

The Global Green Finance Index 7



April 2021



Sustainable Futures





Beginning in March 2018, as part of its Long Finance initiative, Z/Yen published the first five editions of the Global Green Finance Index with the generous support of the MAVA Foundation. Z/Yen continues this work and is pleased to present the seventh edition of the Global Green Finance Index (GGFI 7).

Z/Yen helps organisations make better choices - our clients consider us a commercial think-tank that spots, solves, and acts. Our name combines Zen and Yen - 'a philosophical desire to succeed' - in a ratio, recognising that all decisions are trade-offs. One of Z/Yen's specialisms is the development and publication of research combining factor analysis and professional assessments.

Long Finance is a Z/Yen initiative designed to address the question ***"When would we know our financial system is working?"*** This question underlies 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 views the Long Finance time-frame is roughly 100 years.

Within the Long Finance initiative, Z/Yen runs the **Sustainable Futures Programme**, which focuses on ways in which the financial system supports the transition to a sustainable economic model, addressing green finance and environmental, social and governance systems. Alongside the GGFI, the Sustainable Futures Programme supports the **London Accord**, a free to access collection of over 650 environmental social and governance research reports from more than 120 financial services, NGO, academic and policy making institutions from around the world.

The authors of this report, Simon Mills, Mike Wardle, and Professor Michael Mainelli, would like to thank Bikash Kharel, Peter Welch, and the rest of the Z/Yen team for their contributions with research, modelling, and ideas.



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Foreword

As the effects of climate change continue to impact many regions and industries around the globe, the need for government and financial institutions to adopt more sustainable practices becomes ever more pressing.

Private capital and government funding are both crucial for the future of climate finance, with a need for public policy to engage industries with net zero ambitions and targets.

As a respected global finance centre specialising in the servicing of private wealth, Guernsey is strongly committed to the sustainable finance agenda. Guernsey is a member of United Nations' Financial Centres for Sustainability, the Network for Greening the Financial System and the UN's Sustainable Insurance Forum.

Sustainable finance today is central to the private wealth agenda in a way that would have been unforeseeable even 20 years ago.

It is recognised that as much as \$30 trillion in private wealth is poised, waiting to be harnessed in order to deliver the goals and ambitions of the Paris Agreement. The conversations around COP26 are, rightly, centred on the policy dialogue. We believe, however, that a key challenge is the need to connect the current high-level policy dialogue with practical guidance and tools to harness the pools of private wealth controlled by family offices and other structures.

In Guernsey we see a need for practical guidance, appropriate governance and robust structures that will channel wealth with the Sustainable Development Goals in mind.

As a result, Guernsey has been able to be at the forefront of the development of sustainable finance and, from the experience gained and its expertise in private wealth, has developed a thriving ecosystem of sustainable finance services.

It is my pleasure to introduce this seventh edition of the Global Green Finance Index, providing a perspective on the depth and breadth of financial centres and their green and sustainable finance initiatives across the world. As a member of the United Nations' Financial Centres for Sustainability and a responsible global citizen we believe this index will encourage and inspire other financial centres to channel capital flows to the areas of greatest need, and empower strategic action.

Dr Andy Sloan
Chair
Guernsey Green Finance



Summary

Overview

This is the seventh edition of the Global Green Finance Index (GGFI 7). The GGFI is a factor assessment index, based on a range of instrumental factors - quantitative measures - and a worldwide survey of finance professionals' assessments on the quality and depth of green finance offerings in financial centres.

We researched 124 financial centres for GGFI 7. The number of centres in the index has increased to 78 (from 74 in GGFI 6), with the addition of Busan, Nur-Sultan, Almaty, and Bahrain.

In the supplement to this edition of the GGFI, we take sustainable finance and private capital as our theme. With the assistance of We Are Guernsey, the body which promotes Guernsey as an international financial centre (IFC), we explore the drivers directing the flow of private capital into green finance and how these can be harnessed by IFCs for green and socially inclusive development.

Commentary

In previous editions of the index we have provided ratings of both the depth and quality of green finance in financial centres. For GGFI 7, whilst we will continue to provide data on these factors, we now offer a single measure of centres' performance derived from these two dimensions. Feedback from users of the index has convinced us that offering a single score for performance simplifies comparisons between centres and the communication of results.

As ESG analytics and reporting and other aspects of green finance penetrate mainstream financial activity, there is growing confidence in the development of green finance across all regions. Ratings of green finance rose in nearly all centres for both depth and quality.

Although Western Europe continues to dominate the top 10 centres in the index, its crown may be slipping as it faces stiff competition from both North America and the Asia/Pacific regions. A number of leading Western European centres may be displaced from the top 10 over the next two or three editions of the GGFI, as North American and Asia/Pacific centres continue to enhance their capabilities in this field.

Policy & Regulatory Frameworks continue to be identified as the leading driver in the development of green finance, underlining the reliance of green finance on robust and stable policy frameworks, which require government and regulatory action.

Green Bonds have regained their status as the most interesting area of green finance despite some criticism of the uses to which green bonds have been harnessed. ESG analytics retains its strong position, whilst Carbon Markets and Carbon Disclosure, which were somewhat neglected issues, have seen a small rebound in popularity, possibly as a result of growing interest in the forthcoming COP 26. Natural Capital Valuation continues to languish at the bottom of practitioners' priorities.

Index Results

- Amsterdam took first place in GGFI 7, narrowly pipping Zurich, with London a close third.
- San Francisco rose four places into the top ten, with Los Angeles entering the top ten for the first time.
- Asia/Pacific centres performed strongly, with Tokyo, Beijing, Sydney, and Singapore all consolidating gains and challenging or displacing incumbents from Western Europe.
- The margins separating centres at the top of the index is narrowing. Among the top 10 centres the spread of ratings is 29 out of 1,000, compared to 51 out of 1,000 in GGFI 6.
- The mid-rankings in the index are brutally competitive, with the Latin America & Caribbean and Eastern Europe & Central Asia regions overtaken by Asia/Pacific and North America centres.

Western Europe

- Western Europe's hold on the top 10 appears to be slipping, with a decline or stagnation in ratings for 9 of 27 centres listed in the index. Notable exceptions are Dublin, Glasgow, The Isle of Man, Lisbon, Madrid, Malta, and Milan which all improved their ratings, although this did not always translate into an improved rank position.
- Oslo consolidated its position in the top 10, moving up two places to take fourth position.
- Paris fell back three places to lose its top ten position, whilst Edinburgh, Frankfurt, Lichtenstein, and the Isle of Man all fell more than 10 places in the rankings.

North America

- USA centres have consolidated the ground they gained on Canadian centres in GGFI 6.
- San Francisco and Los Angeles have overtaken Montreal to enter the top 10.
- New York and Chicago are making steady progress, rising three and two places respectively.
- Vancouver has suffered a sharp dip in its fortunes, whilst Toronto fell back two places to 29th.

Asia/Pacific

- Tokyo, Beijing, Sydney, and Singapore are firmly ensconced in the top 20 in the index.
- Seoul rose nine places to 22nd, tied with Guangzhou.
- Busan joined the index with a strong showing at 31st place.
- Melbourne slipped back nine places to 46th.

Middle East & Africa

- Casablanca continues to dominate the Middle East & Africa region, though it is facing stiff competition from Dubai, with only 11 points separating them.
- Tel Aviv has maintained its ranking, but its position is threatened by Abu Dhabi which saw the highest increase in rating within the region.
- Bahrain has joined the index ranked at 67 with only one point separating it from Johannesburg.

Latin America & The Caribbean

- Sao Paulo has maintained its position as the leader of the Latin America & The Caribbean region, consolidating its lead over the Cayman Islands.
- All centres aside from Sao Paulo fell in rank, with the British Virgin Islands and Bermuda seeing the biggest drops, despite all other centres in the region seeing an increase in their ratings.

Eastern Europe & Central Asia

- Nur-Sultan and Almaty have joined the index at the top of the Eastern Europe & Central Asia region
- Warsaw managed to maintain its position in the index through strong growth in its ratings, whilst other centres in the region saw their rankings fall between three and nine places.

Areas Of Interest, Areas With Most Impact On Sustainability, And Drivers Of Green Finance

We asked respondents which areas of green finance were of most interest; which areas would have most impact on sustainability; and which factors are driving the uptake of green finance:

- On interest, Green Bonds reversed its previous slide to gain top billing by a significant margin, with Sustainable Infrastructure Finance and ESG Analytics tied in second place.
- On impact, the three leading areas mentioned were Green Bonds, Sustainable Infrastructure Finance, and Renewable Energy Investment.
- On drivers, the leading drivers of green finance are identified as Policy & Regulatory Frameworks, and Climate Change, with other factors, such as Public Awareness, Risk Management, academic Research and International Initiatives scoring well.

GGFI 7

GGFI 7 was compiled using 140 instrumental factors. These quantitative measures are provided by third parties including the World Bank, The Economist Intelligence Unit, the OECD, and the United Nations. Details can be found in Appendix 5.

The instrumental factors were combined with 4,536 financial centre assessments provided by respondents to the [GGFI online questionnaire](#). A breakdown of the 739 respondents is shown in Appendix 3. Further details of the methodology behind GGFI 7 are in Appendix 4.

The 78 centres listed in GGFI 7 are those which received a minimum of 20 assessments from survey respondents located outside of those centres. Assessments of respondents' home centres were excluded from the data, in order to avoid home centre bias.

GGFI 7 Ranks And Ratings

Table 1 | GGFI Ranks And Ratings

Centre	GGFI 7		GGFI 6		Change in Rank		Change in Rating	
	Rank	Rating	Rank	Rating				
Amsterdam	1	567	2	573	▲	1	▼	-6
Zurich	2	563	1	576	▼	-1	▼	-13
London	3	562	3	562	▶	0	▶	0
Oslo	4	547	6	547	▲	2	▶	0
San Francisco	5	546	9	543	▲	4	▲	3
Luxembourg	6	542	4	549	▼	-2	▼	-7
Geneva	7	541	9	543	▲	2	▼	-2
Copenhagen	8	540	4	549	▼	-4	▼	-9
Stockholm	9	539	6	547	▼	-3	▼	-8
Los Angeles	10	538	18	522	▲	8	▲	16
Paris	11	537	8	545	▼	-3	▼	-8
Helsinki	12	534	13	526	▲	1	▲	8
Tokyo	13	532	18	522	▲	5	▲	10
Beijing	14	531	20	521	▲	6	▲	10
Munich	15	530	15	524	▶	0	▲	6
Brussels	16	529	12	527	▼	-4	▲	2
Shanghai	17	528	15	524	▼	-2	▲	4
Sydney	18	527	20	521	▲	2	▲	6
Montreal	19	526	14	525	▼	-5	▲	1
Singapore	20	525	24	512	▲	4	▲	13
Washington DC	21	524	29	508	▲	8	▲	16
Vienna	22=	523	15	524	▼	-7	▼	-1
Seoul	22=	523	31	505	▲	9	▲	18
Guangzhou	22=	523	24	512	▲	2	▲	11
Vancouver	25=	522	11	530	▼	-14	▼	-8
Hamburg	25=	522	22	518	▼	-3	▲	4
Boston	25=	522	33	504	▲	8	▲	18
Shenzhen	28	521	27	509	▼	-1	▲	12
Toronto	29	519	27	509	▼	-2	▲	10
Osaka	30	518	36	499	▲	6	▲	19
New York	31=	517	34	501	▲	3	▲	16
Busan	31=	517	New	New	▲	New	▲	New
Casablanca	33=	516	24	512	▼	-9	▲	4
Lisbon	33=	516	34	501	▲	1	▲	15
Wellington	33=	516	30	506	▼	-3	▲	10
Chicago	36	513	38	491	▲	2	▲	22
Madrid	37	512	43	484	▲	6	▲	28
Edinburgh	38=	511	23	514	▼	-15	▼	-3
Qingdao	38=	511	40	490	▲	2	▲	21
Hong Kong	40=	510	41	488	▲	1	▲	22
Dublin	40=	510	38	491	▼	-2	▲	19

Table 1 (continued) | GGFI 7 Ranks And Ratings

Centre	GGFI7		GGFI 6		Change in Rank		Change in Rating	
	Rank	Rating	Rank	Rating				
Frankfurt	42=	509	31	505	▼	-11	▲	4
Calgary	42=	509	42	485	▶	0	▲	24
Glasgow	44	507	44	483	▶	0	▲	24
Dubai	45	505	55	466	▲	10	▲	39
Melbourne	46	504	37	492	▼	-9	▲	12
GIFT City-Gujarat	47	503	50	471	▲	3	▲	32
Tel Aviv	48	502	48	473	▶	0	▲	29
Bangkok	49	499	64	443	▲	15	▲	56
Abu Dhabi	50	496	71	434	▲	21	▲	62
Rome	51	493	46	479	▼	-5	▲	14
Kuala Lumpur	52=	491	55	466	▲	3	▲	25
Mauritius	52=	491	52	469	▶	0	▲	22
Guernsey	54=	487	44	483	▼	-10	▲	4
Jersey	54=	487	47	476	▼	-7	▲	11
Milan	54=	487	52	469	▼	-2	▲	18
Nur-Sultan	57	485	New	New	New		New	
Malta	58	484	59	458	▲	1	▲	26
Doha	59	483	73	429	▲	14	▲	54
Mumbai	60=	479	50	471	▼	-10	▲	8
Sao Paulo	60=	479	61	450	▲	1	▲	29
Liechtenstein	62=	478	49	472	▼	-13	▲	6
Jakarta	62	478	60	455	▼	-2	▲	23
Cape Town	62=	478	57	462	▼	-5	▲	16
Almaty	62=	478	New	New	New		New	
Johannesburg	66	477	63	449	▼	-3	▲	28
Bahrain	67=	476	New	New	New		New	
Prague	67=	476	58	459	▼	-9	▲	17
Cayman Islands	69=	473	61	450	▼	-8	▲	23
New Delhi	69=	473	54	467	▼	-15	▲	6
Moscow	71	469	68	436	▼	-3	▲	33
Warsaw	72	468	72	432	▶	0	▲	36
Mexico City	73	463	66	438	▼	-7	▲	25
Istanbul	74=	459	68	436	▼	-6	▲	23
Isle of Man	74=	459	64	443	▼	-10	▲	16
Rio de Janeiro	76	458	74	419	▼	-2	▲	39
British Virgin Islands	77	456	66	438	▼	-11	▲	18
Bermuda	78	455	68	436	▼	-10	▲	19

GGFI Dimensions

Green financial products and services have been traded for many years, but until relatively recently, volumes were quite small and trade tended to be primarily restricted to niche products and domestic markets. The GGFI ascertains the green finance performance of international financial centres by asking practitioners to rate them on two dimensions:

- The depth to which green finance has penetrated the business of the financial centre, i.e. the prevalence of green financial services and products within the financial centre in question.
- The quality of the green finance products and services on offer.

The purpose of tracking both aspects is to enable respondents to rate a financial centre independently from its market volumes. Thus, for example, if a centre adopts weak green labelling standards in a bid to boost volumes, this may show up in the GGFI as a lower quality rating.

The additional data generated through this approach increases granularity, allows the identification of trends, and can assist policy makers to track the impacts of their decisions.

The detailed ratings of the dimensions for the top 15 centres are shown in table 2. Additional details are in Appendix 1.

Table 2 | Top 15 Centres - Rating Details For Depth And Quality Dimensions

GGFI Rank	Centre	GGFI Dimension			
		Green Finance Depth Rating	Green Finance Depth Rank	Green Finance Quality Rating	Green Finance Quality Rank
1	Amsterdam	281	1	286	3
2	Zurich	274	3	289	1
3	London	275	2	287	2
4	Oslo	270	6	277	4
5	San Francisco	272	4	274	5
6	Luxembourg	271	5	271	7
7	Geneva	269	8	262	6
8	Copenhagen	269	8	271	7
9	Stockholm	268	10	271	7
10	Los Angeles	270	6	268	11
11	Paris	268	10	269	10
12	Helsinki	267	12	267	14
13	Tokyo	264	15	268	11
14	Beijing	265	15	267	14
15	Munich	263	18	267	14

Depth And Quality

Chart 1 shows the relationship between ratings of the depth and quality dimensions in the index and the generally close correlation between the assessments of each factor by respondents. Centres close to the trend line are balanced for depth and quality, centres further away have either a better rating for depth, or for quality.

Chart 1 | Relationship Between Ratings Of Depth And Quality

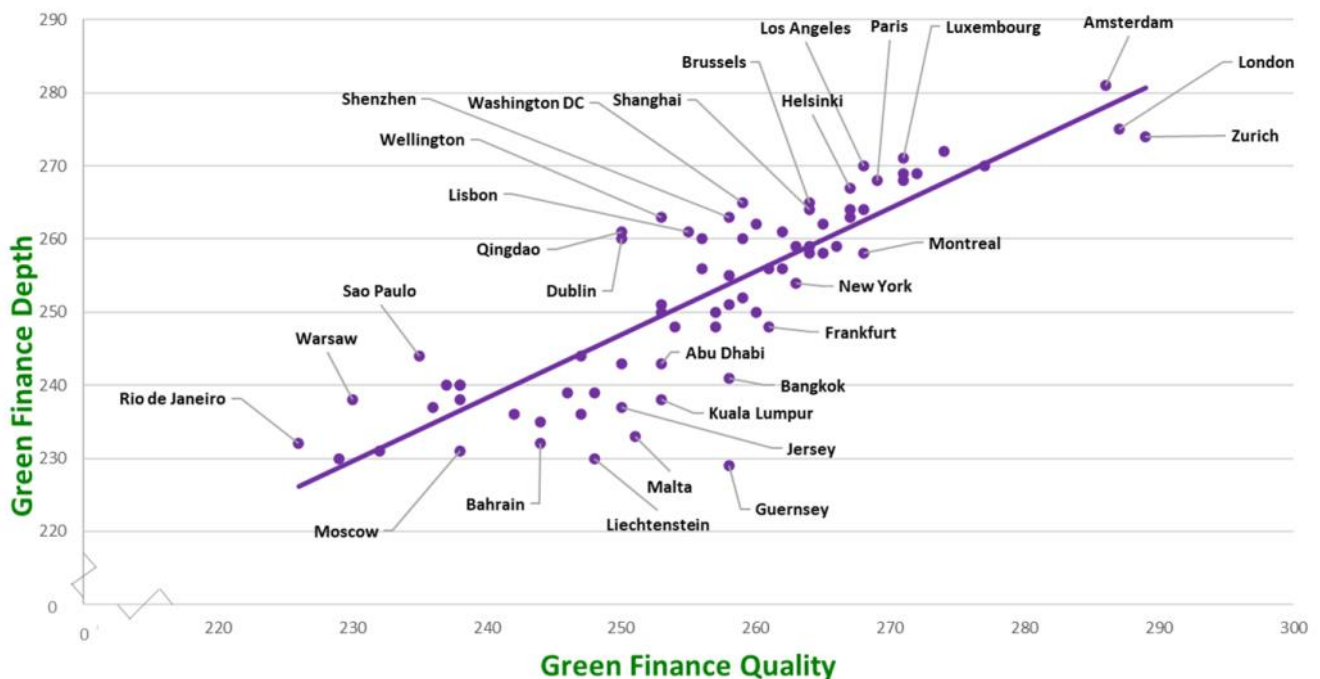


Chart 2 shows the contribution of each of the dimensions to the overall rating. Amsterdam came first for depth on this analysis, but was beaten by Zurich and London for quality, demonstrating that leading centres must keep an eye on the quality of their offerings as the market for green financial products and services continues to expand rapidly.

“There is a lack of experts with specifically environmental expertise.”

