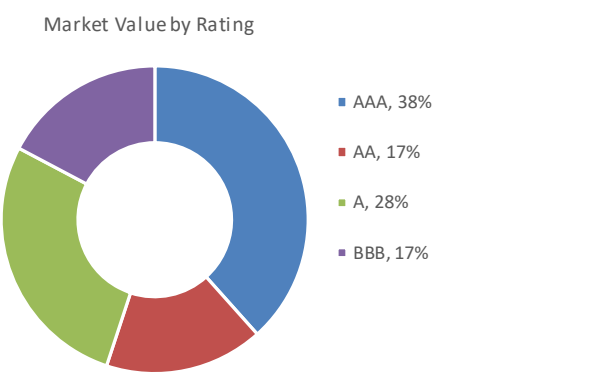
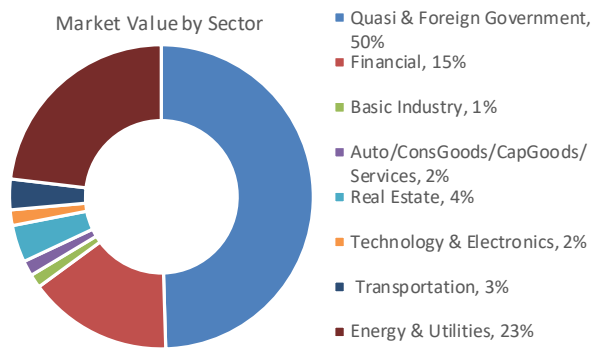
Historical Performance and Statistics **Statistics¹**

BofAML Global Green Bond Index	Full Market Value	Bonds Included	Mod. Duration to Worst	Yield-to-Worst
	\$109bn	167 bonds	5.60 years	1.44%

BofAML Global Green Bond Index	Total Return (in local currency terms)			
	1m	3m	YTD	1yr
	0.65%	1.40%	1.06%	1.43%



Current Constitutions (as at 30 Apr 17)



About the publisher:	
Bank of America Merrill Lynch	The index is administered by the BofA Merrill Lynch Global Research Bond Index team. Bank of America Merrill Lynch is one of the world's largest financial institutions, serving individual consumers, small businesses, middle-market businesses and large corporations with a full range of banking, investing, asset management and other financial and risk management products and services. Website: www.bofaml.com
	Contacts: <i>BoA Merrill Lynch Index Hotline</i> Email: mlindex@ml.com New York +1 646 556 2900 London +44 20 7995 3927

S&P Green Bond Index



Bloomberg Ticker	SPUSGRN
Launch date	Jul 2014

The S&P Green Bond index is a multi-currency benchmark that includes bonds issued by multilateral, government and corporate issuers. It includes only those bonds whose proceeds are used to finance environmentally friendly projects. The S&P Green Bond Index was developed collaboratively by S&P Dow Jones Indices and Infrastructure Credit Alpha Group LLC.

The index is market-value-weighted. The total return is calculated by aggregating the interest return, reflecting the return due to paid and accrued interest, and price return, reflecting the gains or losses due to changes in the end-of-day price and principal repayments.

<http://www.us.spindices.com/indices/fixed-income/sp-green-bond-index>

Eligibility criteria:	
Sector	Corporate, government, and multilateral are eligible for the Green Bond Index
Issuer Disclosure	In order for a bond to be eligible, the issuer must clearly indicate the bond's 'green' label and the rationale behind it, such as the intended use of proceeds. Such disclosure must be made in sources that are credible and related to the company and may include company's website, sustainability report, legal disclosures, public filings or independent second opinions.
Currency	Green bonds issued from any country and in any currency are eligible for index inclusion
Green Criteria	Bonds must be flagged as "green" by Climate Bonds Initiative (CBI)
Green Criteria - detail	Follow the CBI criteria → See Database document for more detail
GBP/CBI alignment	Aligned to CBI
Pricing	Prices are obtained from Thomson Reuters and S&P Securities Evaluations (SPSE).
Credit Quality	Includes only investment-grade bonds using the middle rating of Moody's, S&P, and Fitch
Coupon Type	Includes Fixed, Zero, Step-up (with a predetermined schedule), Fixed-to-Float (provided they are fixed and one month prior to their float date), Floaters
Maturity	Each bond must have a maturity greater than or equal to one month from the rebalancing date. No bond matures in the index
Optionality	Bullets, callable, puttable, and callable-perpetual (provided they are at least one month from the first call) are included
Settlement	Bonds that are issued but not settled prior to the month-end rebalancing are included in the index
Data Source	Data are obtained from Thomson Reuters and S&P Securities Evaluations (SPSE)
Monthly Rebalancing	Based on new issuance and maturity, the bonds in the index are subject to change every month, effective after the close of the last business day of the month
Exclusions	The following bond types are specifically excluded from the index: Bills, Inflation-linked and STRIPS

