

FONDATION POUR LA NATURE

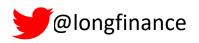
Global Green Finance Index 5 Global Launch



Tuesday, 24 March 2020 08:30 to 09:30 GMT Webinar













08:30 Welcome and Introduction George Littlejohn, Senior Adviser, Chartered Institute For Securities & Investment

08:35 Keynote Presentation, *Lois Guthrie, World Business Council For Sustainable Development*

08:45 GGFI 5 Results Mike Wardle, Head Of Indices, Z/Yen Group

09:10 Commentary Professor Michael Mainelli, Chairman, Z/Yen Group

09:15 Questions

09:25 Concluding Remarks



09:30 Close





Welcome And Introduction



George Littlejohn Senior Advisor Chartered Institute For Securities & Investment









Keynote Presentation



Lois Guthrie Director, Redefining Value World Business Council For Sustainable Development













Green finance - role and context

- About WBCSD
- TCFD activities
- ESG linked financing in WBCSD member companies











Green finance – Role, Opportunities, Barriers



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- "Finance makes all other [COP 26] deliverables adaptation and resilience, nature, energy transition and clean road transport – possible" (UK Secretary of State). It can amplify effectiveness of government policies and accelerate transition to low carbon economy
- Governor Carney's 3Rs
 - Reporting "the world won't get to net zero if the finance sector does not know how our companies are responding" (but note current constraints)
 - Risk understanding and managing
 - Returns catalyze and support companies moving from brown to green
- Barriers
 - Lack of speed = more disruption
 - Inconsistent ESG measurement and disclosure
 - Short-termism and lack of forward-looking information
 - Binary nature (dark green and brown) of taxonomies and bond standards need 50 shades of green









About WBCSD



WHO WE ARE

WBCSD is a global, CEO-led organization of 200 forward thinking businesses working together to accelerate the transition to a sustainable world.

World Business Council for Sustainable Development

Our mission is to accelerate the transition to a sustainable world by making more sustainable business more successful.

Our vision is to create a world where more than nine billion people are all living well and within the boundaries of our planet, by 2050.



GLOBAL Our 200 members span across the globe and all economic sectors.

We have 60+ Global Network partners who engage with sustainable business at a national level.



CEO-LED WBCSD is oriented towards collective action and led by our member company CEOs.



UNIQUE BUSINESS PLATFORM

Our members enjoy access to a diverse business community across sectors and a safe space to exchange ideas, know - how and information with peers. Together, we develop business solutions to global challenges that no single company can tackle alone.



MARKET-DRIVEN

We consider sustainable development as a strategic business opportunity. We strive to make more member companies more competitive.



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TCFD Preparer Forums





Food, Agriculture & Forest Products









Oil & Gas – Metric Examples



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- Portfolio resilience •
 - Committed & uncommitted capital expenditure
 - Portfolio composition & flexibility over time
 - Payback periods
 - ROCE, breakeven, IRR
 - Sensitivity to carbon and oil prices
- Assumptions, parameters related to scenario analysis
 - Price, CC(U)S, changing consumption/demand, electrification, natural climate solutions etc.
 - Impact on cash flow, net _ present value etc.

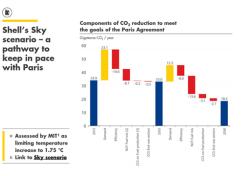


OUR PORTFOLIO DIVERSITY PROVIDES

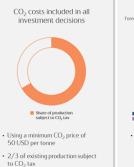


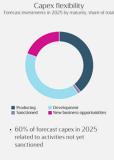
Other Metrics

Hydrocarbon resources (3P+Contingent) @31/12/2017: % of natural gas	(%)	>50%
Break-even price of overall new upstream projects in execution		Brent <30\$/bl
Internal Rate of Return (IRR) of new upstream projects in execution		13% @ Brent 50\$/bl flat from 2018 18% @ Brent 70\$/bl flat from 2018
Percentage of uncommitted investments: Strategic Plan 2018-2021	(%)	2018-2021 equal to 36% 2020-2021 equal to 49%
Carbon pricing - Eni scenario	(\$/ton)	40 \$ at 2015 inflated
Stress test: upstream portfolio resilience (100% cash generating unit) based on IEA SDS low carbon scenario		Impact on asset fair value: -4%
2018 Sensitivity: Brent (-1 \$/bl)	(€ MIn)	Adjusted operating profit: -310 Adjusted net profit: -175 Free cash flow: -205
Cash neutrality (investments and dividends): Brent price	(\$/bl)	2017: 57 2018: 55 2021: 50















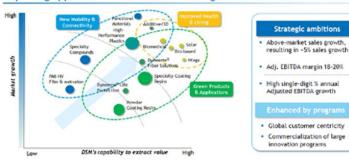


Development Of Financial Indicators

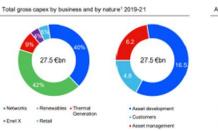




Strategy - Growth & Value Capturing opportunities in Sustainable Living



Asset development supports our growth ambitions





Expenditure on research, development and innovation

in C mittion



Innovation management
Grids
Generation from renewables
Smart energy world and storage²
Dismantling
Customer-related research projects
Other
Gas

Also includes green gases.
Includes e.g. electromobility and hydrogen mobility.