Economist, International Financial Centre, Central Asia

Chart 2 | The Contribution Of The Dimensions To The Overall Rating



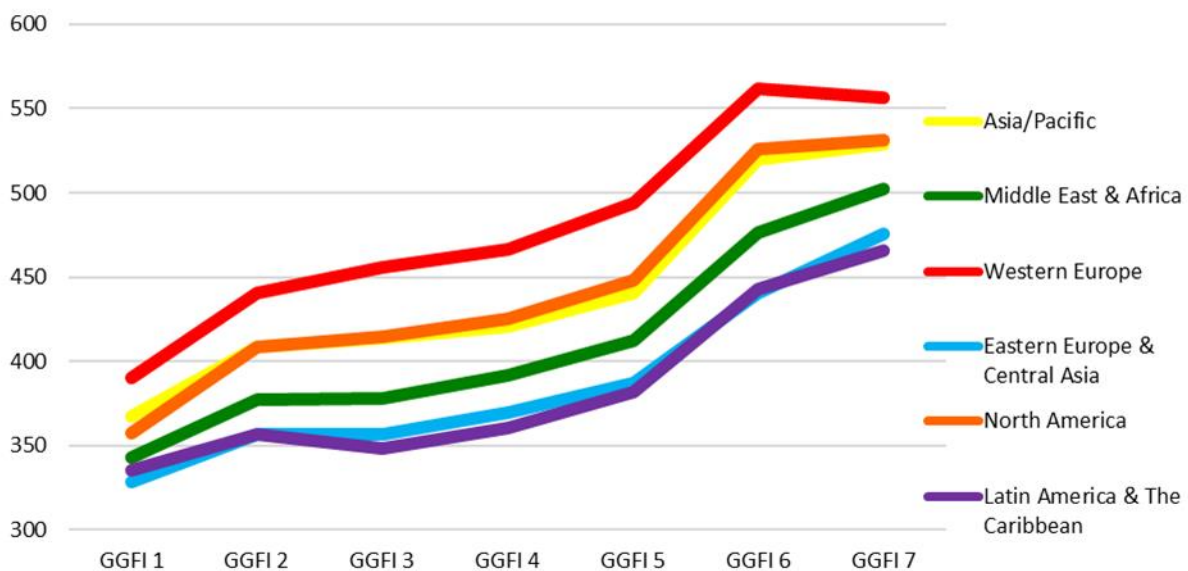
*“This sector is immature.
Data lies at the heart of
how it will perform.”*

CEO, International Business Development
Consultancy, UK

Regional Performance

For the first time, the average rating of the top five Western European centres saw a decline. The average for the top five centres in other regions increased. The leading North American centres just maintained their lead over the Asia/Pacific region. With the exception of Latin America & the Caribbean, if the current rate of change continues, the ratings for regional leaders seem set to converge within the next two editions of the index.

Chart 3 | Average Ratings Of The Top Five Centres In Each Region



Examination of the quality and depth dimensions demonstrates that while Western Europe is maintaining a reputation for quality, the rapid expansion of the green finance market in leading centres in other regions has enhanced the depth of the green finance products and services they offer. At the same time, as their experience in this sector grows, these centres are gaining a reputation for the quality of their green finance offering.

Chart 4 | Average Ratings For Depth Of The Top Five Centres In Each Region

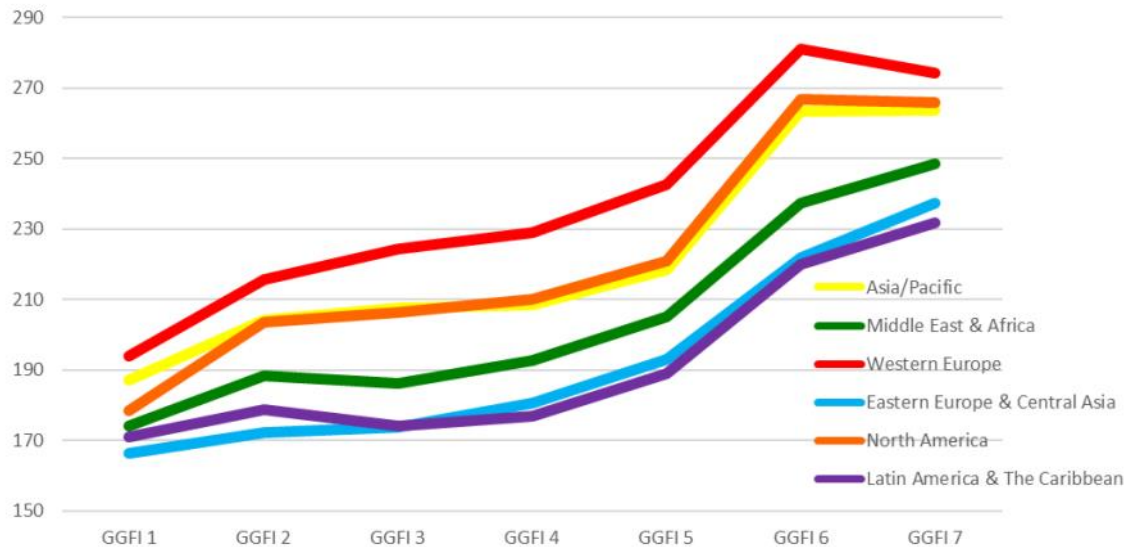
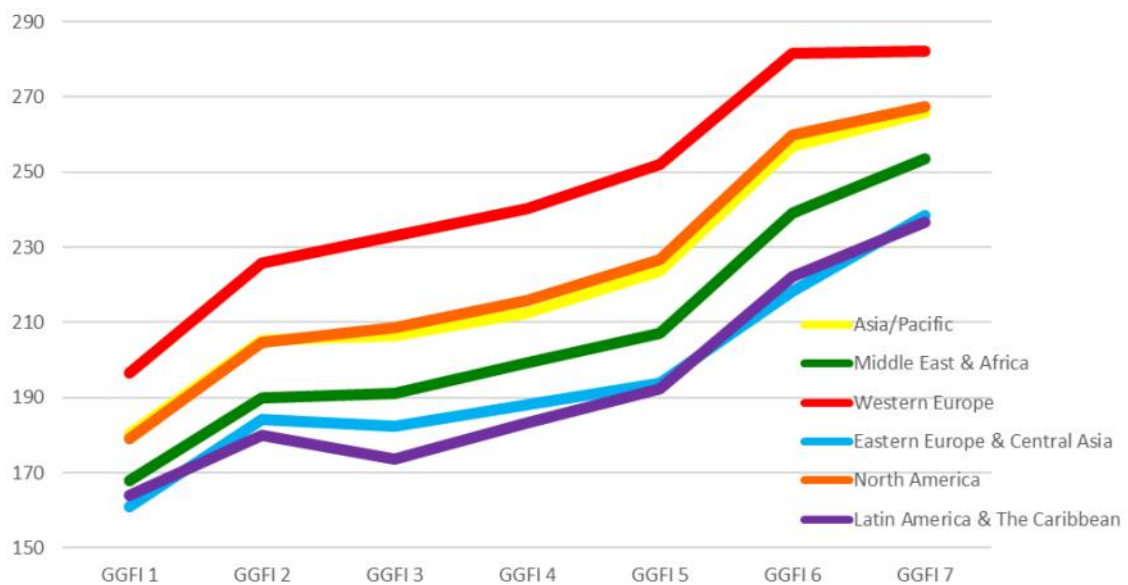


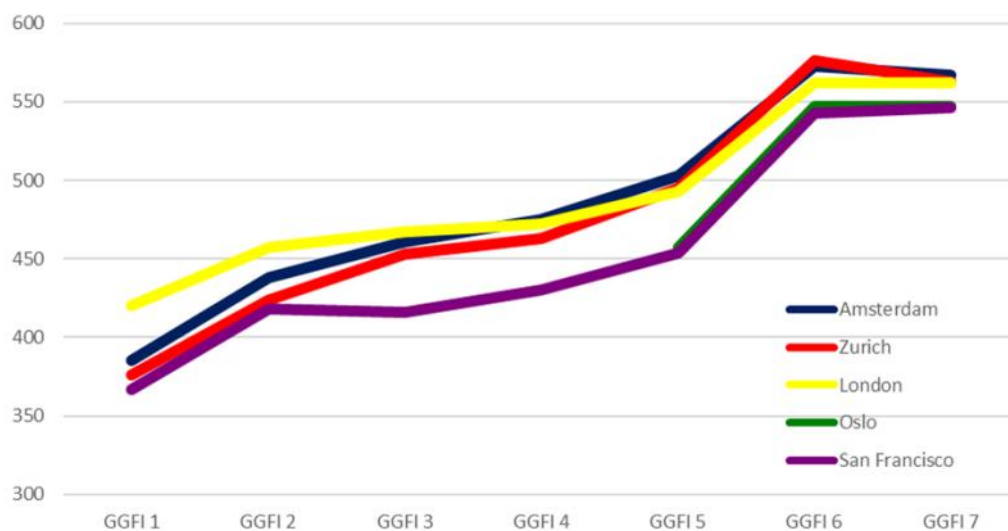
Chart 5 | Average Ratings For Quality Of The Top Five Centres In Each Region



Top Five Centres

The top five centres in the index illustrated mixed fortunes. Zurich lost its first place to Amsterdam, but both centres saw a decline in their ratings.

Chart 6 | The Top Five Centres Over Time



When the depth dimension is examined, all five of the top centres saw a decline in ratings, with Zurich's more marked than the other leading centres.

Chart 7 | Ratings For The Depth Dimension In The Top Five Centres Over Time

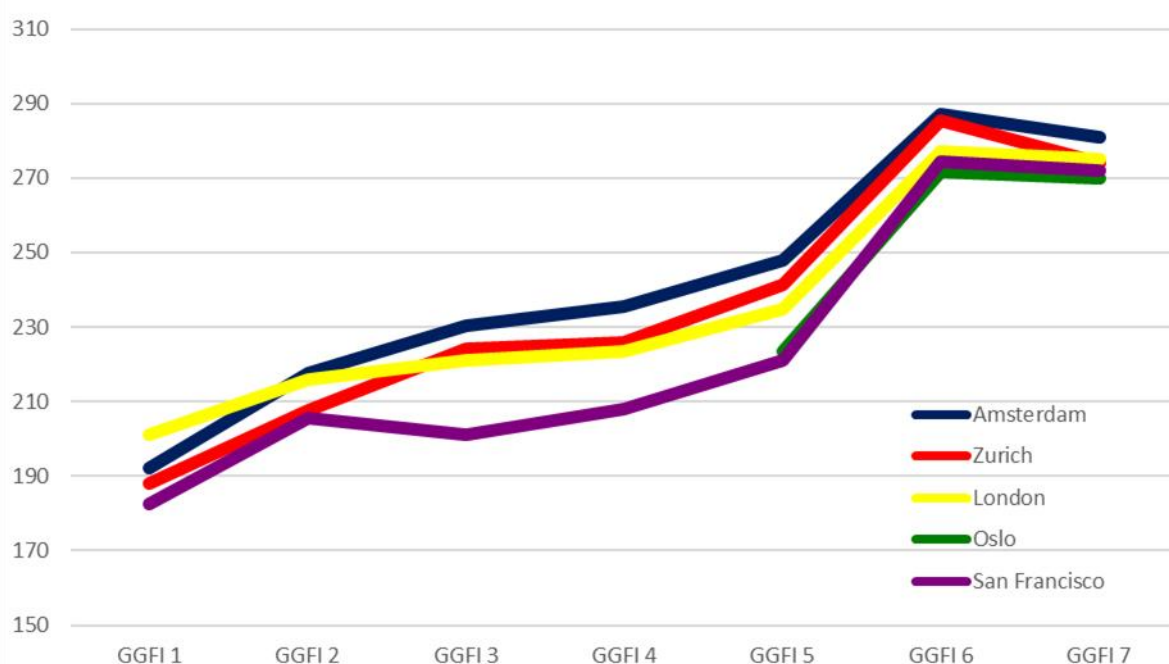
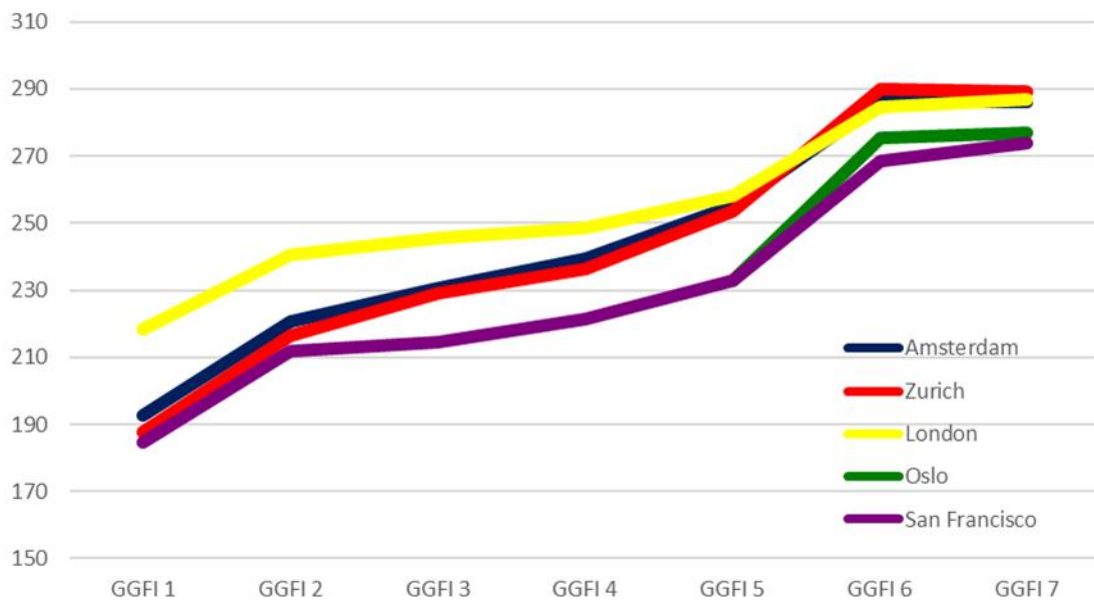


Chart 8 reveals that the top five centres maintained or marginally increased their ratings for quality with San Francisco as the strongest performer. One possible explanation for this is that all 5 centres have longer-established and most mature green finance markets. This could mean that innovation and the development of new products and services has slowed, as markets consolidate gains and expertise diffuses.

Chart 8 | Ratings For The Quality Dimension In The Top Five Centres Over Time



“Clusters are the only way to encourage the establishment of a Green Finance sector. The entire eco-system needs to be in place including higher level educational institutions.”

Partner, International Accountancy Practice, New York

Leading Financial Centres

It is notable that some leading financial centres perform less well than expected in the GGFI, considering their performance in the [Global Financial Centres Index](#) (GFCI), which has been measuring financial centre competitiveness since 2007.

We can compare the centres which rank in the top 20 in the GFCI with their performance in the GGFI. This shows a disconnect between the highest performing centres in the GFCI and performance on green finance in the GGFI. In total, 11 centres feature in the top 20 in both measures.

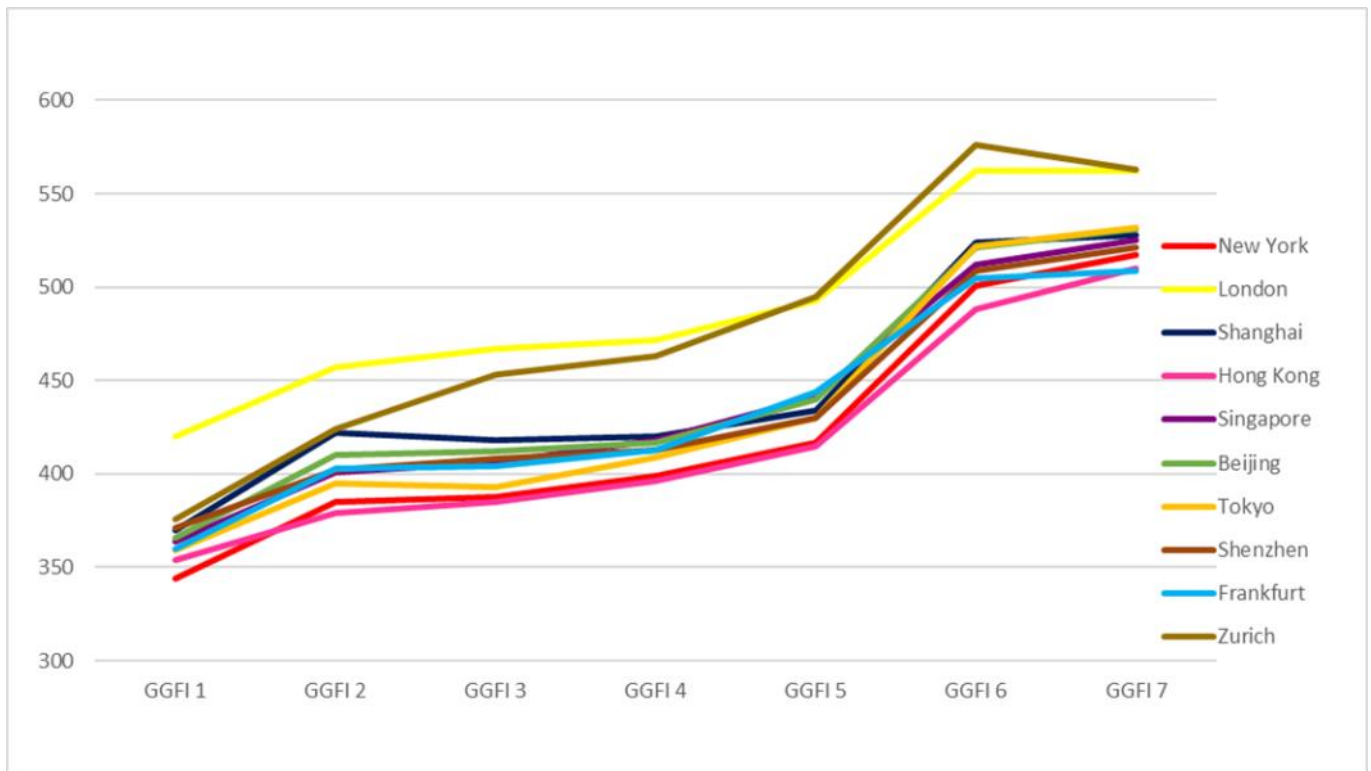
Table 3 | Leading Financial Centres - Comparison of GGFI And GFCI Rankings

Centre	Global Green Finance Index	Financial Centre Competitiveness
New York	31	1
London	3	2
Shanghai	17	3
Hong Kong	40	4
Singapore	20	5
Beijing	14	6
Tokyo	13	7
Shenzhen	28	8
Frankfurt	42	9
Zurich	2	10
Vancouver	25	11
San Francisco	5	12
Los Angeles	10	13
Washington DC	21	14
Chicago	36	15
Seoul	22	16
Luxembourg	6	17
Sydney	18	18
Dubai	45	19
Geneva	7	20
Source	GGFI 7 Rank	GFCI 29 Rank

The charts below show the leading 10 centres in the current 29th edition of the Global Financial Centres Index and their ratings in the GGFI.

The diagram below charts the progress of the leading 10 centres Global Financial Centres Index 29 and their ratings in the GGFI.

Chart 9 | Leading Financial Centres - GGFI Ratings Over Time



“The FCA and similar bodies have a poorly developed focus on Green Finance. Their regulatory assumptions are increasingly out of kilter with the needs of society.”

Director, Management Service Consultancy, UK

GGFI 7 Further Analysis

Future Prospects

We asked respondents to identify which financial centres they thought would become more significant as green finance centres over the next two to three years. Table 4 shows the centres that were mentioned 5 or more times.