Solactive Green Bond Index



Bloomberg Ticker	SOLGREEN
Launch date	Mar 2014

The Solactive Green Bond Index is a rules-based, market value weighted index engineered to mirror the green bond market. The index is calculated as a Total Return Index denominated in USD. https://www.solactive.com/wp-content/uploads/2017/04/Guideline_Solactive-Green-Bonds-Index_Update_20150619.pdf

Eligibility criteria:	
Weighting	Market Value weighted with the maximum weight capped at 5% per bond
Calculation	Calculated as Total Return Index denominated in USD
Green Criteria	Bonds must be flagged as “green” by Climate Bonds Initiative (CBI)
Green Criteria - detail	Follow the CBI criteria → See Database document for more detail Solactive trust the judgement of the CBI, rather than undertaking detailed review themselves
GBP/CBI alignment	Aligned to CBI
Amount Outstanding	Of at least USD 100m
Maturity	At least 6 months until Final Maturity
Exclusions	Include inflation linked bonds, convertible bonds and municipal bonds
Index rebalanced	Monthly basis at the end of each month, 5 working days before month end

Current constitution: As at May 2017

Historical Performance: As at 3 May 2017

Current constituents of the index: 205 bonds

Current performance: 937.49



About the publisher:	
Solactive	Innovative index provider that focuses on the development, calculation and distribution of tailor-made indices over all asset classes. As of January 2017, Solactive AG served approximately 350 clients in Europe, America and Asia, with approximately USD 100 billion invested in products linked to indices calculated by the company globally, primarily via 250 Exchange Traded Funds from a number of well-known providers. Solactive AG was established in 2007 and is headquartered in Frankfurt. . Website: www.solactive.com email bond@solactive.com Contact: +49 (69) 719 160-00

https://www.solactive.com/overview-of-the-transition-process_final-2/?indexmembers=DE000SLA0FS4

ChinaBond China Green Bond Index, and, ChinaBond China Green Bond Select Index



Launch date	Apr 2016
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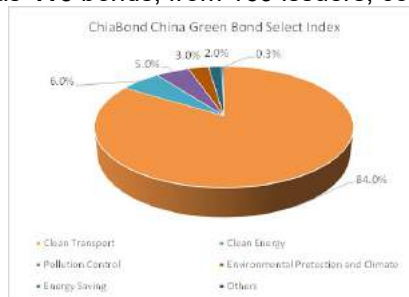
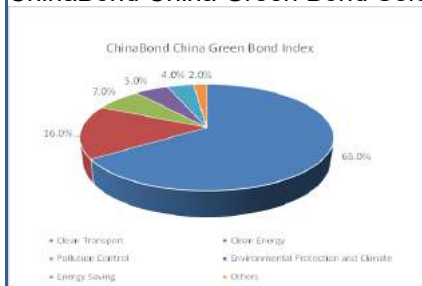
ChinaBond China Green Bond Index and ChinaBond China Green Bond Select Index are the first indices to capture the development of China's fast growing Green Bond market.

Eligibility criteria:	
Green Standards	<p>To be eligible for the ChinaBond China Green Bond Index, bonds - whether labelled green or not - must meet at least one of the following four criteria:</p> <ol style="list-style-type: none"> Green Bond Category (2015, by Green Finance Committee, China Society for Finance and Banking) Green Bond Issuance Guidelines (2015, by National Development and Reform Commission - NDRC) Green Bond Principles (by International Capital Market Association - ICMA) Climate Bond Standards (by Climate Bonds Initiative - CBI) <p>ChinaBond China Green Bond Index: a bond is eligible if it meets one (or more) of the above 4 standards</p> <p>ChinaBond China Green Bond Select Index: a bond is eligible if it meets all of the above 4 standards</p>
Instrument Type	Publicly issued debt instruments
Issuing Market	China Interbank Bond Market, Shanghai Stock Exchange, Shenzhen Stock Exchange
Maturity	At least 1 month until Final Maturity
Currency	RMB
Base Vale	100 as at 31 st Dec 2009
Weighting Method	Market value
Pricing Method	Mid
Index rebalanced	Monthly basis on the 1 st date of each month
Outstanding Amount	None
Credit Rating	None