€22 billion sales with Accelerator products by 2025 through innovation

Percentage of sales 2017*



Accelerators are characterized by

- strong growth in their markets
- margins ~7 percentage points above the remaining product portfolio

6

- More than 13,000 Accelerator products and solutions
- Accelerator sales 2017: €15 billion
- BASF's R&D pipeline contains mainly Accelerator products

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TCFD Implementation - Corporate Actions & Challenges



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Actions

- Active implementation
- Capacity building, developing capabilities, interdisciplinary processes, cultural development
- Sharing knowledge and expertise value chain approach
- Transition plans strategic development, mitigation, adaptation and transformation targets, stress test, scenario analysis
- Opportunity maximization
- Financing

wbcsd

Challenges

- Evidence of strategic resilience evidence of strategic resilience, adaptive capacity, cash and capital flexibility, skills and competencies, organizational capital, business model and portfolio development
- **Assumptions** parameters, conditions, inputs, timeframes associated with scenarios and sensitivities
- **Financial disclosure** acquisitions and divestments, capital allocation, R&D, actual or expected earnings, efficiencies etc
- Medium to long-term disclosure forward looking information, business development and associated resource allocation (5 – 10 years)
- Standardization supporting comparability and common level of disclosure
- **Other** assurance, reporting space, placement, systems and ratings, proportionate responses, confidentiality, value chain reporting





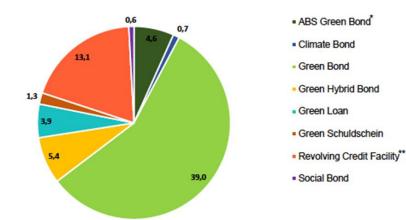


ESG Financing In WBCSD Member Companies



Over <u>\$68 billion in</u> ESG linked debt securities issued by WBCSD member companies

ESG Financing Options in WBCSD Members Value (US\$ Bn)



* Asset Backed Secure Green Bond ** Sustainably linked revolving credit facility





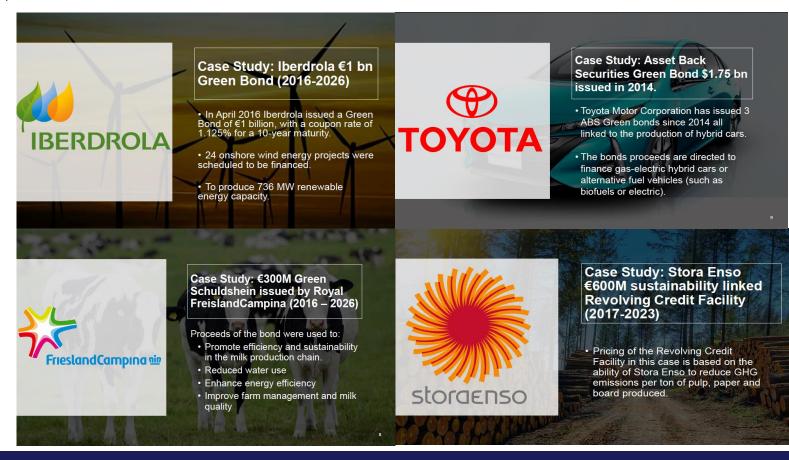




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Case Studies





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Investing In WBCSD Members













What's Next? – Metric Structure & Development



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TCFD ::::

			OUP METRICS -	ill contraction	L'EXAMPLES	
nenting the		encial	Climate- Related Category	Example Metr	nic	1
mendations of sk Force	Rev	enues	GHG Emissions		pe 2 emissions, nodologies and rs used	1
ate-related al Disclosures	Rev	enues	Eisk Adaptation & Mitigation	Revenues/savi Investments in alternatives (e. equipment, pr	low-carbon	
	Exp	enditures	GHG Emissions	Describe curre range of prices	nt carbon price or s used	
	Ecp	enditures	Risk Adaptation & Mitigation	Expenditures (carbon alterna equipment, pr services)	cives (e.g., R&D.	
				-		
(Witcsd	KPIS		UNITS		COMMENTS	5
	Non-generation transition enablers CAPEX & EBITDA	n	% & total currency)	(local	definitions as category. It of customer sol services), sm forecasting, a transmission storage. Con these metric	will need to clarify the scope and sociated with this transition enablers outd include EV infrastructure, lutions (e.g., smart meters, energy nart networks (e.g., demand automation and analytics), and distribution infrastructure and npanies may also consider disclosing s in a way that aligns with their orting segments.
	Non- generation transition enablers		Number		definitions as include numb - owned, ma	will need to clarify the scope and sociated with this category. It could ber of EV charging points (public)phate anaged, financed), number of smart total), number of customer solutions