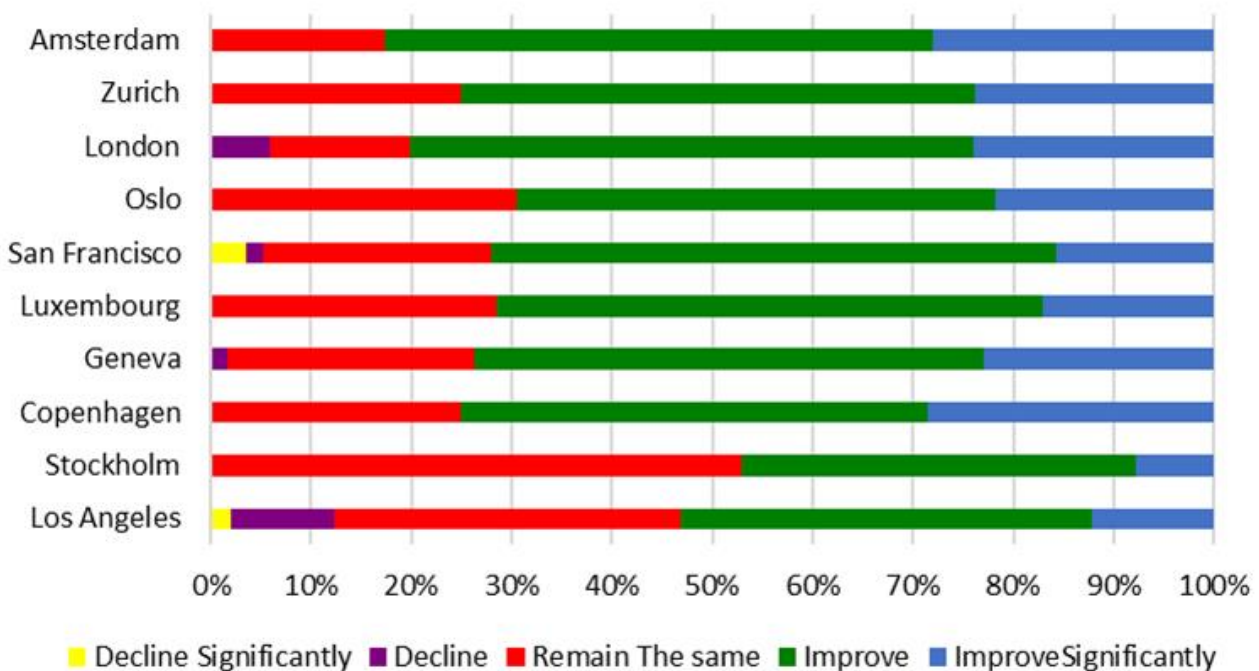
Table 4 | Centres That Will Become More Significant

Centre	Number of Mentions
GIFT City-Gujarat	192
London	7
Paris	6
Singapore	5

Expected Change In Centres

As another way of measuring future movement, we asked respondents whether the centres they rated would improve, decline, or stay the same in relation to their green finance offering over the next two to three years. This question produced a slightly different answer than the one above, and is perhaps more reliable due to a larger sample size. The results for the top 10 centres are displayed in Chart 10, showing high levels of confidence, with most centres in this group projected to improve by a majority of respondents.

Chart 10 | Top 10 Centres - Expected Change In Green Finance Offering



Instrumental Factors

The GGFI is a factor assessment index, based on a worldwide survey of finance professionals' assessments on the quality and depth of green finance offerings in financial centres. These assessments are run through a statistical model which uses 140 instrumental factors which relate to a range of aspects of centre competitiveness. These include measures of sustainability, the business environment, infrastructure and human capital.

Table 5 shows the top 10 instrumental factors in terms of their correlation with the GGFI ranking.

Those factors with the highest correlation tend to be composite indices that reflect a city's functionality. Such metrics capture the local environment in which financial sector workers are operating, and give a picture of the alignment of social and economic policies with the inclusive and green economic outcomes which are prioritised in the UN's Sustainable Development Goals.

Table 5 | Top 10 Instrumental Factors By R-Squared Correlation

Instrumental Factor	R-Squared
Global Innovation Index	0.625
The Global Financial Centres Index	0.562
OECD Country Risk Classification	0.555
IESE Cities In Motion Index	0.548
Corruption Perception Index	0.498
Domestic Credit Provided by Banking Sector (% Of GDP)	0.494
Water Quality	0.492
Legatum Prosperity Index	0.489
Best Countries For Business	0.487
Sustainable Cities Index	0.479



Focusing only on the instrumental factors which relate to sustainability, the factors most closely correlated in terms of their R-Squared relationship with the GGFI rankings are set out in Table 6. Water quality ranks highly, along with a range of composite indices, which aim to measure sustainability performance across a range of social, economic and environmental factors.

Table 6 | Top 10 Sustainability Instrumental Factors By R-Squared Correlation

Sustainability Factors	R-Squared
IESE Cities In Motion Index	0.548
Water Quality	0.492
Sustainable Cities Index	0.479
Quality of Living City Rankings	0.421
Sustainable Economic Development	0.396
Environmental Performance Index	0.334
Financial Centre Corporate Sustainability Performance	0.275
World Energy Trilemma Index	0.224
Global Sustainable Competitiveness Index	0.182
Quality of Life Index	0.132

The instrumental factors that have the closest correlation with the index results in terms of sustainability measures are:

- The IESE Cities In Motion Index, which assesses several socioeconomic aspects of development, including human capital, social cohesion (which includes employment, female participation in the work force, etc.), governance, sustainable development, mobility and transportation, urban planning, international outreach, and technology.
- The OECD Water Quality Index: based on a regular survey of people's views on the water quality where they live and work.
- The Arcadis Sustainable Cities Index: this index ranks 100 global cities on three dimensions of sustainability: people, planet, and profit. These represent social, environmental, and economic sustainability and offer an indicative picture of the health and wealth of cities for the present and the future.
- The Mercer Quality Of Living City Rankings: this index ranks cities taking account of a range of factors including political, economic, environmental, personal safety, health, education, transportation, and public service factors.

Index Ranking For Sustainability

We have also conducted an analysis of the assessments provided by respondents using only the instrumental factors that have a direct relationship to sustainability. This analysis produces slightly different results to the main index, as shown in the comparison in Table 7. The plus and minus figures show the difference between the main index and the index calculated using only sustainability factors.

Where only sustainability factors are included in the analysis, Zurich , London, and San Francisco retain their positions. Singapore, Boston, and Washington DC gain significantly, while Los Angeles, Paris, Helsinki, Tokyo, Beijing, and Munich drop out of the top 15 entirely.

Table 7 | Top 15 Centres Using All Factors And Only Sustainability Factors

Rank	All Factors	Sustainability Factors
1	Amsterdam	Oslo (+3)
2	Zurich	Zurich
3	London	London
4	Oslo	Amsterdam (-3)
5	San Francisco	San Francisco
6	Luxembourg	Copenhagen (+2)
7	Geneva	Helsinki (+5)
8	Copenhagen	Geneva (-1)
9	Stockholm	Luxembourg (-3)
10	Los Angeles	Singapore (+10)
11	Paris	Stockholm (-2)
12	Helsinki	Boston (+13)
13	Tokyo	Brussels (+3)
14	Beijing	Shanghai (+3)
15	Munich	Washington DC (+6)

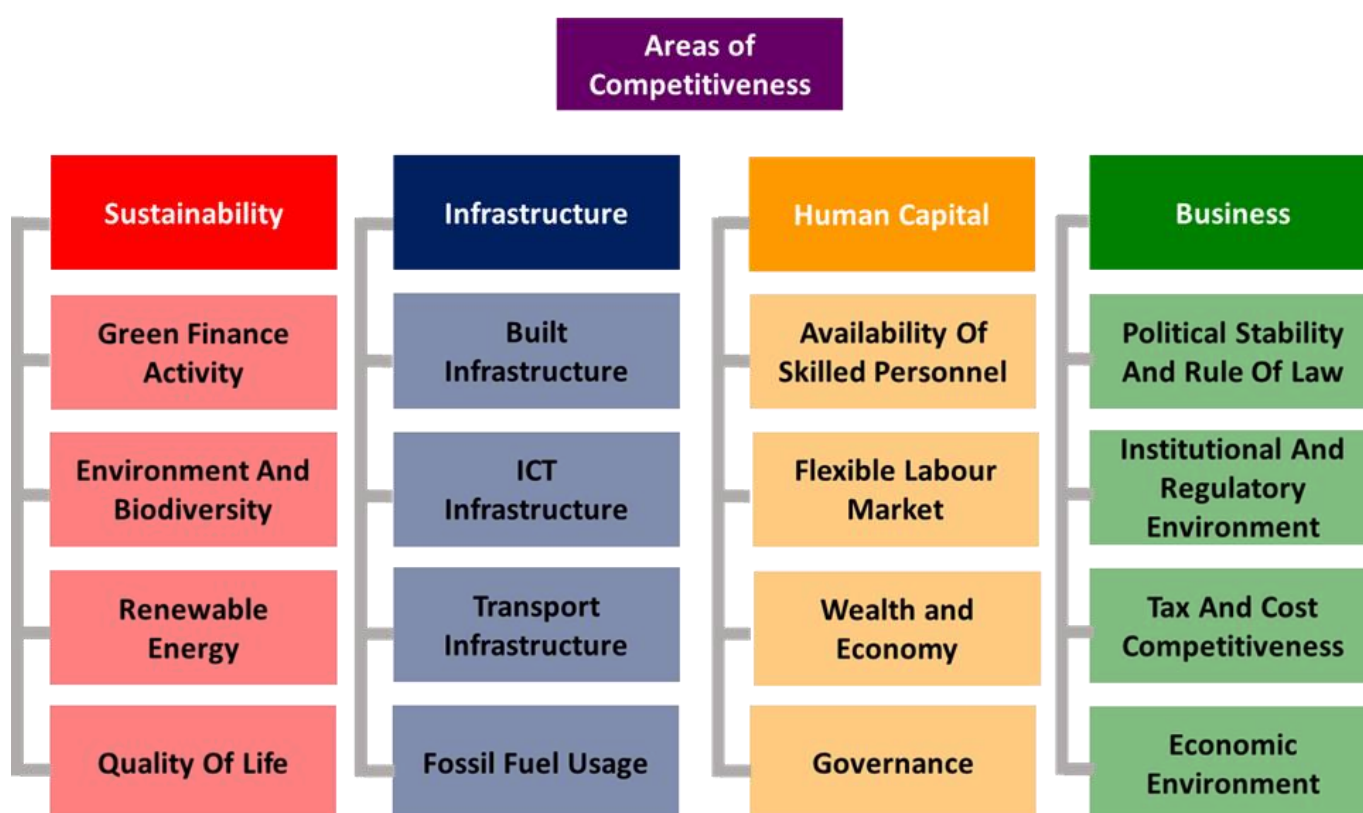
Areas Of Competitiveness

The instrumental factors used in the GGFI model are grouped into four broad areas:

- Sustainability
- Infrastructure
- Human Capital
- Business

These areas, and the instrumental factor themes which comprise each area, are shown in Chart 11.

Chart 11 | GGFI Areas Of Competitiveness



To assess how financial centres' green finance offerings perform against each of these areas, the GGFI statistical model is run for each area of competitiveness separately, allowing a picture to be built of centres' strengths and weaknesses. The performance of the top ranked 15 centres in each of these areas is illustrated in table 8.

Table 8 | Top 15 Centres By Area Of Competitiveness

Rank	Sustainability	Business	Human Capital	Infrastructure
1	Oslo	Amsterdam	London	London
2	Zurich	London	Amsterdam	Zurich
3	London	Zurich	Zurich	Amsterdam
4	Amsterdam	Oslo	Copenhagen	Vienna
5	San Francisco	Geneva	Stockholm	Tokyo
6	Copenhagen	Stockholm	Vienna	Luxembourg
7	Helsinki	Copenhagen	Oslo	Paris
8	Geneva	Luxembourg	Luxembourg	Geneva
9	Luxembourg	Shenzhen	Geneva	Copenhagen
10	Singapore	San Francisco	Shenzhen	Osaka
11	Stockholm	Paris	Paris	San Francisco
12	Boston	Shanghai	Tokyo	Stockholm
13	Brussels	Washington DC	San Francisco	Hamburg
14	Shanghai	Tokyo	Sydney	Frankfurt
15	Washington DC	Los Angeles	Helsinki	Helsinki



Commentary On Factors

The GGFI survey asks respondents to comment on factors that affect the uptake of green finance, and in particular on regulation, taxation, and the availability of skills. The responses are summarised in Table 9.

Table 9 | Commentary On Areas Of Competitiveness

Area Of Competitiveness	Number Of Mentions	Main Themes
Regulatory Environment	105	<ul style="list-style-type: none"> A number of respondents highlighted EU and FCA requirements on sustainability reporting (including Non-Financial Disclosure Requirements) as key drivers Several identified international coordination as important because regulatory initiatives must not create unproductive information overkill.
The Availability Of Skills In Green Finance	85	<ul style="list-style-type: none"> Many respondents identified significant gaps in training provision and expertise as critical factors in reducing the capacity of the sector to maximise growth.
Taxation	81	<ul style="list-style-type: none"> Several respondents indicated that reduced tax on green bonds could incentivise investment in low carbon projects. No consensus exists on the issue of taxation, with many respondents indicating that they considered taxation irrelevant or of very low importance.
Other	30	<ul style="list-style-type: none"> Political risk was identified as a significant drag on the growth of green finance. The issue of greenwashing was raised as a major problem for the industry. Examples cited included an emphasis on climate change rather than biodiversity, and 'positive change funds', which are focused on technology rather than green or ethical finance.

We also asked respondents to identify interesting initiatives in green finance. These included:

- The convergence of measurement standards and disclosure.
- The recently launched LGX Academy and DataHub, by the Luxembourg Stock Exchange.
- Green Asset Wallet, a blockchain-based platform for sustainable investment.
- Green credits in retail markets.
- The growth of sovereign green bonds.
- Credit lines specialized in green investment granted by organisations such as EBRD.
- The LSE Green Economy Mark.

Connectivity

One factor where financial centres' green finance performance differs is the extent to which centres are connected to other financial centres. One way of measuring this connectivity is to look at the number of assessments given to and received from other centres. Charts 12 and 13 use Guernsey and the Isle of Man as examples to contrast the different levels of connectivity that the two centres enjoy. In this example, the global nature of Guernsey's connections contrasts with the Isle of Man which is primarily connected with Western European centres.

You can explore the connectivity data using our online tool at <https://www.longfinance.net/programmes/financial-centre-futures/global-green-finance-index/ggfi7-explore-data/ggfi-7-connectivity-chart/>.

"International coordination is key as investors are investing globally."

Head Of Competence, Cooperative Banking Organisation, Switzerland



Chart 12 | GGFI 7 Connectivity - Guernsey

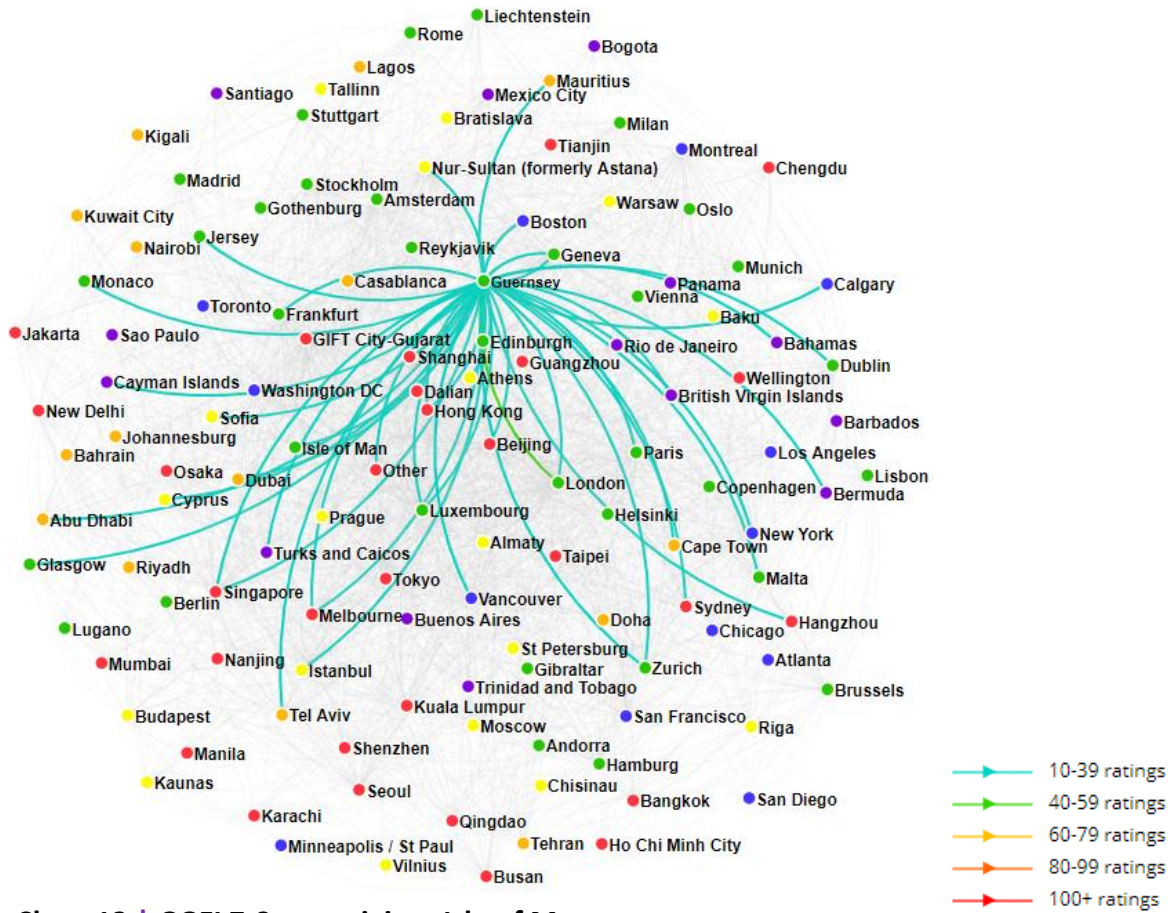
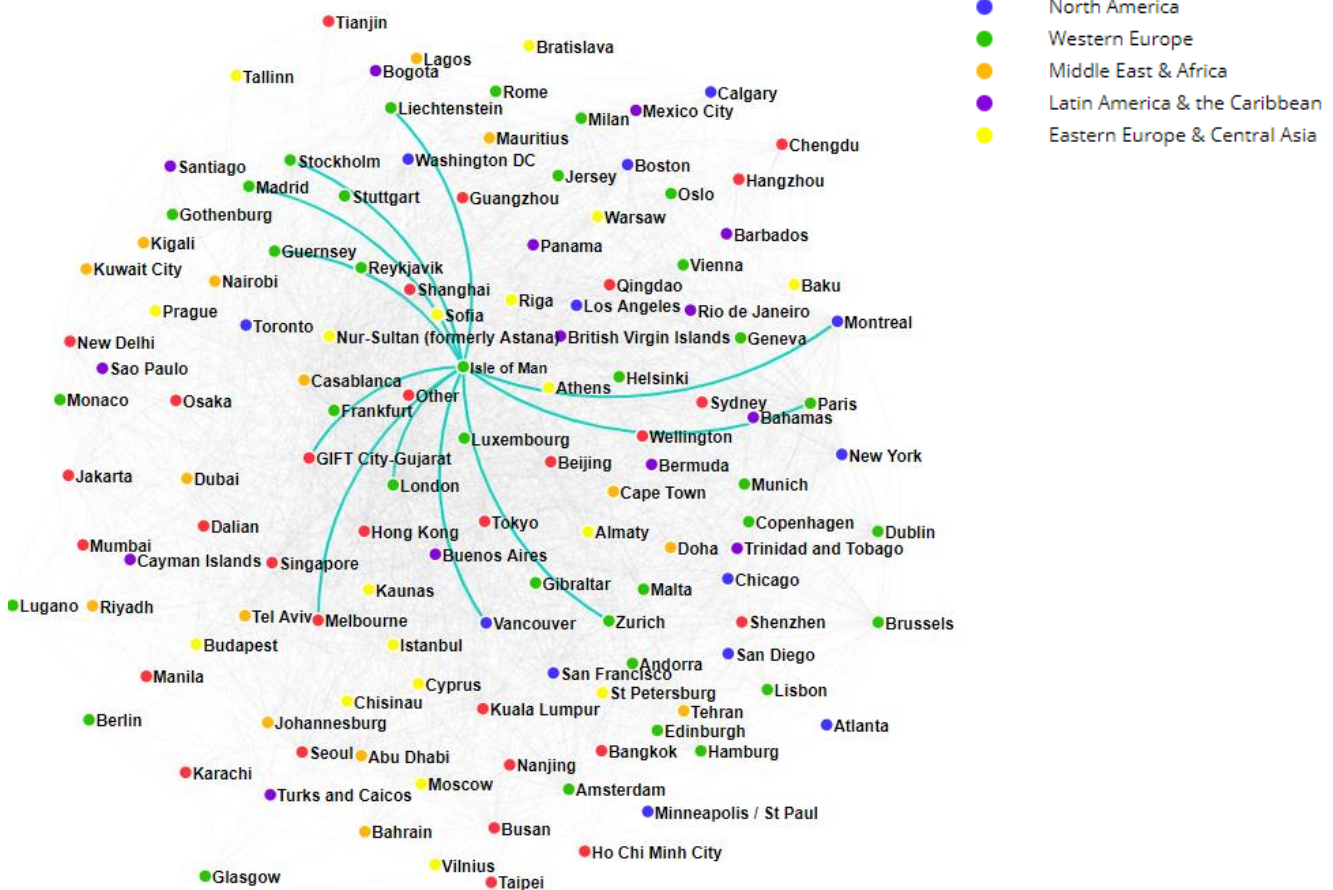


Chart 13 | GGFI 7 Connectivity - Isle of Man



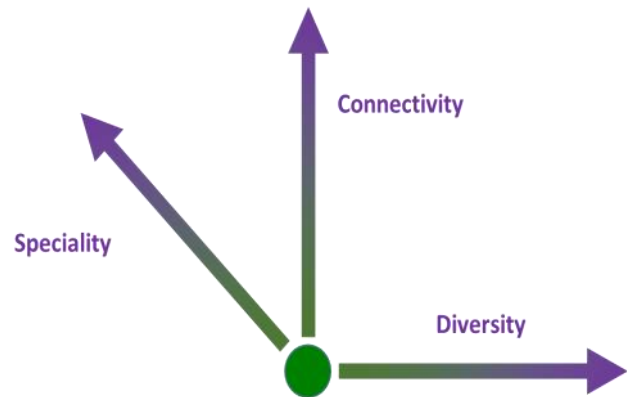
Financial Centre Profiles

We conduct further analyses based on three measures (axes) that determine a financial centre's profile in relation to three different dimensions.