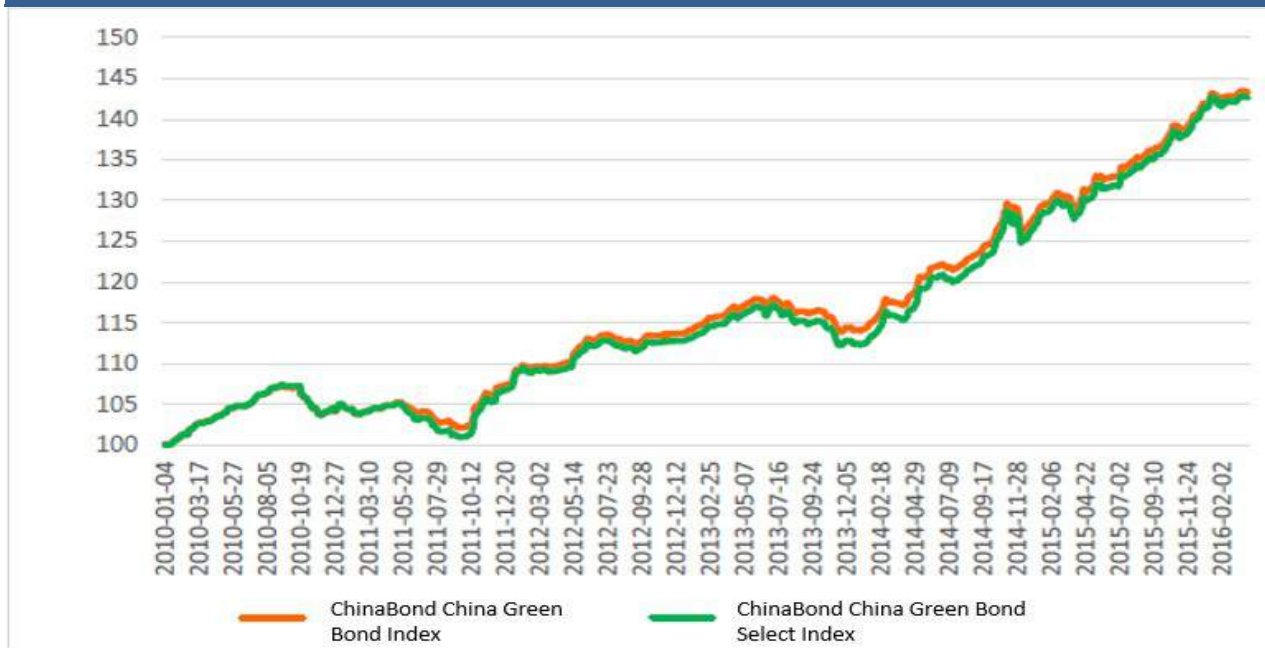
Current constitution: As at 15 Apr 2016

ChinaBond China Green Bond Index has **759** bonds, from 349 issuers, combined market value RMB2.45trn (USD379bn).

ChinaBond China Green Bond Select Index has **413** bonds, from 169 issuers, combined market value RMB1.85trn.



Historical Performance



About the publisher:	
<p>China Central Depository & Clearing Co., Ltd. (CCDC) (中央国债登记结算有限责任公司)</p>	<p>China Central Depository & Clearing Co., Ltd. (CCDC) is the first central securities depository (CSD). CCDC is granted as the CSD in the inter-bank bond market as well as the primary custodian for commercial bank book-entry treasury bond transaction.</p> <p>By the end of 2014, the total amount of financial assets under depository of CCDC has reached 54.2 trillion yuan, increasing by 11.4 trillion yuan compared with the end of last year, among which 28.7 trillion yuan are bond assets, 14.8 trillion yuan are commercial bank wealth management products, and 10.7 trillion yuan are trust products. http://yield.chinabond.com.cn/cbweb-mn/indices/single_index_query)</p> <p>ChinaBond Pricing Center contacts: Jiang Junfei 010-88170643 jiangjf@chinabond.com.cn Liao Qianyun 010-88170611 liaoqy@chinabond.com.cn Sun Mingjie 010-88170612 sunmj@chinabond.com.cn Chen Xiaopeng 010-88170638 chenxp@chinabond.com.cn</p>
<p>CECEP Advisory (中节能咨询有限公司)</p>	<p>CECEP Advisory is a fully owned subsidiary of CECEP (中国节能环保集团).</p> <p>CECEP is the only Chinese state owned enterprise which specialized in energy saving, pollution control and environmental protection.</p> <p>CECEP Consulting contacts: Lu Wenqin 010-88142019-8024 redstone282@126.com Gao Wenjiang 010-88142019-8024 13716527240@163.com</p>