- Clarify the role, purpose and objectives of metrics
- Match categorization (e.g. mitigation, adaptation etc.) and characteristics of decision-useful metrics to role, purpose and objectives
- Distinguish metrics and indicators designed to signal and signpost – "watchlist" items(e.g. alternative technologies, taxation & subsidies etc.)
- Recognize the development, role and contribution of products, services & solutions – research, collaboration, optimization, efficiencies, substitution potential, growth, impact etc.
- Suggest climate-related financial metrics investment, breakeven, IRR, ROI, cost curves, market size & potential etc.
- Explore metrics and indicators depending on whether sector specific vs cross sector vs supply/demand vs value chain
- Clarify mainstream use cases

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Conclusions – Much More To Be Done...



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- Finance actions that make a clear, additional and measurable difference
- Methodologies that enable impacts to be observed and reliably measured
- Taxonomies that develop understanding of green finance
- Evidence about how investor decisions influence the course of the real economy
- Dialogue between users and suppliers of capital









GGFI 5 Results



Mike Wardle Head Of Indices Z/Yen Group







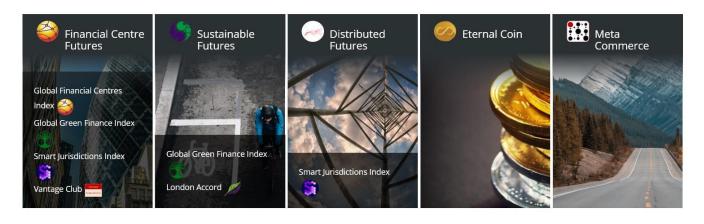


Long Finance



"When Would We Know Our Financial System Is Working?"

This is the question underlying Long Finance's goal to improve society's understanding and use of finance over the long-term. In contrast to the short-termism that defines today's economic view, the Long Finance timeframe is roughly 100 years.







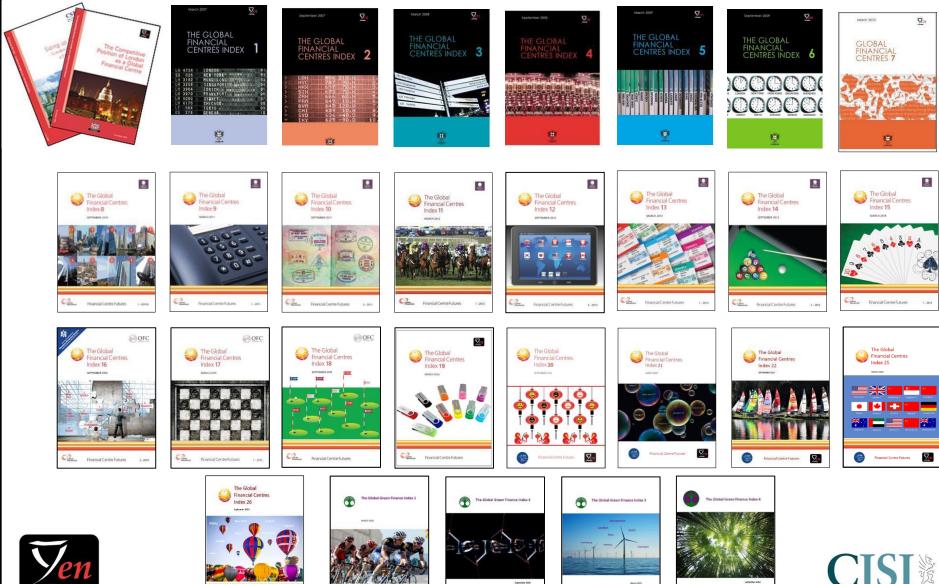


Financial Centre Research



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Financial Centre Fatures



Bulletins



Financial Service Club's Bulletin system, with 200 bulletins, e.g. sustainable finance: <u>https://zyen.shapingtomorrow.com/challenges/list/17?challenge=1805</u>

From 43,000 curated sources, you get a machine summary of the key point(s) from forwardlooking articles, not just article titles:

A NEWS OPINION IN-DEPTH MISSION POSSIBLE DOWNLOADS

Low-carbon movement requires \$7trn in green infrastructure, warns Bank of England

(FS.9.00) Sustainable Finance

- The Secretary-General of the United Nations, Antonio Guterres, took the opportunity to call for a 'Decade of Action' to accelerate sustainable solutions to 'the world's biggest challenges, ranging from poverty and gender to climate change, inequality and closing the finance gap'.
- With the NGFS, the Coalition of Finance Ministers for Climate Action is expected to play a crucial role in accelerating the shift of **finance** to **sustainable and climate resilient investments**.
- The BoE is researching climate change and the EU recently proposed to integrate environmental risks into the mandates of the ESAs as part of its Action Plan on statianable and green finance.
- Carney claimed that the Beijing market is keen to open up and that the Bank of England was already conversing with the People's Bank of China in order to establish a green bond market that could finance **larger sustainable projects**.