'Connectivity' – the extent to which a centre is well known among GGFI survey respondents, based on the number of 'inbound' assessment locations (the number of locations from which a particular centre receives assessments) and 'outbound' assessment locations (the number of other centres assessed by respondents from a particular centre).

'Diversity' – the instrumental factors used in the GGFI model give an indication of a broad range of factors that influence the richness and evenness of factors that characterise any particular financial centre.

Chart 14 | GGFI Dimensions



We consider this span of factors to be measurable in a similar way to that of the natural environment. We therefore use a combination of biodiversity indices (calculated on the instrumental factors) to assess a centre's diversity. This takes account of the range of factors against which the centre has been assessed – the 'richness' of the centre's business environment; and the 'evenness' of the distribution of that centre's scores. A high score means that a centre is well diversified; a low diversity score reflects a less rich business environment.

'Speciality' – the depth within a financial centre of green finance and sustainability. A centre's 'speciality' or performance is calculated from the difference between the overall GGFI rating and the ratings when the model is calculated based only on sustainability factors.

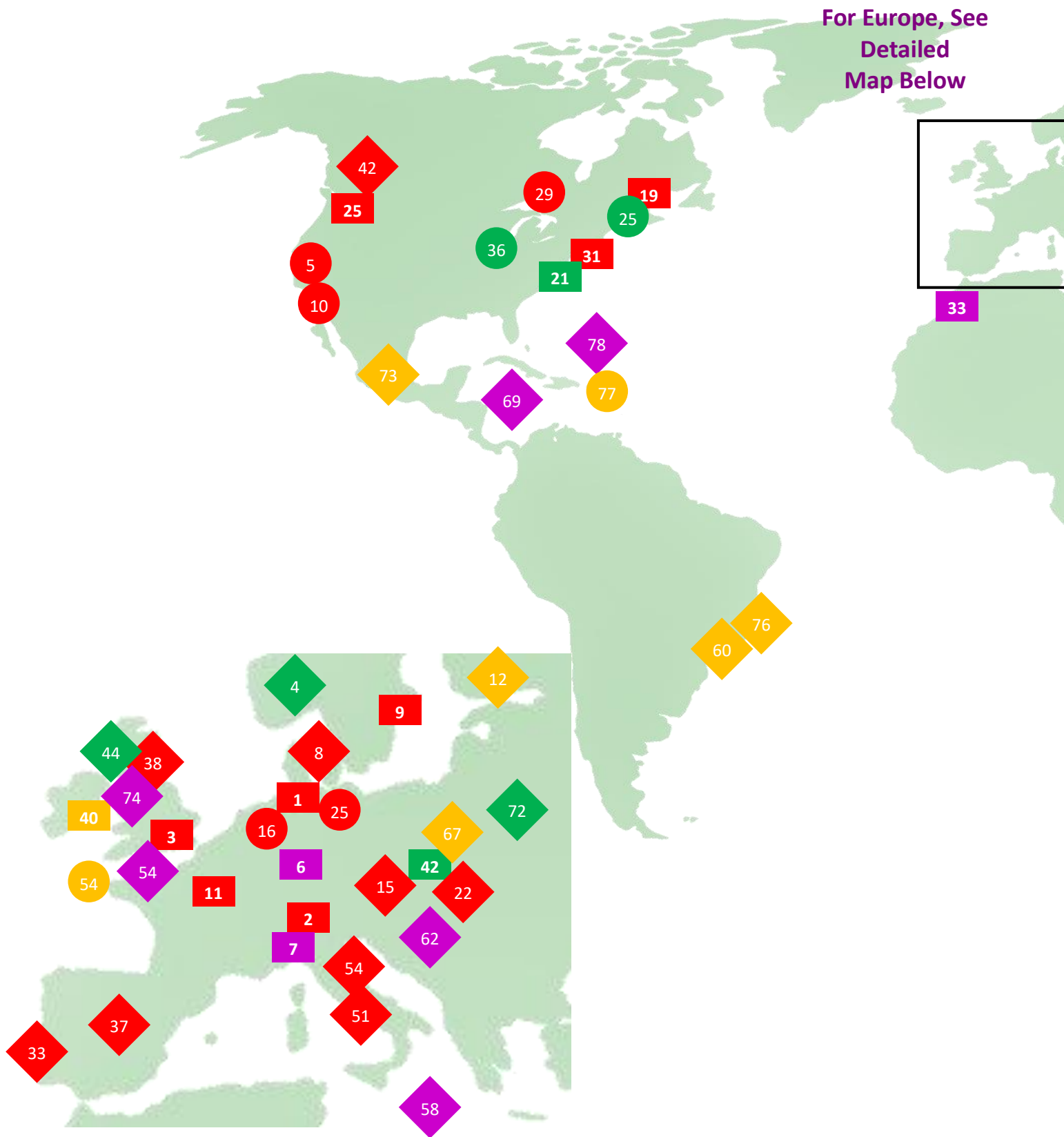
In Table 10, 'Diversity' (Breadth) and 'Speciality' (Depth) are combined on one axis to create a two dimensional table of financial centre profiles. The 78 centres in GGFI 7 are assigned a profile on the basis of a set of rules for the three measures: how well connected a centre is, how broad its services are, and how specialised it is.

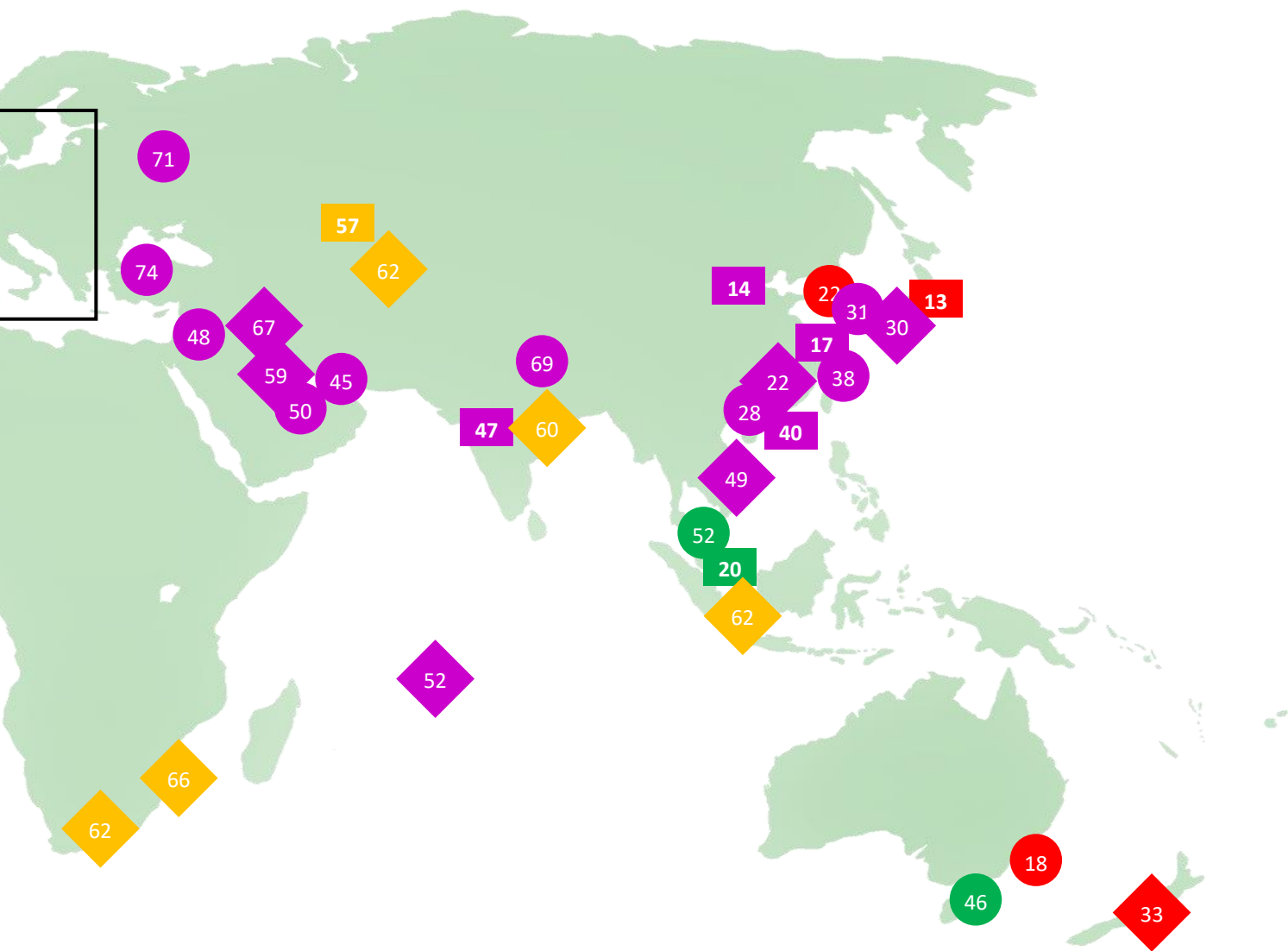
The Global Leaders (in the top left of the table) have both broad and deep green finance activity and are connected with a greater range of other financial centres. Other leading centres are profiled as Established International Centres.

Table 10 | Financial Centre Profiling













	Broad and Deep	Relatively Broad	Relatively Deep	Emerging
	Global Leaders	Global Diversified	Global Specialists	Global Contenders
Global	Amsterdam	Singapore	Luxembourg	Dublin
	Zurich	Washington DC	Geneva	Nur-Sultan
	London	Frankfurt	Beijing	
	Stockholm		Shanghai	
	Paris		Casablanca	
	Tokyo		Hong Kong	
	Montreal		GIFT City-Gujarat	
	Vancouver			
	New York			
	Established International	International Diversified	International Specialists	International Contenders
International	San Francisco	Boston	Shenzhen	Guernsey
	Los Angeles	Chicago	Busan	British Virgin Islands
	Brussels	Melbourne	Qingdao	
	Sydney	Kuala Lumpur	Dubai	
	Seoul		Tel Aviv	
	Hamburg		Abu Dhabi	
	Toronto		New Delhi	
			Moscow	
			Istanbul	
	Established Players	Local Diversified	Local Specialists	Evolving Centres
Local	Copenhagen	Oslo	Guangzhou	Helsinki
	Munich	Glasgow	Osaka	Mumbai
	Vienna	Warsaw	Bangkok	Sao Paulo
	Lisbon		Mauritius	Jakarta
	Wellington		Jersey	Cape Town
	Madrid		Malta	Almaty
	Edinburgh		Doha	Johannesburg
	Calgary		Liechtenstein	Prague
	Rome		Bahrain	Mexico City
	Milan		Cayman Islands	Rio de Janeiro
			Isle of Man	
			Bermuda	

The GGFI 7 World - Centres In The Index





The numbers on the map indicate the GGFI 7 rankings.

Broad and Deep		Relatively Broad		Relatively Deep		Emerging	
	Global Leaders		Global Diversified		Global Specialists		Global Contenders
	Established International		International Diversified		International Specialists		International Contenders
	Established Players		Local Diversified		Local Specialists		Evolving Centres

Guernsey's Approach To Unlocking Private Capital



Introduction

Guernsey's aim is to be at the forefront of the development of green and sustainable finance – the primary purpose being to arrest climate change by using our expertise as an international finance centre to help route capital to finance climate change mitigation.

Since the inception of Guernsey Green Finance three years ago, we have utilised that expertise in the funds and private wealth space. This supplement gives an overview of our research, reporting, and product development.

On joining the United Nations' Financial Centres for Sustainability (FC4S) in 2018, Guernsey committed to strategic action on green and sustainable finance.

Guernsey Green Finance developed an action plan that closely allies with the FC4S objectives, aligning our activities with the UN's four-pillar framework and the Sustainable Development Goals.

The Action Plan aims to:

- Align with, and build on a global green taxonomy developed by global organisations and standard setters;
- Rapidly establish a flexible and comprehensive product offer across the securities, investment, and insurance sectors;
- Develop a programme of engagement to promote the Action Plan by working with commercial and representative organisations on and off-island;
- Work with global public policy groups to foster international cooperation on the development of green finance.

Recognising that aligning with international standards allows Guernsey to facilitate maximum financial and environmental progress, our product development incorporates currently-accepted taxonomies, with consideration of when and where it will be appropriate to incorporate the EU taxonomy.

[The UN's 'Shifting Gears'](#) report in 2019 concluded that a lack of green financial products was the greatest barrier that financial centres face. Our response has been to create a green product range that is innovative and varied.

In 2018, we led the world with [the launch](#) of the [Guernsey Green Fund](#), which marked the inception of the world's first regulated green fund regime. Its objective is to provide a platform for investors which allows investments into various green initiatives whilst spreading risk. It uses a regulatory wrapper to confirm compliance with clear green criteria, based on the ['Common Principles For Climate Mitigation Finance Tracking'](#).

The product has received positive feedback and has stimulated discussion about the development of regulated green products in response to the perceptions of greenwashing which have dogged the green finance sector.

Since the launch of the fund, we have published green principles that act as guidance and standards for the private equity sector, as Guernsey is a world leader in the establishment and administration of private equity funds. There are currently [10 Guernsey-domiciled green funds](#) signed up to the kitemark, and feedback indicates that the designation assists funds in securing investment.

As a result of this success, we are seeking to extend the benefits of the Guernsey Green Fund regulatory regime, particularly concerning transparency, to the private capital and insurance sectors. We have published a guide for developing sustainable trust deeds and are working on the development of green insurance products and services for the island's varied international insurance industry. In the 2019 survey which formed the basis of the 'Shifting Gears' report, 50% of respondents identified developing green standards as a top strategic priority going forward. This certainly chimes with our experience, but we also believe that regulation can be a major driver.

Through the development of regulated products, we can provide trusted and transparent products that contribute to the global response to climate change. Guernsey benefits from an internationally recognised regulatory regime that is both responsive and responsible, with a long track record of conforming to international regulatory and transparency standards.

"What we thought was very appealing in the Guernsey Green Fund initiative was a clear signature of verification, which was why we chose to register, and why we are very proud to be the first Guernsey Green Fund."

Group Chief Operating Officer, ADM Capital (Managers Of The Cibus Fund)

The Guernsey Financial Services Commission (GFSC) has demonstrated a clear commitment to green finance frameworks: It is a member of the International Organisation of Securities Commissions' (IOSCO) Sustainable Finance working group, a member of the UN's Sustainable Insurance Forum, and a member of the Network for Greening the Financial System (NGFS). It is ensuring that the implications of the task force on climate-related finance disclosures are understood by Guernsey firms through direct dialogue and engagement with the boards of locally licensed banks and insurers. Although as yet there are no statutory requirements in place analogous to the EU's Sustainable Disclosure Regulation, the GFSC is keeping the regulation under review.

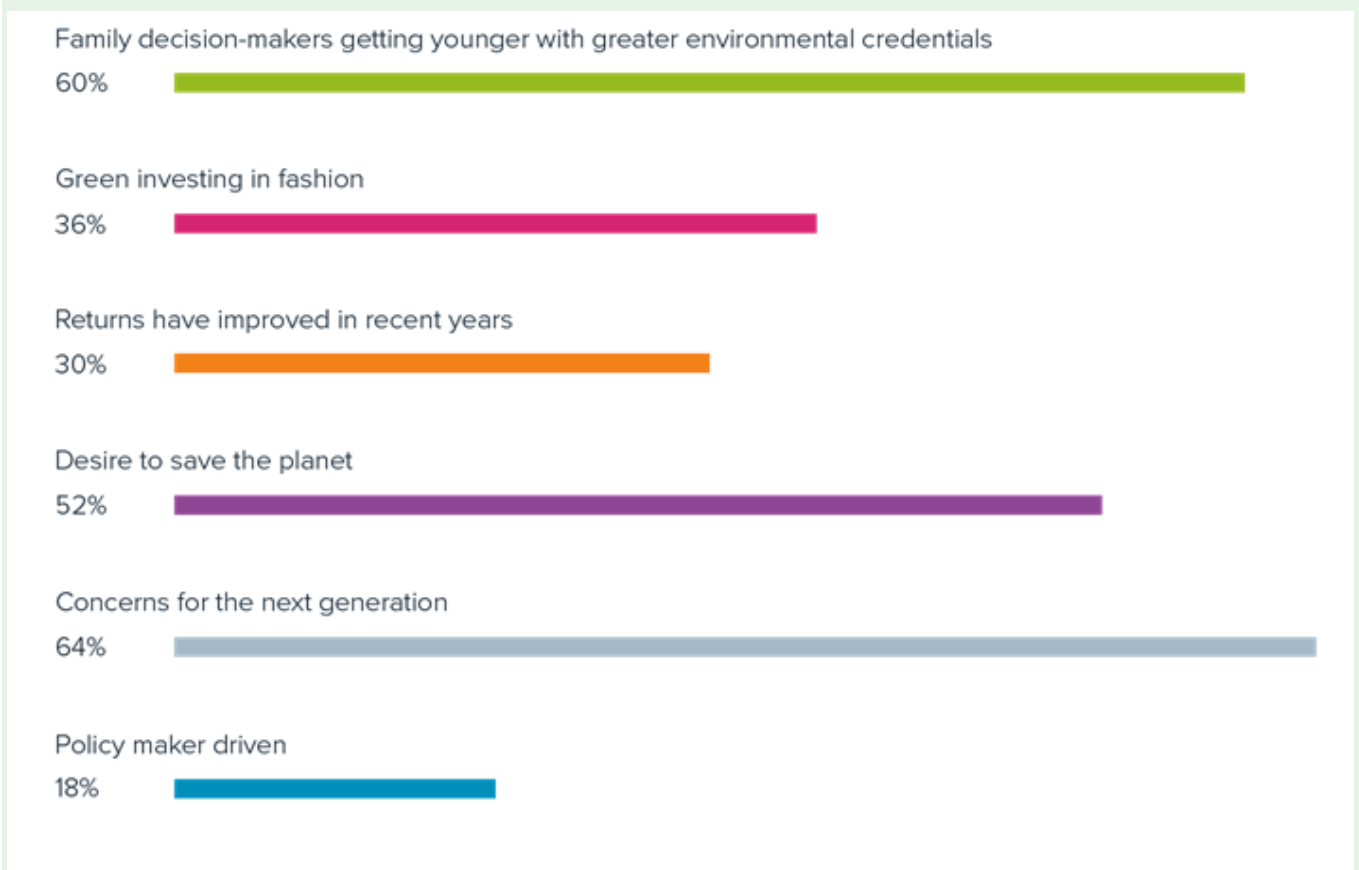
Building Trust In Sustainability

Owners of private wealth and family offices are increasingly concerned with the impact of their investments and the companies they are investing in.