- Green finance will accelerate the transition toward a sustainable economy in China and improve China's financial system.
- **Investment** for **sustainable development** will often have similar characteristics with 2°C finance but could have an alternative ultimate aim such as reducing poverty.

To subscribe: <u>https://fsclub.zyen.com/#Subscribe</u>

Naturally, we have a:

• corona virus financial services bulletin -



edie

- https://zyen.shapingtomorrow.com/challenges/list/17?challenge=2010
- corona virus technology bulletin -

https://zyen.shapingtomorrow.com/challenges/list/20?challenge=2011







- Initiative sponsored by the MAVA Foundation
- Aims to:
 - encourage financial centres to become greener, and the financial system to deliver sustainability
 - encourage collaboration and competition
 - help to catalyse growth in this sector, and help policy makers' understanding of what makes a financial centre 'green'







Definitions



- Financial Centres UNEP defines financial centres as "cities with an intense concentration of financial activity involving an interlocking set of financial sectors and transactions".
- Green Finance refers to any financial instrument or financial services activity which results in positive change for the environment and society over the long term (sustainability). The most basic "greenness" criterion of a company or project is that it contributes to reducing the emission of Greenhouse Gases.







Factor Assessment Index

Machine learning algorithm

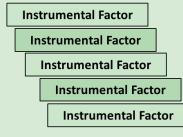


Completed Questionnaires: Each looks for relationships between respondent rates only a assessments and instrumental proportion of the total number factors of financial centres Questionnaire 8 financial centres rated Machine learning algorithm Questionnaire assigns ratings to unrated 5 financial centres rated centres for each individual Questionnaire questionnaire response, based on analysis of instrumental 7 financial centres rated factor/assessment relationship Questionnaire 14 financial centres rated Questionnaire 10 financial centres rated **Complete assessments and** predictions for all financial centres GGFI 5 uses 4,290

assessments from 717 individuals







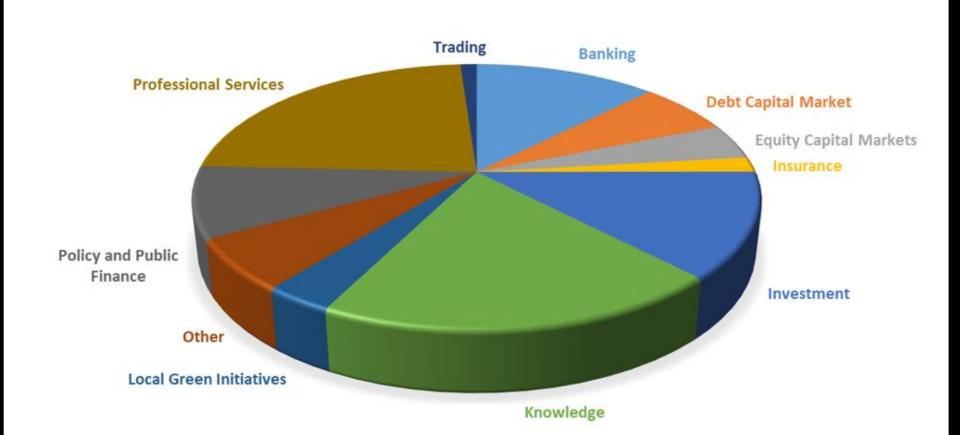
GGFI 5 uses 135 instrumental factors













LONG

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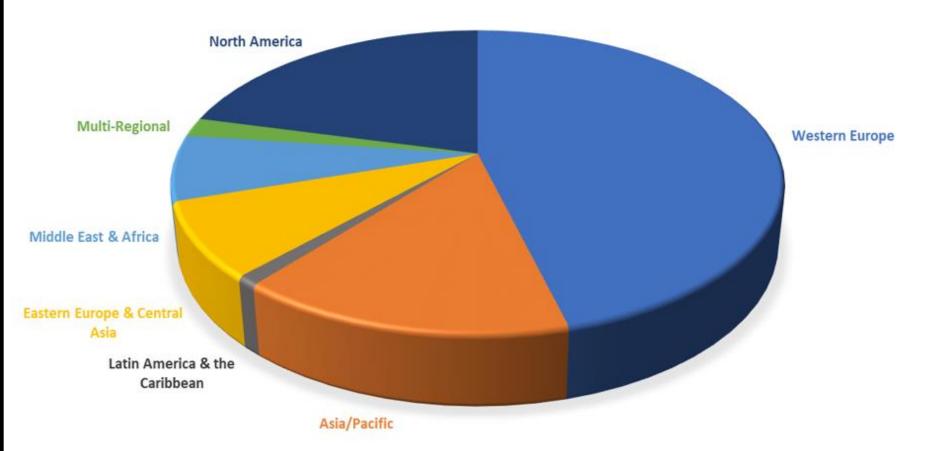
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Respondents By Region







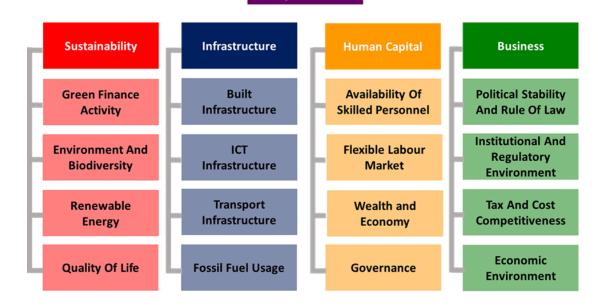




Instrumental Factors



Areas of Competitiveness



Depth	R Squared	Quality	R
			Squared
Sustainable Cities Index	0.544	Sustainable Cities Index	0.606
Networked Society City Index	0.514	Networked Society City Index	0.587
Quality of Living City Rankings	0.510	Quality of Living City Rankings	0.587
World Talent Rankings	0.504	Global Innovation Index	0.579
Global Innovation Index	0.499	IESE Cities In Motion Index	0.569
Legatum Prosperity Index	0.480	Legatum Prosperity Index	0.564
Water Quality	0.478	World Talent Rankings	0.545
Environmental Performance Index	0.469	Environmental Performance Index	0.540
IESE Cities In Motion Index	0.461	Global Enabling Trade Report	0.536
Global Enabling Trade Report	0.451	Water Quality	0.525







Depth & Quality



- GGFI measures depth and quality
 - The depth question in our survey focuses on green finance intensity, asking users to rate financial centres on how much of their overall financial offering they consider to be "green"
 - The quality question asks users to rate centres on their perception of the quality of each centre's green finance offering
- Measurement of both factors is important to understand the balance between green and brown finance as well as the quality of advice and delivery in centres







Headlines – Depth Top 10



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Contro	GGFI 5			Change in		Change in	
Centre	Rank	Rating	Ra	ank	Ra	ting	
Amsterdam	1	496		0		25	
Luxembourg	2	488		0		29	
Copenhagen	3	484		0		29	
Zurich	3	483		1		31	
Stockholm	5	474	▼	-1		21	
London	6	470		0		23	
Paris	7	460		0		20	
Hamburg	8	456		-1		16	
Montreal	9	454		0		17	
Geneva	10=	452		5		33	
Vienna	10=	452		16		46	







Headlines – Quality Top 10



GGFI 5 Change in Change in Centre Rating Rank Rank Rating London Amsterdam Zurich Stockholm Copenhagen Luxembourg **Paris** -4 Hamburg -4 Geneva Vienna

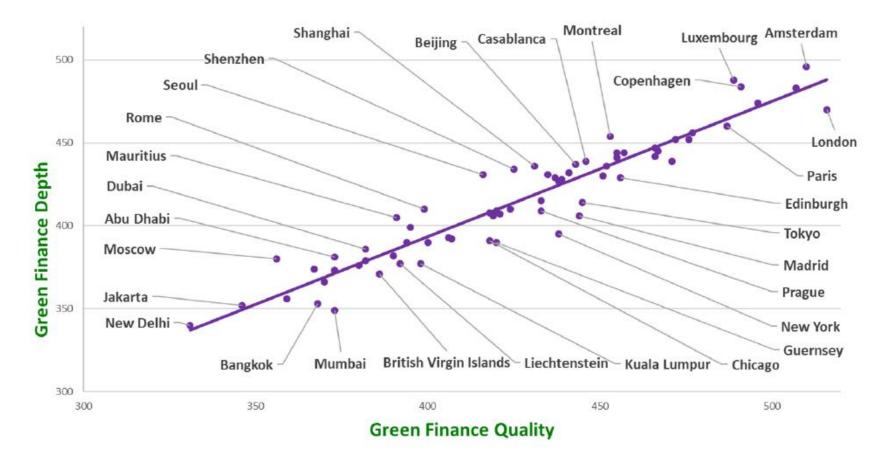






Depth And Quality





 Close correlation between the assessments of each factor by respondents.



 However, some major, long-established centres such as New York, London, and Paris score higher for quality than depth.