As an extension of the historic approach, whereby owners of private capital have looked to commit to philanthropic projects that have deep and measurable environmental and social impacts, they are now looking to incorporate a similar approach within their overall investment strategies while maintaining financial returns.

Our research, and that of many others, points to a wall of private capital that is looking to be unleashed to the cause of financing sustainability, driven in large part by the pressures of a new generation and the prospect of intergenerational transfer.

Figure 1 | Factors Driving Private Capital Towards Sustainability



Guernsey is proud to be at the forefront of the development of green and sustainable finance. As a global leader in the provision of private wealth services, it is also well-positioned to support the development of family offices, and their advisers, building sustainability into their offerings to clients and maintaining their duties as trustees.

We are fortunate to be blessed with so many far-sighted firms and organisations with strong commitments to sustainability and have a strategic group committed to the cause of the development of services in this sector. During 2020, we sought, with others, including the Guernsey Association of Trustees and the Guernsey Branch of the Society for Trust and Estate Planning (the global professional association for those advising families across generations) to understand how family offices and their advisers view sustainable investing, and how we can encourage a greater movement towards sustainable investing by family offices and their clients.

We aimed to uncover the key barriers to sustainable investing and to understand what tools and solutions would be of use to family offices and others to enable them to develop their own sustainable private wealth offering. Our objective is to alleviate these barriers with the publication of tools and briefings. A central theme emerging from our continuing discussions with Guernsey service providers and their clients has been the need to ensure the compatibility of trustees' duties and sustainable investing.

We drew up example trust clauses that aim to overcome the perceived potential conflict between the duty of the trustee and sustainable investing and produced [a guide to developing sustainable trust deeds](#) with the support of law firm Ogier in Guernsey. As part of that private wealth offering, these tools enable fiduciaries to build their sustainable finance services to clients and directly support family offices in financing sustainability. It also clearly showcases the sustainable services available in Guernsey.

It has been suggested that such concerns may act as a barrier to conversations around the question of sustainable investing. Our example trust deeds provide clarity that the use of sustainable clauses can ensure that the sustainability offering is consistent with the maintenance of the trustees' duty. Trustees remain subject to a duty to act in the best interests of the beneficiaries, which includes ensuring that the trust fund is managed in a careful and fully justifiable manner. As per the Trusts (Guernsey) Law, 2007, trustees must "preserve and enhance, so far as is reasonable, the value of the trust property" and as such trustees may be held to account if investments perform badly.

Historically this duty to act in the best interest of the beneficiaries, to preserve and enhance the value of the fund, has considered only financial returns. Arguably, ignoring sustainability concerns could be seen as not having careful management of the fund, and the duty does not currently include any specific mention of sustainable investment – whether this relates to ESG investing, green investing, or socially responsible investments.

Family offices therefore will need to be comfortable that by choosing sustainably-focused investments, they will not be compromising their duties as a trustee in preserving and enhancing the value of the trust property.

As with all exercises of fiduciary powers, investment decisions must be made on a case-by-case basis and no single formula can be applied across the board.

As such we did not wish to develop a specific proforma trust deed that could apply to all family offices and fiduciaries in Guernsey.

Instead, we understood that it would be important for trustees to undertake a balancing exercise between achieving positive returns and good investment outcomes through strategies that are aligned with the beneficiaries' interests and views while ensuring that they are comfortable that they are not risking compliance with their duties as a trustee.

Private wealth investing responsibly and sustainably is exceedingly important in terms of Guernsey's commitment to international climate change goals and objectives.

We are optimistic that we will continue to see increases in capital from the private wealth sectors flowing to the green and sustainable investments, and that the transformative power of private wealth will continue to drive action on climate change.

Mobilising Private Capital

Private capital and family wealth is an increasingly important source of funds for investment, yet research commissioned by Guernsey Finance in 2019 indicated that capital from private wealth and family offices was not yet flowing freely to the sector.

However, although since the publication of that report, there are indications that more capital is finding a home in green investments, driven by the increased concerns of the younger generation of wealth owners, a greater focus is still needed in relation to engagement with investment managers and investors on the aims of green and sustainable finance, the benefits of investing responsibly in terms of investment returns, and alignment with climate change goals and objectives.

A framework for private capital in the unregulated space, analogous to the Guernsey Green Fund regulatory framework, which provides confidence to investment managers and investors, could unlock the flow of investment capital from private investors, family offices, and private equity into the green and sustainable investment space.

“Sustainable investing is now one of the fastest-growing segments of the asset management industry but there is a clear need for transparency, driven by growing awareness about the dangers of greenwashing. As such, there has never been a more pressing time for a robust, transparent framework for green and sustainable products to help investor decision making.”

Chief Risk Officer, Earth Capital (Managers Of The Nobel Sustainability Fund)

Enhancing Confidence

Globally, there is insufficient capital finding its way into climate change mitigation projects. Despite the massive policy, political and populist push in recent rhetoric, owners of significant private wealth, family offices, and individuals appear to be only partially committed to green and sustainable finance. While green is seen as a laudable investment, and a natural development of the philanthropist disbursement of private wealth, owners of significant private capital, family offices and individuals, remain to be fully convinced of the merits of a 'green asset class'. Our research clearly highlights that greater confidence in returns and greater confidence in the 'greenness' of the underlying investment – the 'twin confidences' – are still required to catalyse a potential modal shift in the deployment of private capital to climate finance.

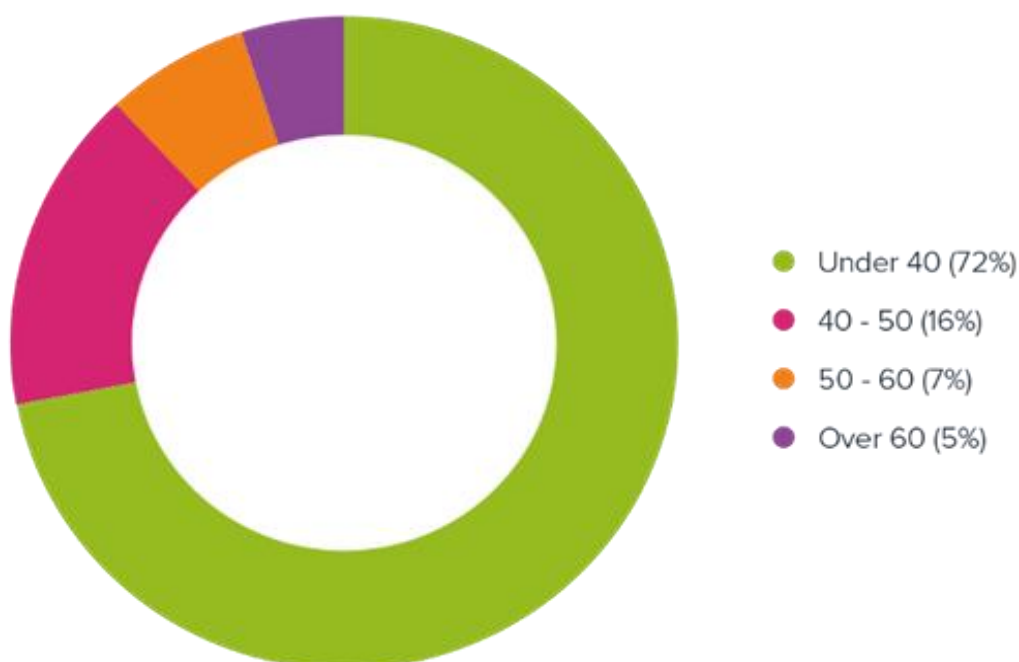
Family Offices

Green and sustainable finance has also found itself on the investment agenda of private wealth and family offices. Family offices that invest sustainably are choosing companies, organisations, and funds that generate measurable social and environmental impact, alongside a financial return. Our research found that an enhanced prospect of improved returns would encourage a significant number of investors to pursue green investments.

The Younger Generation Is Driving Investment

The demand for green and sustainable investments is being led by the under-40s and millennials, who have greater environmental credentials and want to align their investments with their personal values and priorities. Our research suggests that an overwhelming majority of clients in these age groups are seeking to invest responsibly, either in sustainable projects or green funds, and would like their professional advisers to take a lead in raising the subject or creating awareness.

Figure 2 | Age Profile Of Investors Seeking To Align Investment Strategies With Personal Values



Greater Clarity In Green Credentials

Trust in green and sustainable investment products is also key to unlocking private capital investment. A green and sustainable private capital framework – akin to a form of regulatory accreditation or certification, aligned with international principles – would provide confidence to the majority of respondents in our survey, and would be a significant factor in their investment decisions.

Box 1 | Reflections On Sustainable Finance In A Post-Covid Era

Tim Hames, former Director-General of the British Venture Capital and Private Equity Association (BVCA), was among interested observers of Guernsey Green Finance's Sustainable Finance Week in June 2020. He penned his thoughts after the event which became the basis for our report "Making Waves" [Making waves - the power of private capital | We Are Guernsey](#).

One of the key takeaways from Sustainable Finance Week discussions was a common agreement that the legacy of the crisis has to be about the need for a new order in the economy and society and not simply the restoration of an old normal.

This means that the relationship between public capital and private capital will change. Some deep thinking needs to be done to ensure the two of them collaborate effectively. It is vital that there is a meaningful role for private capital here in the years ahead.

Those who control significant resources – be it high-net-worth individuals, family offices or conventional limited partners – have an obligation to show leadership. The line "billionaires will save the planet" is too crude, but they do have a vital role in recovery.

Clearly there is a big opportunity and responsibility for those who control large amounts of money. Developing green and sustainable private fund regimes and services catering for private wealth, as Guernsey has been quietly doing for some time, is paramount to harnessing that opportunity.

A more holistic appreciation is needed of the notion of systemic risk, together with a much more enticing set of incentives to think about the longer-term before the short-term.

Many of those who already have a record of involvement in sustainable finance and others who will now enter the frame instinctively believe that they would have most effect via supporting impact investment, rather than another round of involvement with enhanced Environmental, Social, and Governance analysis (ESG).

This is in many senses is required, but has become something of an industry in itself. There are differences in sentiment as to whether individuals and institutions should make direct investments in this space or operate on a co-investment basis or through specialist funds. Scale and skill sets vary considerably here, and that will have a major influence on strategies.

Conclusion

With the growing global concern surrounding the achievement of the Sustainable Development Goals (SDGs) by 2030, financial market players are increasingly interested in understanding how organisations manage their material environmental, social, and governance (ESG) opportunities and risks, and how they deliver ESG-positive impact. Views in this area have matured significantly. ESG-related information has moved from a “peripheral” to a “core” part of finance, across all sectors.

The rhetoric about ESG is far removed from the reality of reporting. We need to keep it simple and straightforward to avoid being burdensome. Particularly when global standards-setters still cannot agree on the core metrics.

Legislators or regulators have been a primary source of stakeholder pressure for considering ESG risks and opportunities, but their actions can be counter-productive, creating confusion, with a multitude of players and standards. At the last count, more than five supranational bodies, including the Sustainable Accounting Standards Board, the World Economic Forum, and the Financial Stability Board, were competing to create a single global set of standards, measures, and metrics.

ESG lacks the simplicity of climate change: limiting the rise in global temperatures. Reducing greenhouse gas emissions. Net-zero by 2050. ESG factors and measures are by comparison complicated and complex.

So how does the Sustainable Finance Disclosure Regulation (SFDR) measure up on this basis? In a 2020 article, published in [Funds Europe](#), we said that as an industry, financial services “*must guard against costly complexity. There is a simple measure – carbon content of the portfolio, and its path to zero. Yet still, the propensity is to over-engineer. The EU Taxonomy is a great illustration of the case in point. The concern with the EU Sustainable Finance agenda is its application in practice, and the likely granularity of the approach to implementation, which may well end up with a MIFID II degree of complication*”, referring to the Markets In Financial Instruments Directive.

The European Supervisory Authorities (ESA) has recently weighed in with a 200-page final report on the Regulatory Technical Standards. However, at the core are just 14 standard measures, nine of them environmental. These are, however, wrapped in a lot of bureaucratic and administrative requirements, and the non-environmental metrics are clearly of the “work in progress” variety.

Investors’ need for trusted, transparent products was the rationale behind our creation of the Guernsey Green Fund, the world’s first regulatory framework: a simple, straightforward notification and disclosure regime, aligned with international standards, which was designed to provide investors with confidence from a regulatory wrapper.

In a similar vein, our Green Principles For Private Equity, described at the time by market commentators as simple ESG principles, provide a straightforward guide to investing, aligned with the climate change agenda.

Private markets and the private equity sector, in particular, need the comfort and confidence of a robust investment product, aligned with global standards, without the cost and complication of overly granular prescriptive rules. There is doubt as to whether the EU’s SFDR will successfully meet these criteria, particularly due to its administrative complexity.

Will it become the gold standard? It is difficult to say. The 20 core KPIs of the World Economic Forum's 2020 paper '[Measuring Stakeholder Capitalism, Towards Common Metrics And Consistent Reporting Of Sustainable Value](#)' have a fighting chance to make the grade at a global level. But frankly, ensuring firms are aligned is good governance, culture, and practice; and portfolios really ought to be a matter of principles. Is that too old school for 2021?

John Glen, Economic Secretary to HM Treasury, announced in June 2020 that the UK did not plan to incorporate the EU's regulatory technical standards. This was then confirmed by Chancellor, Rishi Sunak, at the UK's New Green Horizon Summit (which Guernsey Green Finance supported) when he also announced that the UK planned to develop its own green taxonomy.

Sustainable Finance Disclosure Regulation (SFDR) reporting is not due for another two years. And it is on a comply or explain basis if you have fewer than 500 employees or a turnover of less than £500 million. It is going to be interesting to see if any Guernsey managers feel the need to comply at that point.

Being at the forefront of the development of green and sustainable finance here in Guernsey, we are fortunate to have an established sustainable finance community. Many firms provide sustainability reporting and advisory services. PE managers, owners of private capital in particular, and their advisers can be confident of finding the right advice – SFDR or not.



Regional Analysis

In our analysis of the GGFI data, we look at six regions of the world to explore their financial centres' green finance depth and quality.

Alongside the ranks and ratings of centres, we investigate the average assessments received by regions and centres in more detail.

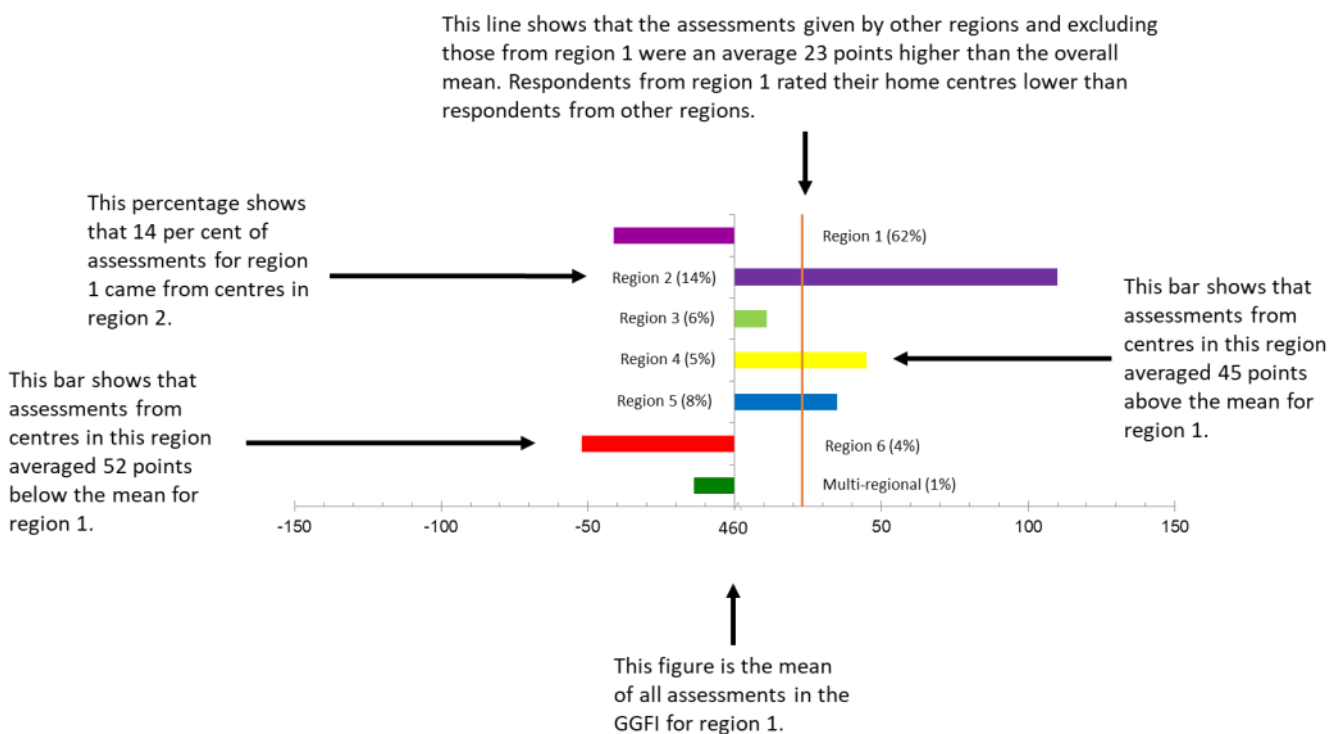
We display this analysis in charts, either for a region or an individual centre. These charts show:

- the mean assessment provided to that region or centre;
- the difference in the mean assessment when home region assessments are removed from the analysis;
- the difference between the mean and the assessments provided by other regional centres; and
- the proportion of assessments provided by each region.

Chart 15 shows an example of this analysis. Coloured bars to the left of the vertical axis indicate that respondents from that region gave lower than average assessments. Bars to the right indicate respondents from that region gave higher than average assessments. Assessments given to a centre by people based in that centre are excluded to remove 'home' bias.

The additional vertical axis (in red) shows the mean of assessments when assessments from the home region are removed. The percentage figure noted by each region indicates the percentage of the total number of assessments that are from that region.

Chart 15 | Example: Assessments Compared With The Mean For A Region



North America

- US centres all outperformed their Canadian rivals, who saw significant falls in ranking.
- San Francisco retained its position at the top for the region, with Los Angeles moving into second place.
- Vancouver saw the largest drop in the region, falling back 14 places in ranking.
- Calgary maintained its position despite gaining the largest increase in ratings in the region.

Table 11 | North American Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in Rank	Change in Rating
	Rank	Rating	Rank	Rating		
San Francisco	5	546	9	543	4	3
Los Angeles	10	538	18	522	8	16
Montreal	19	526	14	525	-5	1
Washington DC	21	524	29	508	8	16
Vancouver	25	522	11	530	-14	-8
Boston	25	522	33	504	8	18
Toronto	29	519	27	509	-2	10
New York	31	517	34	501	3	16
Chicago	36	513	38	491	2	22
Calgary	42	509	42	485	0	24

Chart 16 | Top Five North American Centres Ratings Over Time

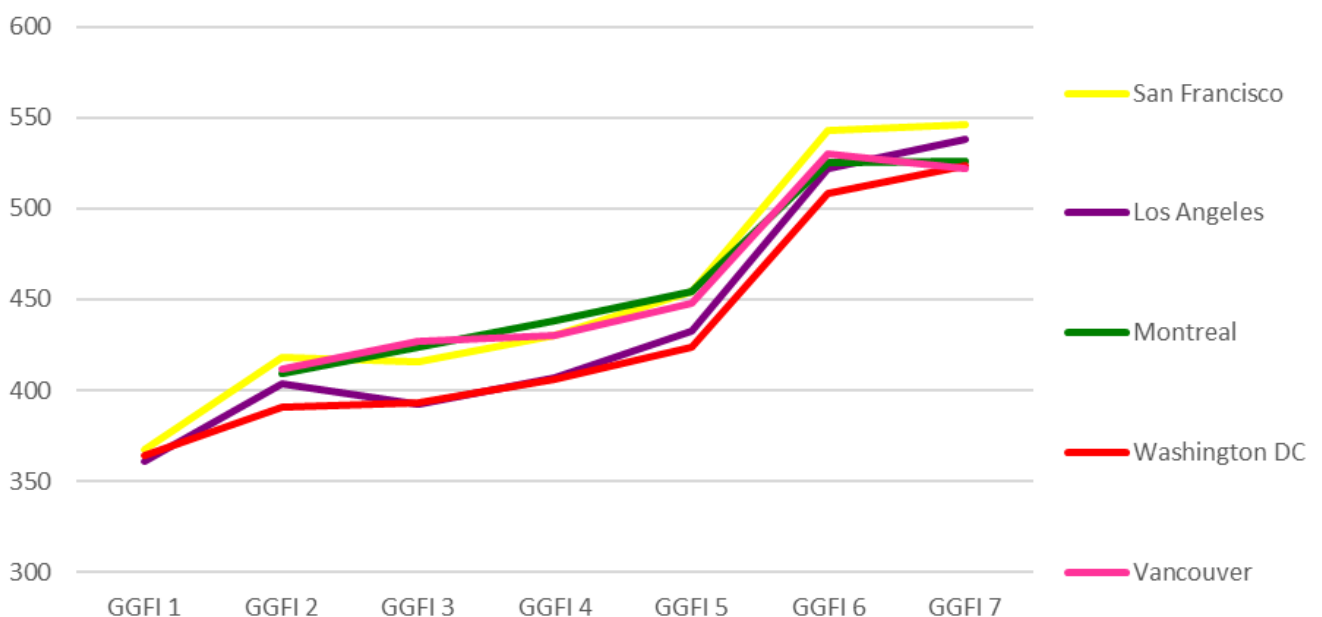
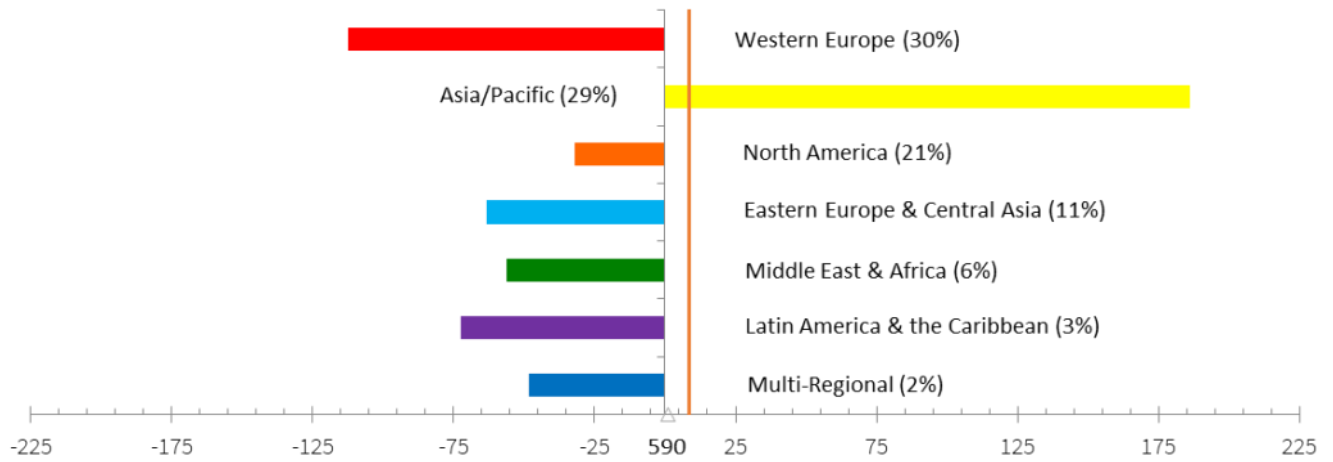
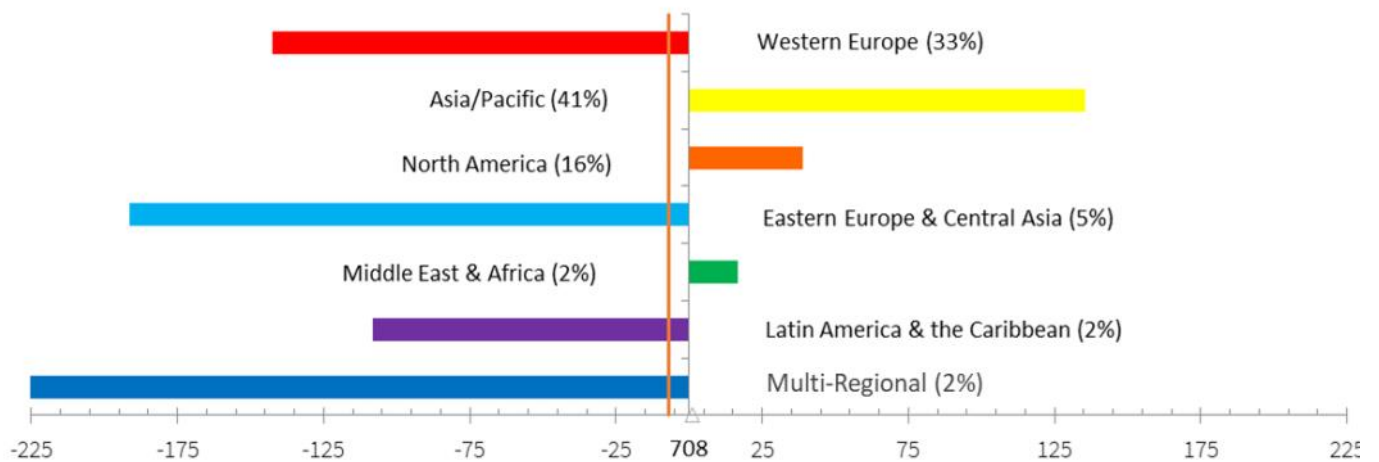
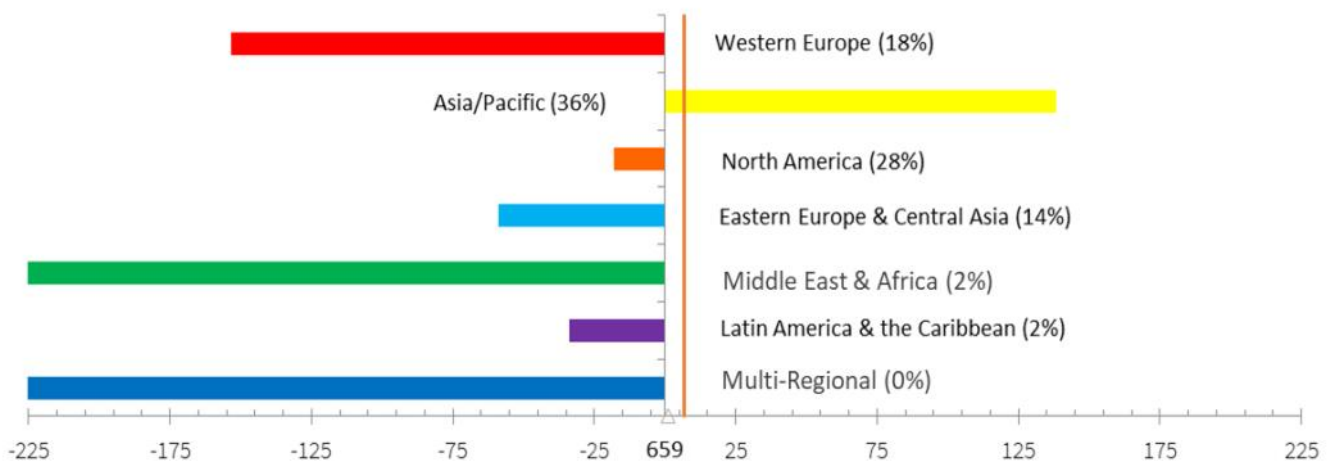


Chart 17 | North American Regional Assessments - Difference From The Mean**Chart 18 | Regional Assessments For San Francisco - Difference From The Mean****Chart 19 | Regional Assessments For Los Angeles - Difference From The Mean**

Middle East & Africa

- Bahrain entered the GGFI for the first time.
- All centres saw a rise in their rankings, with Abu Dhabi performing most strongly—gaining a rating increase of 62 points and rising 21 places.
- Doha gained 54 points and rose 14 places.
- Respondents from Eastern Europe & Central Asia and North America rated these centres higher than average.

Table 12 | Middle East & Africa Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in Rank	Change in Rating
	Rank	Rating	Rank	Rating		
Casablanca	33	516	24	512	-9	4
Dubai	45	505	55	466	10	39
Tel Aviv	48	502	48	473	0	29
Abu Dhabi	50	496	71	434	21	62
Mauritius	52	491	52	469	0	22
Doha	59	483	73	429	14	54
Cape Town	62	478	57	462	-5	16
Johannesburg	66	477	63	449	-3	28
Bahrain	67	476	New	New	New	New

Chart 20 | Top Five Middle East & Africa Centre Ratings Over Time

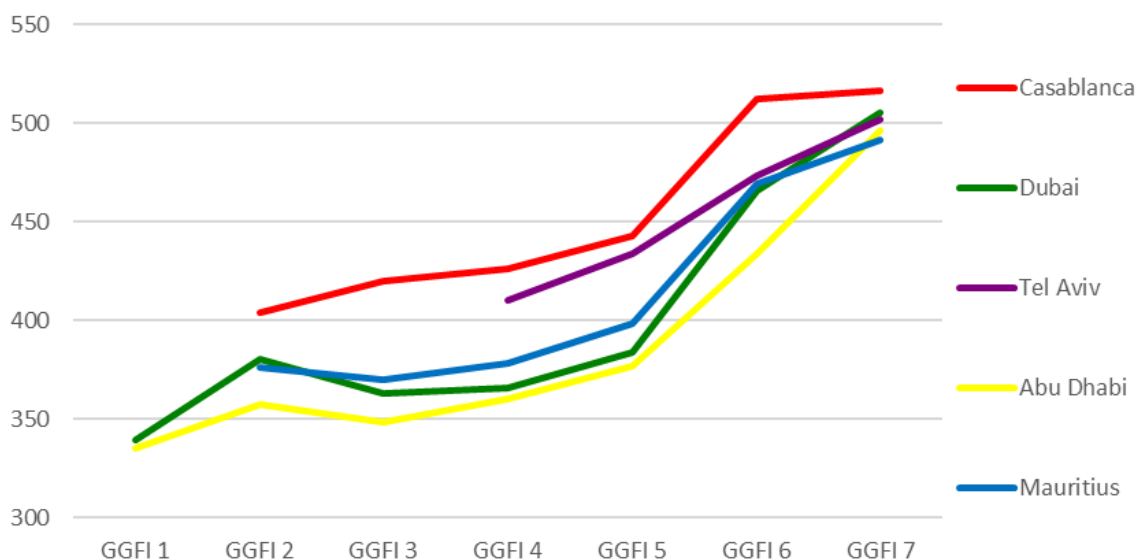
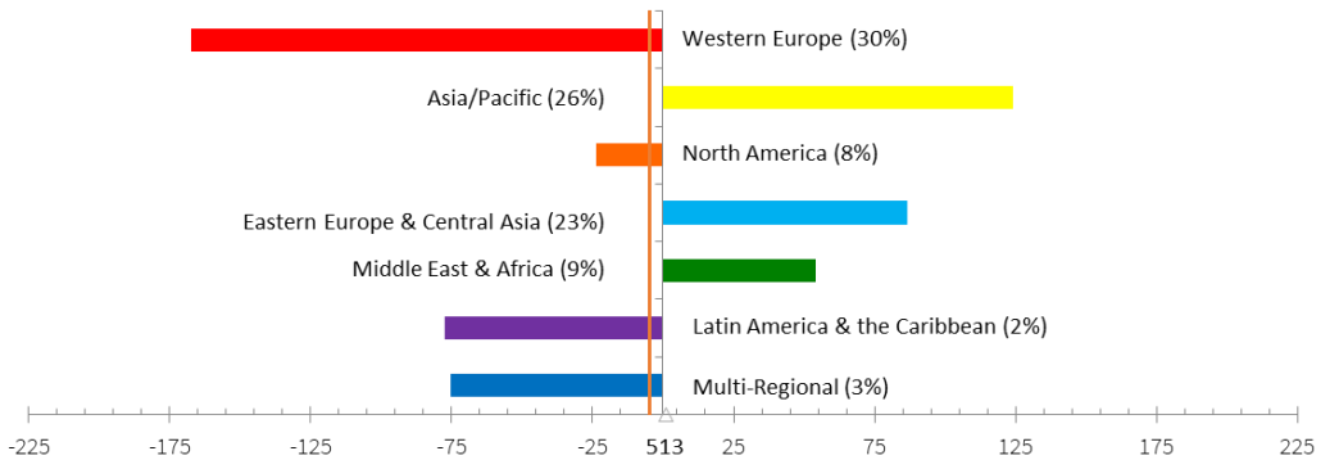
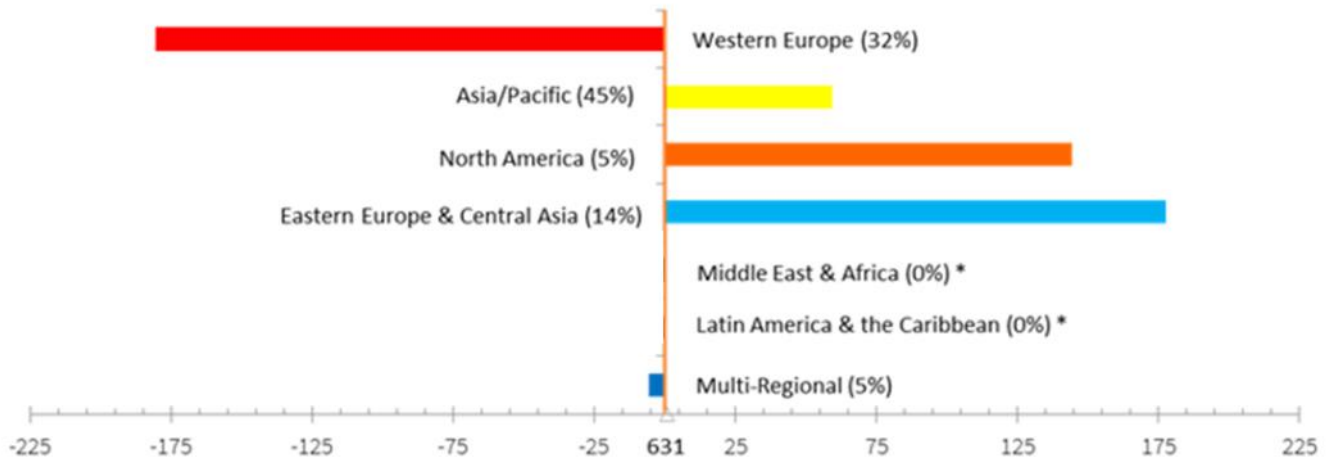
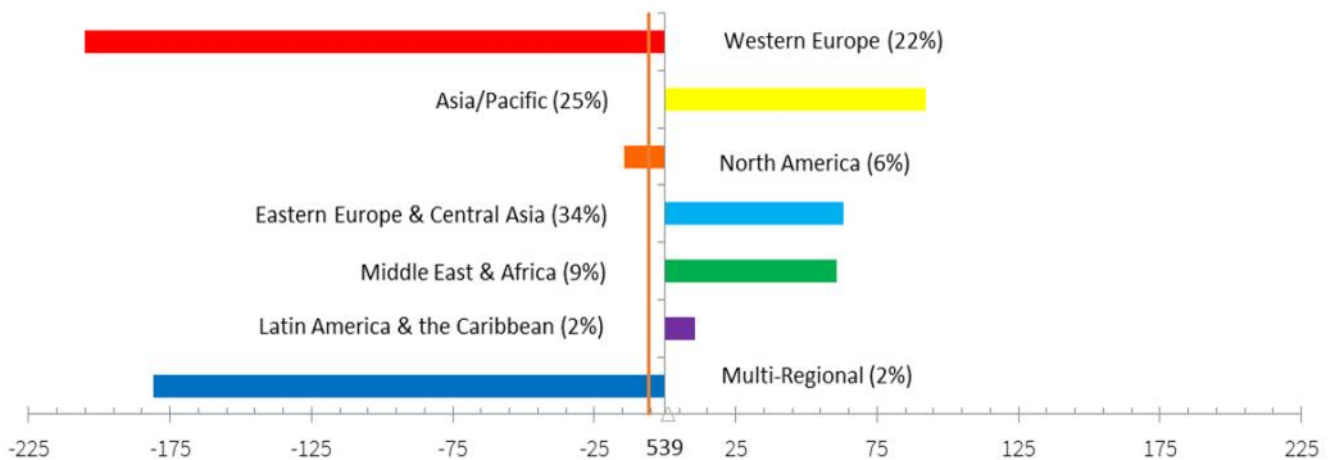


Chart 21 | Middle East & Africa Regional Assessments - Difference From The Mean**Chart 22 | Regional Assessments For Casablanca - Difference From The Mean**

* No respondents from these regions rated Casablanca

Chart 23 | Regional Assessments For Dubai - Difference From The Mean

Eastern Europe & Central Asia

- Nur-Sultan and Almaty have entered the GGFI and take the lead positions in the region.
- Centres in this region received few assessments from North America or Latin America & The Caribbean
- Warsaw maintained its position in the overall rankings, though its ratings increased by 36 points.
- Respondents from Middle East & Africa and Asia/Pacific rate these centres higher than average while those from all other regions rate them lower than average.