Sustainability Factor Ranking



All Factors			Sustainability Factors		
Rank	Depth	Quality	Depth	Quality	
1	Amsterdam	London	Zurich (+3)	London	
2	Luxembourg	Amsterdam	Luxembourg	Zurich (+1)	
3	Copenhagen	Zurich	Copenhagen	Amsterdam (-1)	
4	Zurich	Stockholm	Amsterdam (-3)	Copenhagen (+1)	
5	Stockholm	Copenhagen	London (+1)	Luxembourg (+1)	
6	London	Luxembourg	Paris (+1)	Paris (+1)	
7	Paris	Paris	Stockholm (-2)	Oslo (+6)	
8	Hamburg	Hamburg	Vienna (+2)	Geneva (+1)	
9	Montreal	Geneva	Oslo (+3)	Frankfurt (+11)	
10	Geneva	Vienna	Geneva	Munich (+1)	

Running the GGFI model using only the instrumental factors relating to sustainability gives a different picture: Zurich, Frankfurt and Oslo gain strongly on this analysis







Leading Financial Centres



SECURITIES & INVESTMENT

Centre	Green Finance Depth	Green Finance Quality	Financial Centre Competitiveness
New York	44	28	1
London	6	1	2
Hong Kong	36	38	3
Singapore	27	21	4
Shanghai	21	34	5
Tokyo	33	23	6
Beijing	20	25	7
Dubai	51	55	8
Shenzhen	23	35	9
Sydney	14	15	10

- Some leading financial centres perform significantly less well than expected in the GGFI.
- Historically, green finance not a leading factor in overall competitiveness as measured by the Global Financial Centres Index.

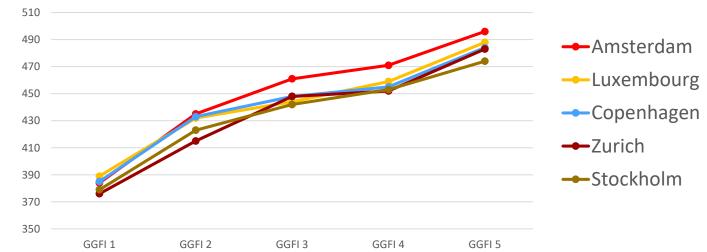




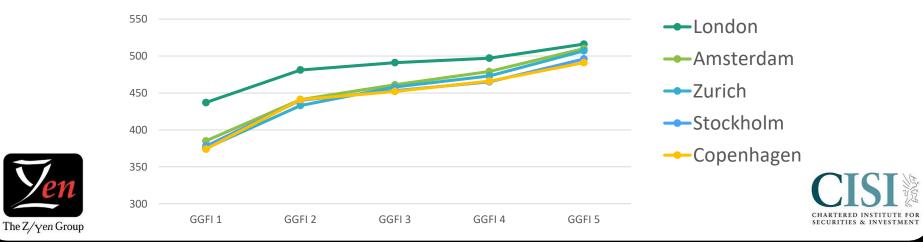


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The top five centres in the index for depth improved continue to improve their ratings at a steady pace, with only narrow margins separating them.



On the quality index, the top five centres have continued the improvement in their ratings, although the rate of increase for London has been slower than for the other leading centres.





Headlines – Western Europe



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	Depth	
Centre	Rank	Rating
Amsterdam	1	496
Luxembourg	2	488
Copenhagen	3	484
Zurich	4	483
Stockholm	5	474
London	6	470
Paris	7	460
Hamburg	8	456
Geneva	10	452
Vienna	10	452

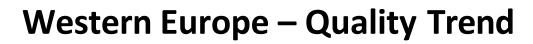
Quality				
Centre	Rank	Rating		
London	1	516		
Amsterdam	2	510		
Zurich	3	507		
Stockholm	4	496		
Copenhagen	5	491		
Luxembourg	6	489		
Paris	7	487		
Hamburg	8	477		
Geneva	9	476		
Vienna	10	472		

 Western European centres continue to perform well, with ten centres ranked in the top ten for both for depth and quality.



In the quality index, London's improvement in ratings was slower than the main challengers. A straight line trend could see London lose its first place in the next edition of the GGFI

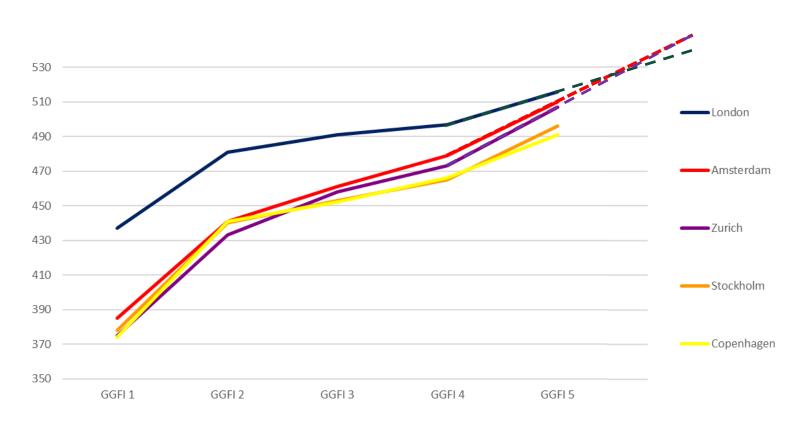






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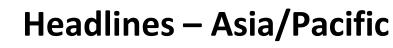
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 London may drop by as much as two places in the rankings for quality by the next edition of the index









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Depth				
Centre	Rank	Rating		
Sydney	14	444		
Beijing	20	437		
Shanghai	21	436		
Shenzhen	23	434		
Guangzhou	24	432		
Seoul	25	431		
Singapore	27	430		
Melbourne	31	427		
Tokyo	33	414		
Hong Kong	36	409		

Quality				
Centre	Rank	Rating		
Sydney	15	457		
Singapore	21	451		
Токуо	23	445		
Beijing	25	443		
Guangzhou	26	441		
Melbourne	28	438		
Shanghai	34	431		
Shenzhen	35	425		
Hong Kong	38	420		
Seoul	43	416		



- Sydney took the top spot from Beijing in the depth rankings whilst Shanghai lost ground against its competitors for quality.
- Seoul continued to fall in the depth rankings, but regained some ground in quality.