Table 13 | Eastern Europe & Central Asian Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in Rank	Change in Rating
	Rank	Rating	Rank	Rating		
Nur-Sultan	57	485	New	New	New	New
Almaty	62	478	New	New	New	New
Prague	67	476	58	459	-9	17
Moscow	71	469	68	436	-3	33
Warsaw	72	468	72	432	0	36
Istanbul	74	459	68	436	-6	23

Chart 24 | Top Five Eastern Europe & Central Asia Centre Ratings Over Time

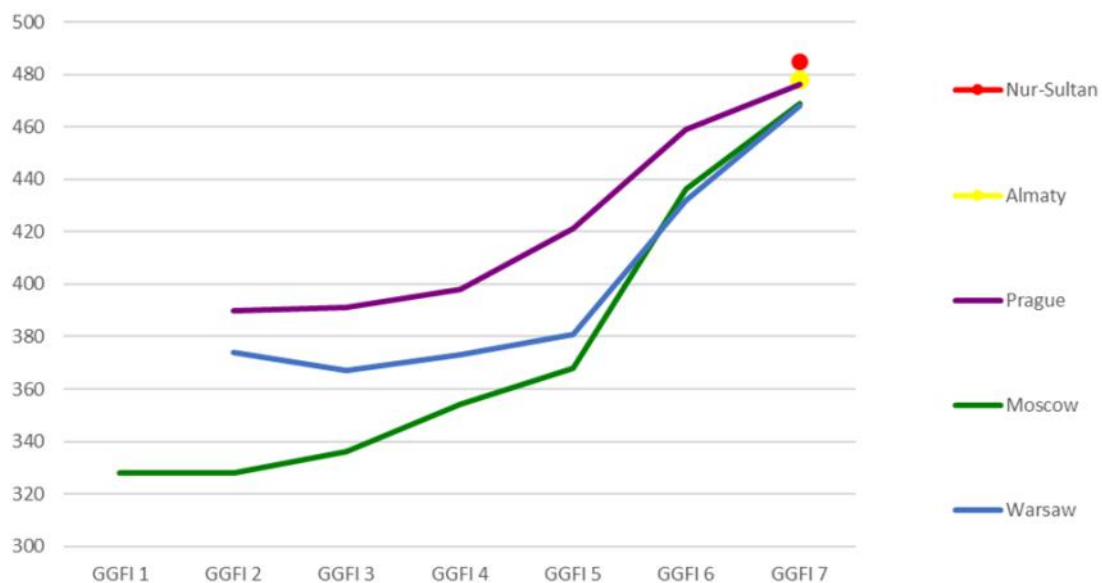
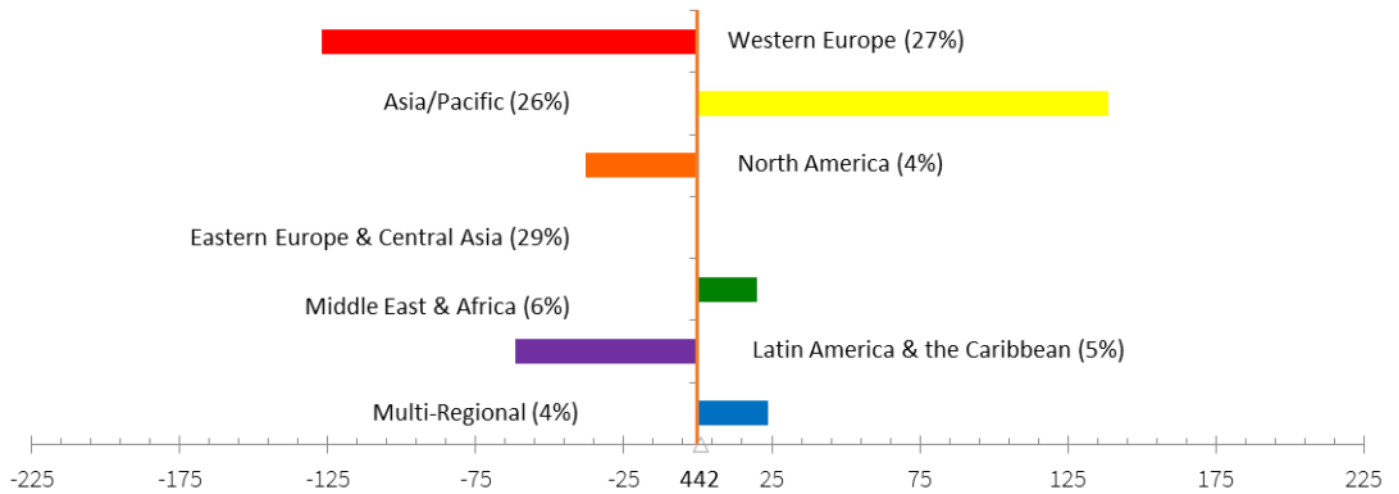
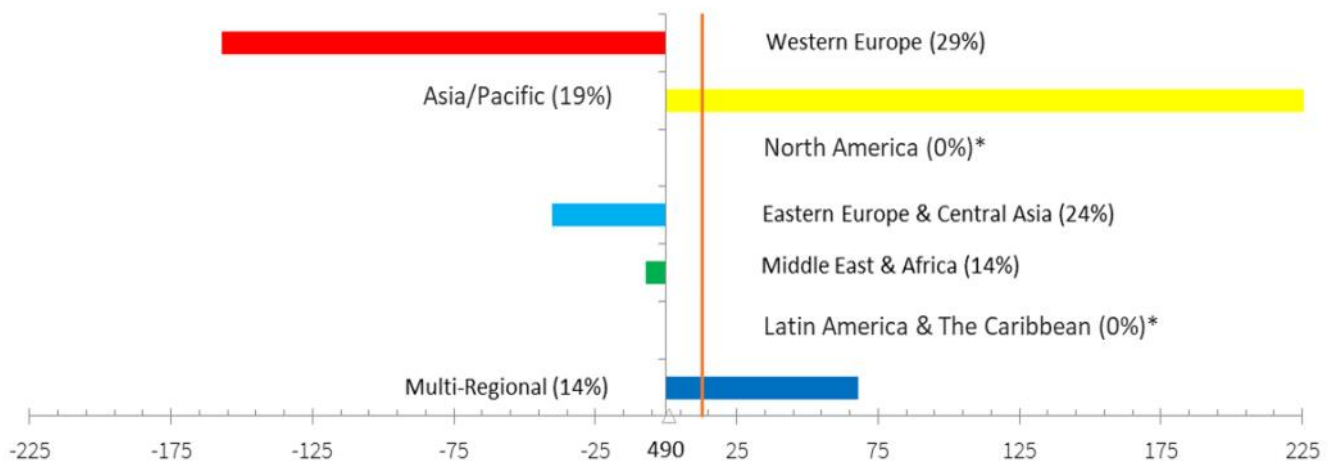
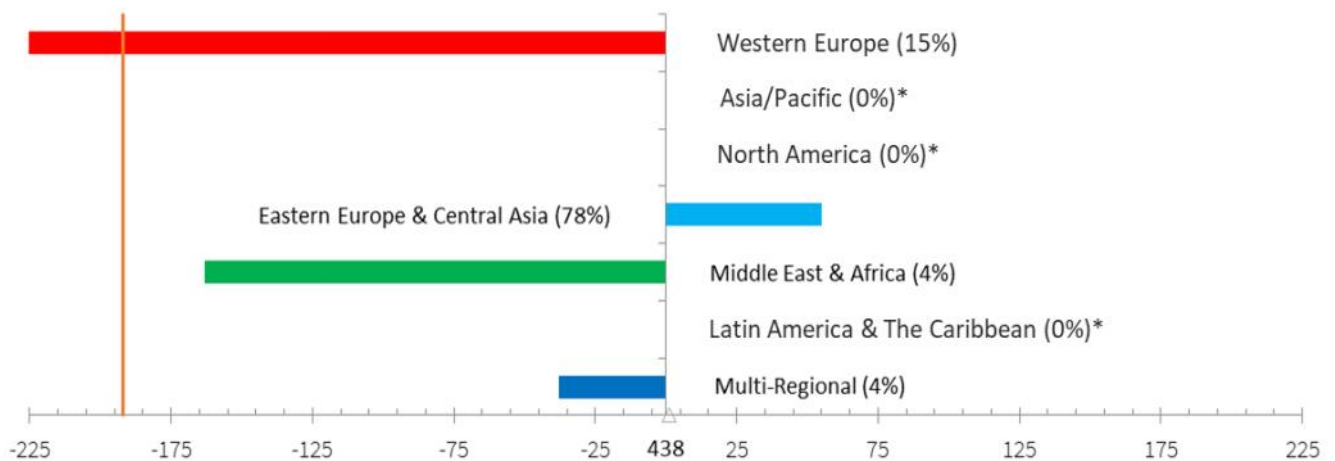


Chart 25 | Eastern Europe & Central Asia Regional Assessments - Difference From The Mean**Chart 26 | Regional Assessments For Nur-Sultan - Difference From The Mean**

* No respondents from these regions rated Nur-Sultan

Chart 27 | Regional Assessments For Almaty - Difference From The Mean

* No respondents from these regions rated Almaty

Western Europe

- Amsterdam, Zurich and London retained their leading positions, though with falls in ratings.
- Scandinavian centres have slipped back in the rankings as North American and Asia/Pacific centres strengthen their position.
- Madrid saw a particularly strong performance, gaining 28 points and rising 6 places.
- Only respondents from Asia/Pacific rated Western European centres higher than average.

Table 14 | Top 15 Western European Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in	
	Rank	Rating	Rank	Rating	Rank	Rating
Amsterdam	1	567	2	573	1	-6
Zurich	2	563	1	576	-1	-13
London	3	562	3	562	0	0
Oslo	4	547	6	547	2	0
Luxembourg	6	542	4	549	-2	-7
Geneva	7	541	9	543	2	-2
Copenhagen	8	540	4	549	-4	-9
Stockholm	9	539	6	547	-3	-8
Paris	11	537	8	545	-3	-8
Helsinki	12	534	13	526	1	8
Munich	15	530	15	524	0	6
Brussels	16	529	12	527	-4	2
Vienna	22	523	15	524	-7	-1
Hamburg	25	522	22	518	-3	4
Lisbon	33	516	34	501	1	15

Chart 28 | Top Five Western European Centre Ratings Over Time

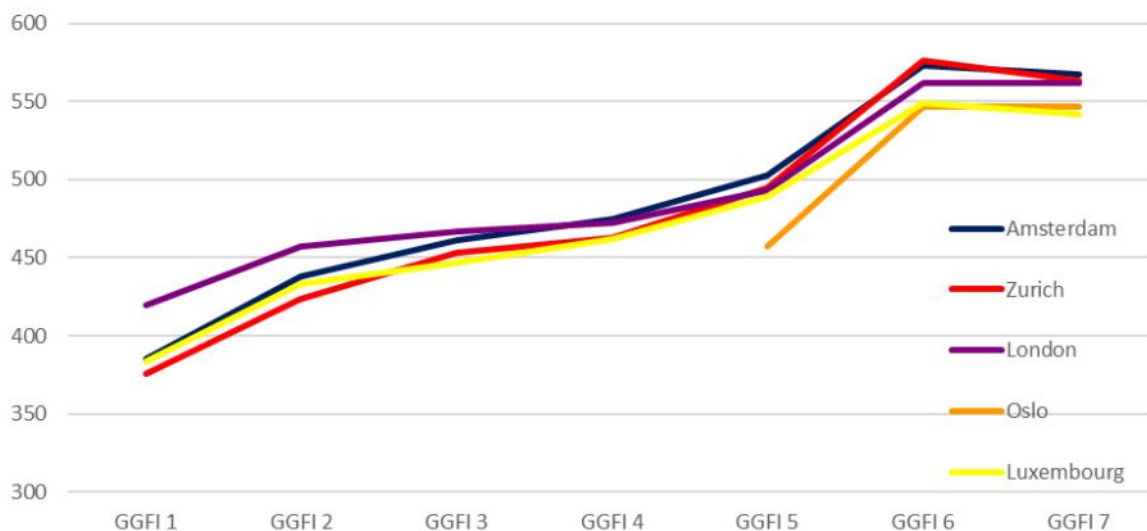
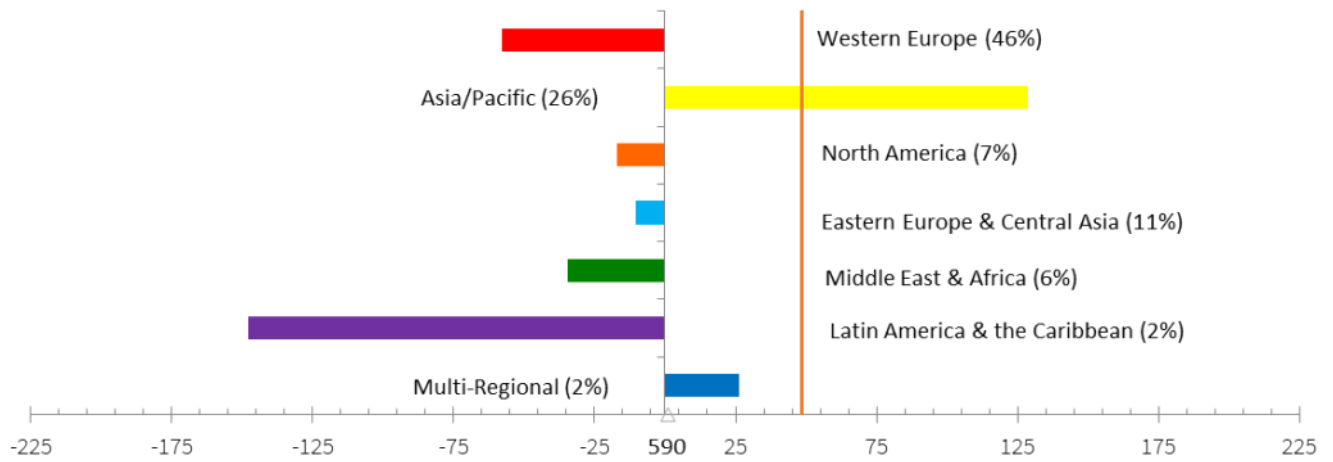
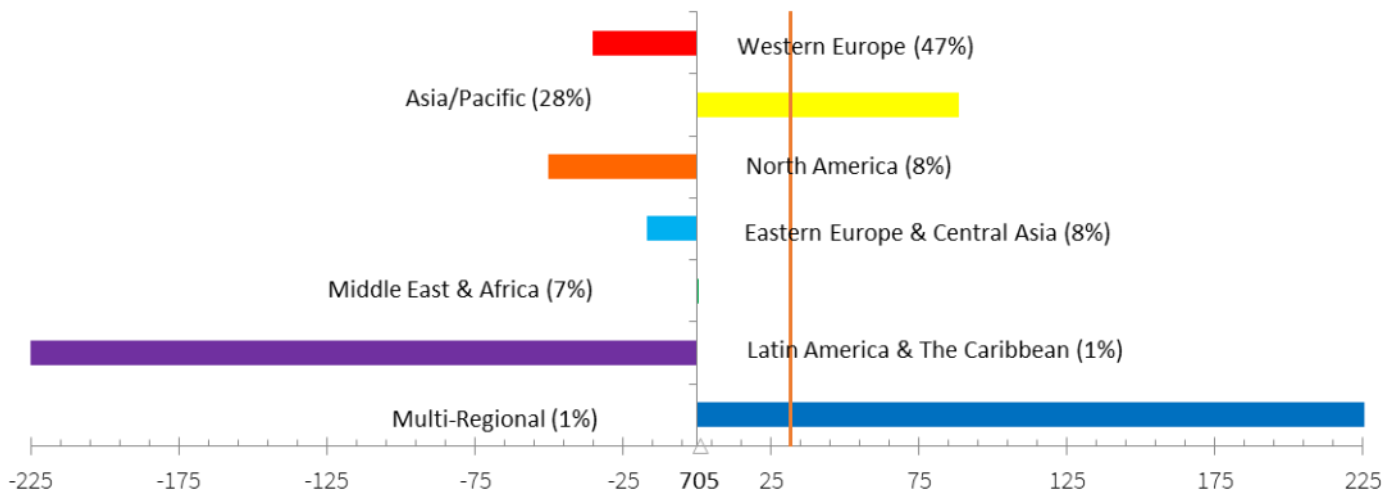
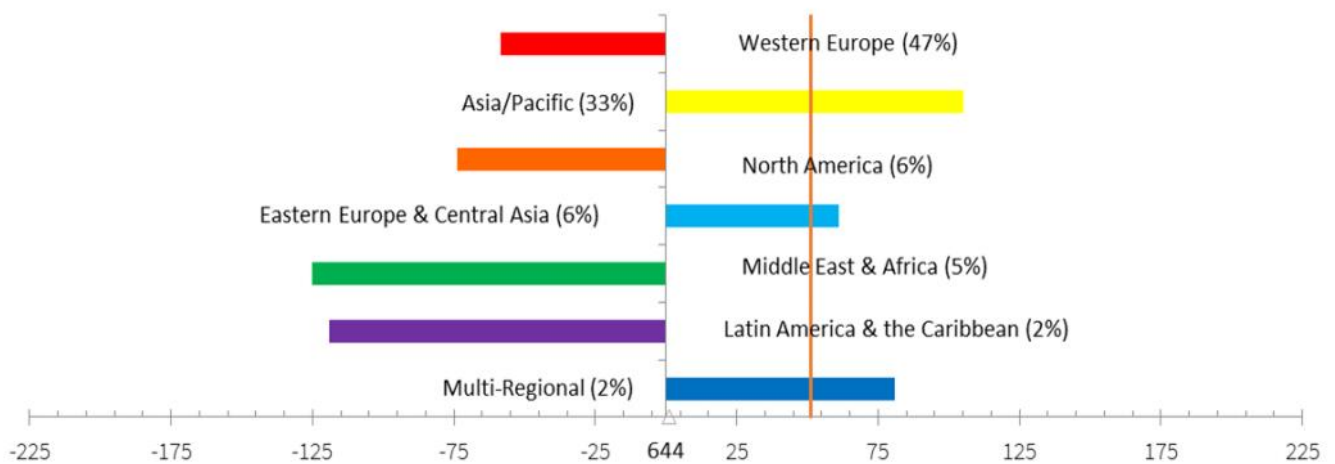


Chart 29 | Western Europe Regional Assessments - Difference From The Mean**Chart 30 | Regional Assessments For Amsterdam- Difference From The Mean****Chart 31 | Regional Assessments For Zurich - Difference From The Mean**

Latin America & The Caribbean

- Sao Paulo retains the leading position in the region and gained one place in the overall ratings through a 29 point rise in ratings.
- All other centres in the region fell in the overall rankings despite significant gains in ratings.
- Bermuda and the British Virgin Island suffered the largest regional falls and now occupy the bottom two slots in the index
- Respondents from Asia/Pacific and Middle East & Africa centres rated centres in this region particularly highly.

Table 15 | Latin American & Caribbean Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in Rank	Change in Rating
	Rank	Rating	Rank	Rating		
Sao Paulo	60	479	61	450	1	29
Cayman Islands	69	473	61	450	-8	23
Mexico City	73	463	66	438	-7	25
Rio de Janeiro	76	458	74	419	-2	39
British Virgin Islands	77	456	66	438	-11	18
Bermuda	78	455	68	436	-10	19