Headlines – North America



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	Depth	
Centre	Rank	Rating
Montreal	9	454
Toronto	14	444
San Francisco	16	442
Vancouver	17	441
Los Angeles	28	429
Washington DC	32	415
Boston	40	406
Calgary	43	399
New York	44	395
Chicago	47	391

Quality			
Centre	Rank	Rating	
San Francisco	13	466	
Vancouver	17	455	
Toronto	17	455	
Montreal	19	453	
New York	28	438	
Los Angeles	30	437	
Washington DC	32	433	
Boston	40	419	
Chicago	41	418	
Calgary	49	395	

Montréal is top in the region for depth, while San Francisco retains top position for quality.

Canadian centres continue to outperform the USA both in depth and quality, although
centres such as New York and Los Angeles are beginning to gain ground.







Eastern Europe & Central Asia



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	Depth			Quality	
Centre	Rank	Rating	Centre	Rank	Rating
Prague	36	409	Prague	32	433
Moscow	54	380	Warsaw	55	382
Warsaw	55	379	Istanbul	57	380
Istanbul	58	376	Moscow	65	356

- Prague remained the leading centre for depth and quality in the region.
- Moscow fell three places in both depth and quality.







Latin America & The Caribbean



Rating

400

394

386

373

370

359

Depth Quality Rank Rating Rank Centre Centre 48 390 46 Sao Paulo Sao Paulo 48 50 **Cayman Islands** 390 **Cayman Islands British Virgin** 54 **Mexico City** 60 373 Islands **British Virgin** 61 371 58 **Mexico City** Islands 62 366 61 **Rio de Janeiro Rio de Janeiro** 63 356 64 Bermuda Bermuda

- São Paulo continued to lead the region for both depth and quality although falling back, slightly, in the overall rankings for both;
 - The Cayman Islands saw a significant rise in its depth rankings.







Middle East & Africa



Depth Rank Centre Rating 18 439 Casablanca 30 428 **Tel Aviv** 42 405 **Mauritius** 45 393 **Cape Town** 51 386 Dubai 52 382 Doha 53 381 Abu Dhabi Johannesburg 59 374

Quality			
Centre	Rank	Rating	
Casablanca	22	446	
Tel Aviv	27	439	
Cape Town	45	406	
Mauritius	52	391	
Doha	53	390	
Dubai	55	382	
Abu Dhabi	58	373	
Johannesburg	63	367	

- Casablanca retained its position as the leading centre in the Middle East & Africa, although it fell back slightly in the overall rankings for both depth and quality
- New entrant to the index, Tel Aviv, retained its second place in the region, and competition is intensifying.









Top 10 Centres Assessments And Ratings – Reputational Advantage For Quality In GGFI 5

Centre	Weighted Average Assessment	GGFI 5 Rating	Reputational Advantage
Oslo	645	466	179
Copenhagen	649	491	158
Stockholm	649	496	153
Amsterdam	652	510	142
Zurich	648	507	141
San Francisco	594	466	128
Istanbul	502	380	122
Hamburg	596	477	119
Munich	584	471	113
Luxembourg	597	489	108







Reputational "DIS-Advantage"



Bottom 10 Centres Assessments And Ratings – Reputational Advantage For Quality In GGFI 5

Centre	Weighted Average Assessment	GGFI 5 Rating	Reputational Advantage
British Virgin Islands	362	386	-24
Cape Town	380	406	-26
Johannesburg	340	367	-27
Bangkok	328	368	-40
Calgary	344	395	-51
Bermuda	301	359	-58
Jakarta	287	346	-59
Isle of Man	346	407	-61
Mumbai	310	373	-63
New Delhi	265	331	-66



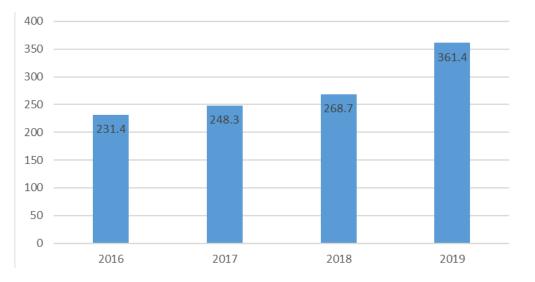




Focus On China



- The last few years have seen explosive growth in the uptake of green finance in China.
- Green bonds made up only 0.54% of China's RMB 45.1 trillion bonds market in 2019. China recognises that it needs to speed up its gains in this field to finance an increasingly ambitious climate and environmental agenda.
- Taxonomies remain a significant hurdle, but China is currently working with the EU to overcome this challenge.





Annual Labelled Green Bond Issuance In RMB

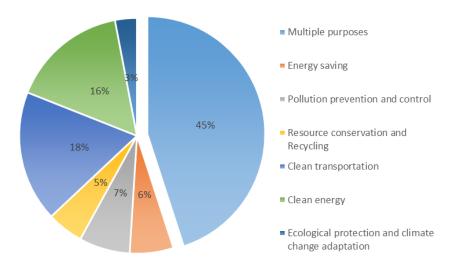




Focus On China



- Great strides have been made in the wholesale adoption of green bonds and green loans as well as innovation in green fintech and the adoption of mandatory environmental reporting.
- The risk of stranded assets in Chinese markets is a topic that has received increasing attention in the last couple of years. One 2017 report by Oxford University estimated that stranded assets in coal alone could amount to between 4.1% and 9.5% of China's GDP.
- China recognises that it needs to speed up its gains in this field to finance an increasingly ambitious climate and environmental agenda.







Green Bond Use Of Proceeds Allocation 2019 (PBOC Standard)







Professor Michael Mainelli Executive Chairman Z/Yen Group



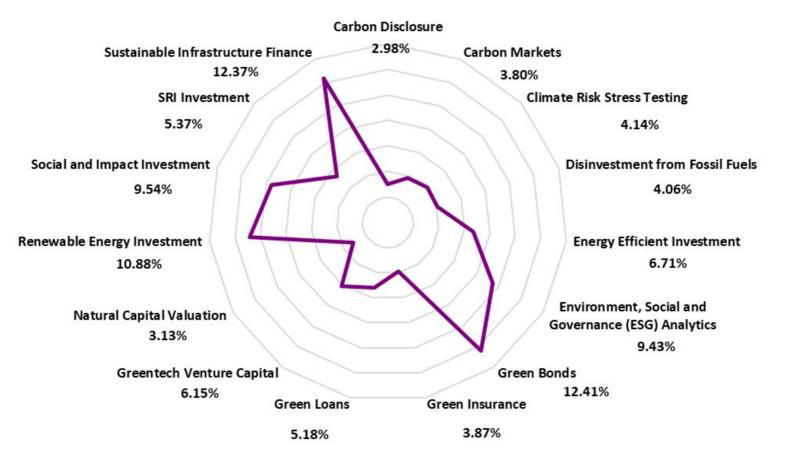








Most Interesting Areas Of Green Finance





LONG FINANCE

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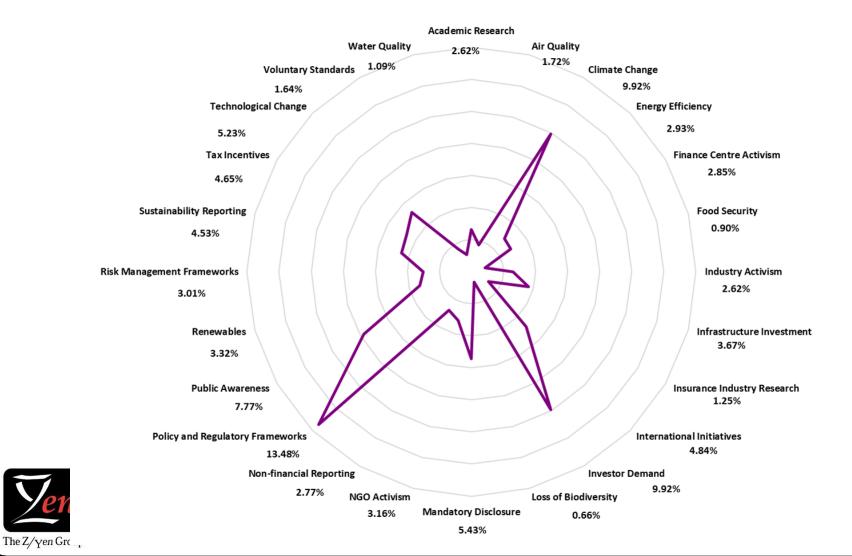




What Is On Practitioners' Minds?



Most Impact on Green Finance







GGFI Conclusions



- There is growing confidence in the development of green finance across all regions.
- Green cities do well where a centre is focussed on sustainability across the board, green finance is strong.
- Long-established centres with a history of fossil-fuel financing tend to fare worse for depth than quality.
- Premium to be gained from demonstrating leadership in innovation and particular sectors or products, for example, Amsterdam in Banking and China across all fields of green finance.







Questions & Discussion





Global Green Finance Index Ranking The World's Green Financial Centres

www.greenfinanceindex.net







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