Chart 32 | Top Five Latin American & Caribbean Centre Ratings Over Time

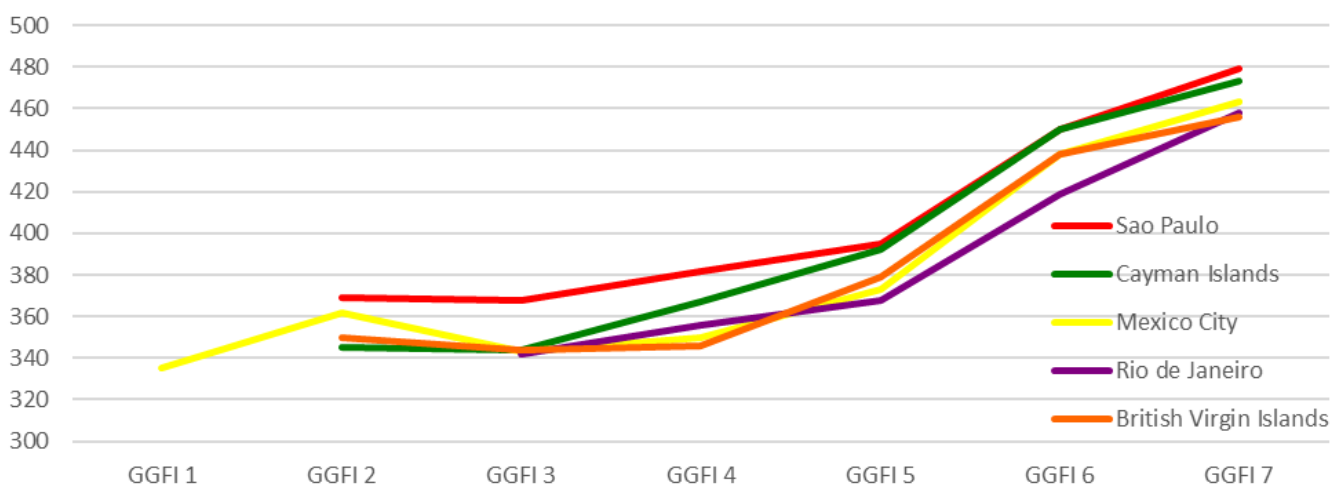
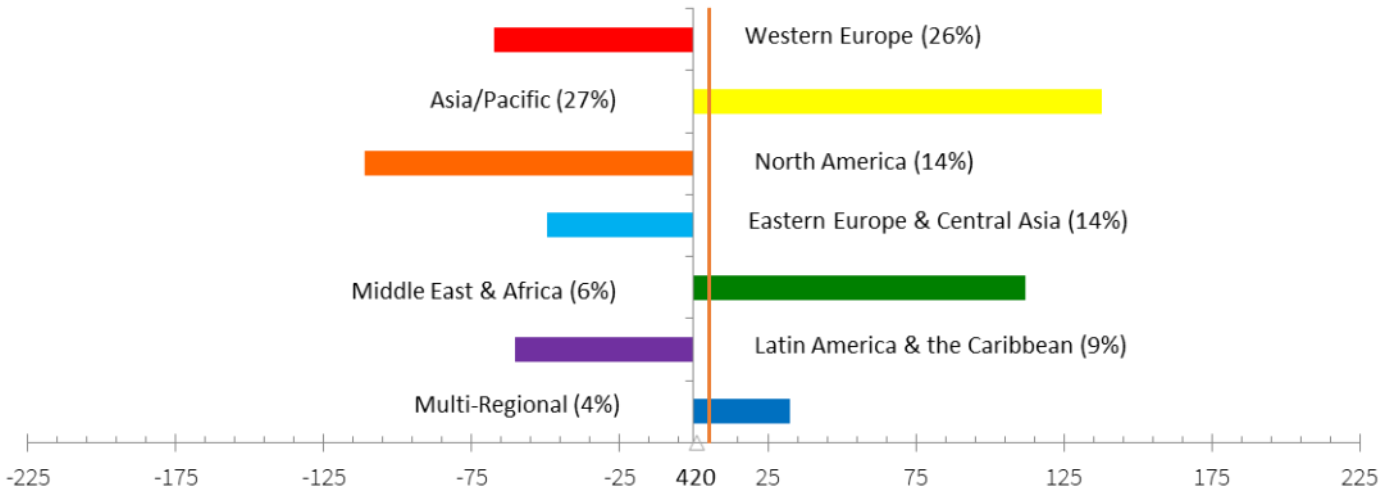
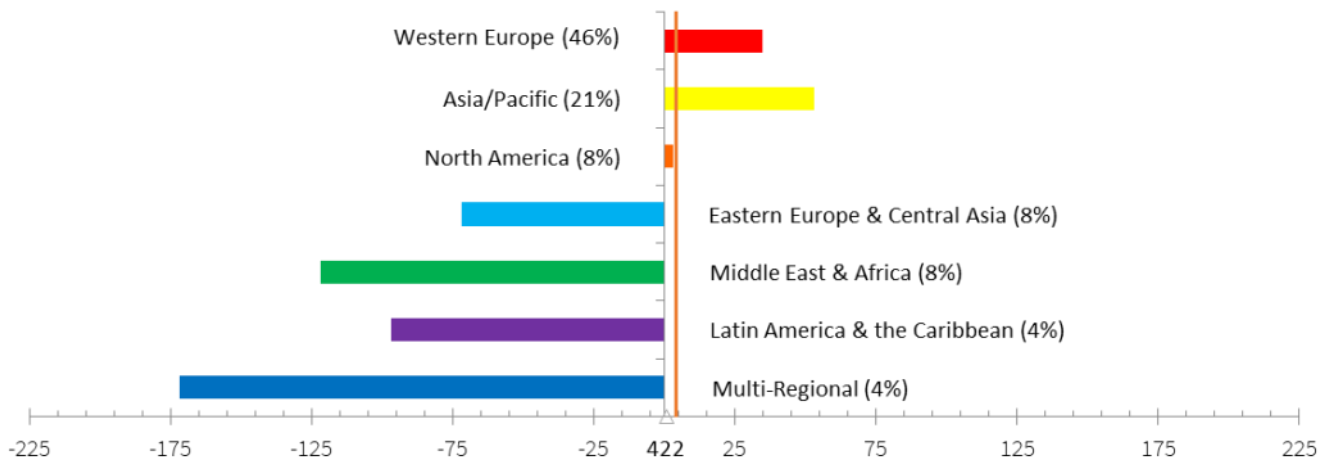
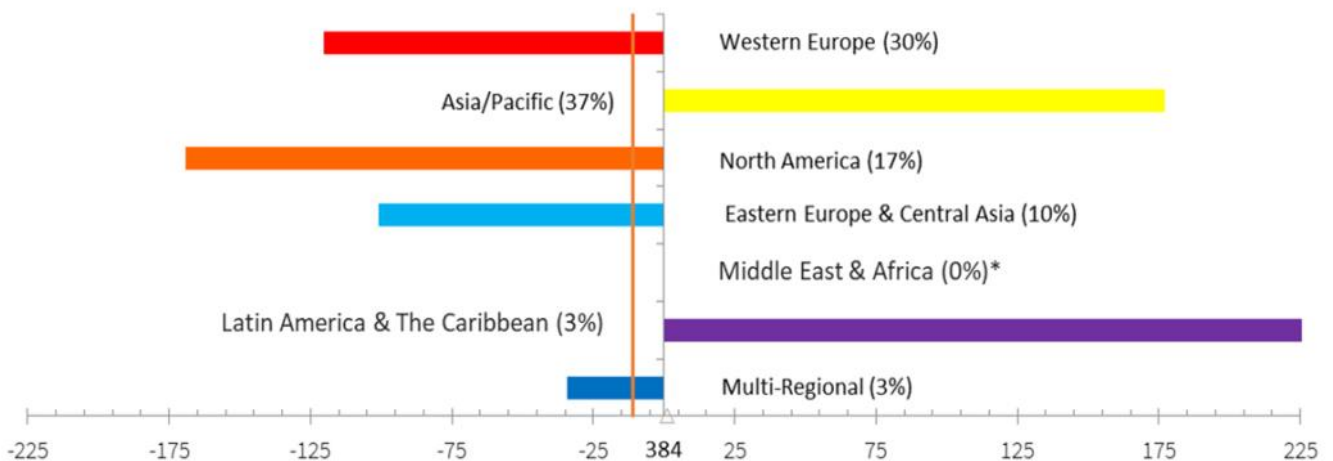


Chart 33 | Latin America & The Caribbean Regional Assessments - Difference From The Mean**Chart 34 | Regional Assessments For Sao Paulo - Difference From The Mean****Chart 35 | Regional Assessments For Cayman Islands - Difference From The Mean**

* No respondents from this regions rated Cayman Islands

Asia/Pacific

- The majority of Asia/Pacific centres saw gains in ranking in the overall index
- Tokyo maintained first place in the region, but is hard pressed by Beijing only one point behind.
- Respondents from Western Europe and North America rated Asia/Pacific centres below average, with those from other regions rating them higher.

Table 16 | Top 15 Asia/Pacific Centres In GGFI 7

Centre	GGFI 7		GGFI 6		Change in Rank	Change in Rating
	Rank	Rating	Rank	Rating		
Tokyo	13	532	18	522	5	10
Beijing	14	531	20	521	6	10
Shanghai	17	528	15	524	-2	4
Sydney	18	527	20	521	2	6
Singapore	20	525	24	512	4	13
Seoul	22	523	31	505	9	18
Guangzhou	22	523	24	512	2	11
Shenzhen	28	521	27	509	-1	12
Osaka	30	518	36	499	6	19
Busan	31	517	New	New	New	New
Wellington	33	516	30	506	-3	10
Qingdao	38	511	40	490	2	21
Hong Kong	40	510	41	488	1	22
Melbourne	46	504	37	492	-9	12
GIFT City-Gujarat	47	503	50	471	3	32

Chart 36 | Top Five Asia/Pacific Centre Ratings Over Time

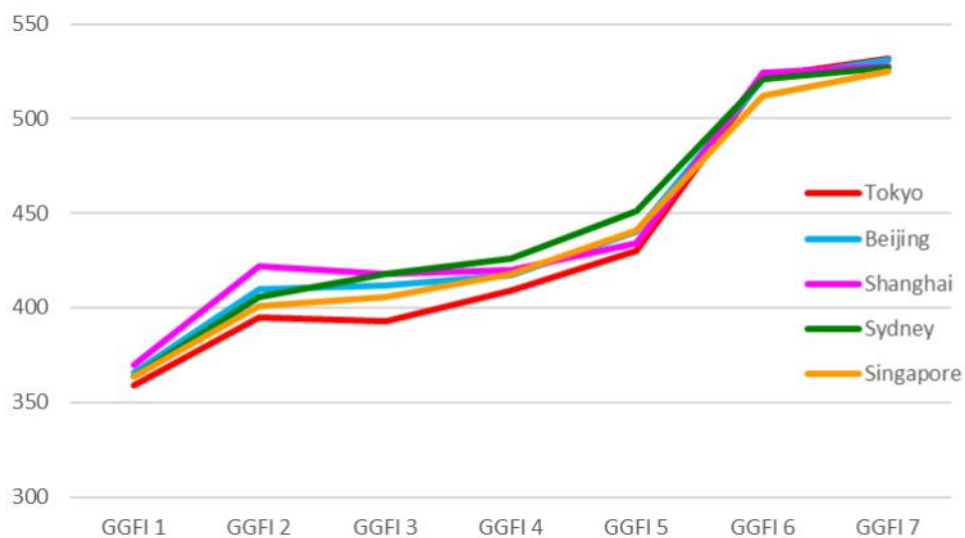
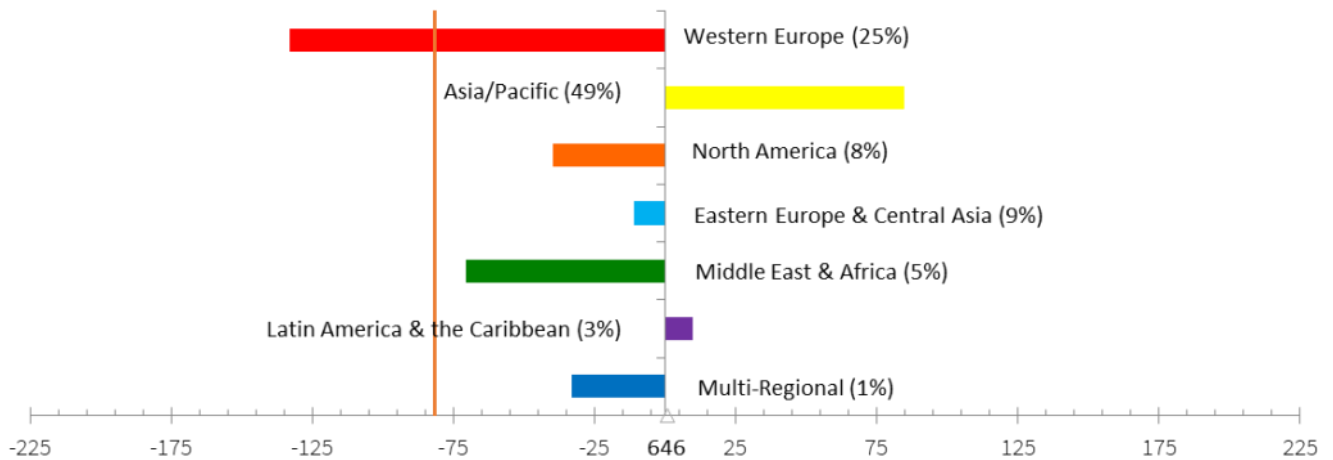
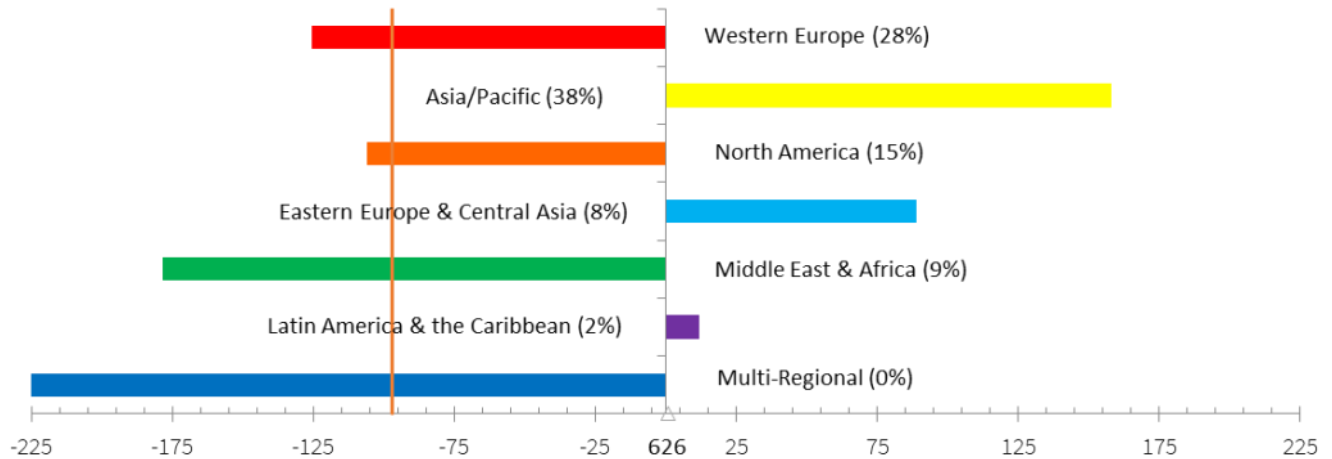
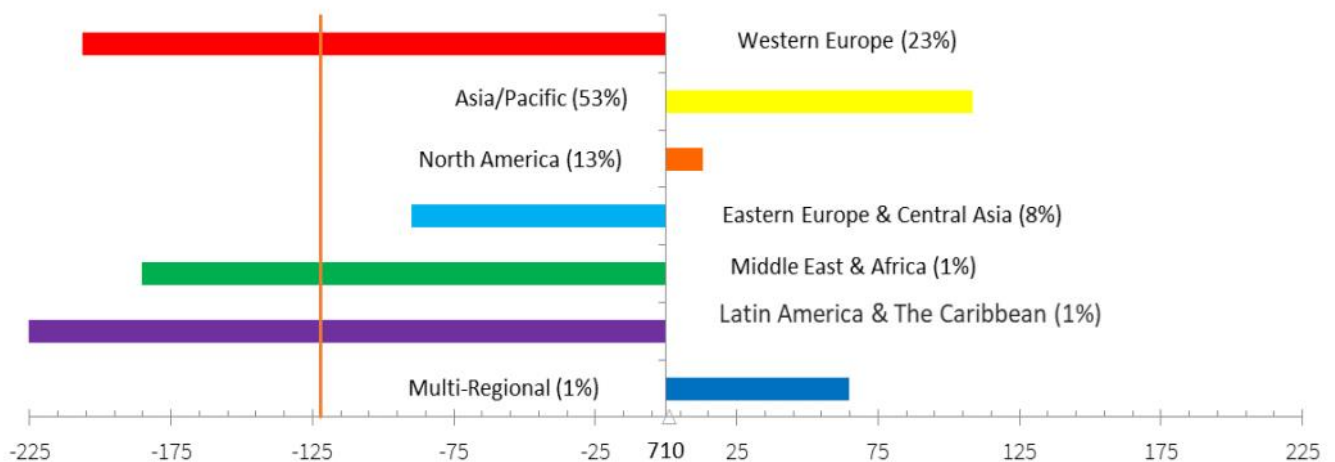


Chart 37 | Asia Pacific Regional Assessments - Difference From The Mean**Chart 38 | Regional Assessments For Tokyo - Difference From The Mean****Chart 39 | Regional Assessments For Beijing - Difference From The Mean**

“Transition finance will become a game changer.”

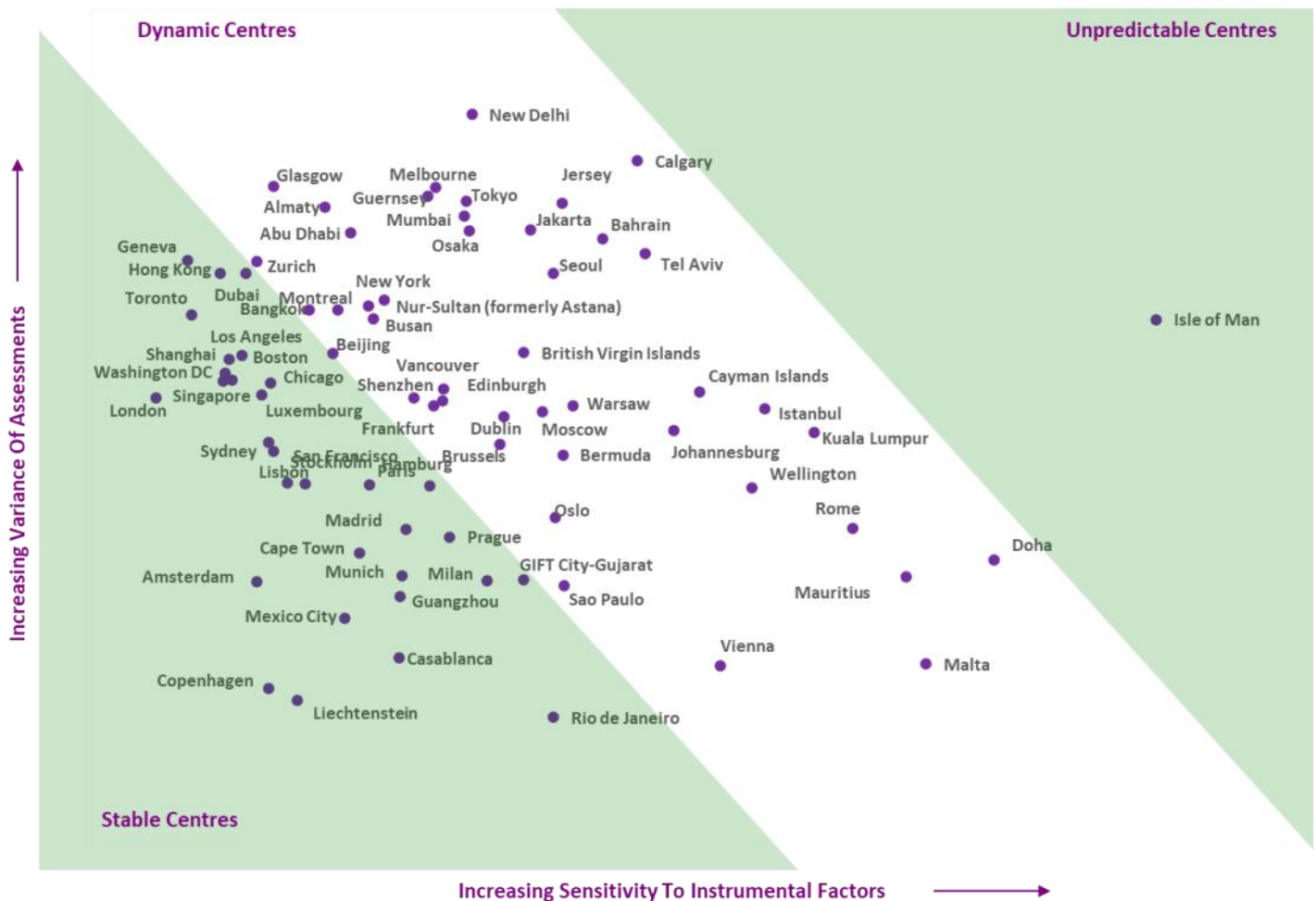
CEO, Stock Exchange, Luxembourg

Stability

The GGFI model allows for an analysis of the stability of financial centres in the index, which can be useful for centres when assessing their development strategies. Chart 40 contrasts the 'spread' or variance of the individual assessments given to the top 50 centres in GGFI 7, with the sensitivity to changes in the instrumental factors: first for depth and second for quality assessments.

The chart shows three bands of financial centres. The unpredictable centres in the top right of the chart have a higher sensitivity to changes in the instrumental factors and a higher variance of assessments. These centres have the highest potential future movement. The stable centres in the bottom left have a lower sensitivity to change and demonstrate greater consistency in their GGFI ratings.

Chart 40 | Stability In Assessments And Instrumental Factors



Industry Sectors And Green Finance Professionals

We can analyse the differing assessments provided by respondents working in various industry sectors by building the index separately using the responses provided only from those industries. This analysis allows a relative measure of the sectoral strengths and weaknesses for each centre.

Table 17 illustrates separate sub-indices for the Professional Services, Knowledge (incorporating universities and NGOs), Banking, Investment, and other sectors. The table shows how the index ranking varies according to industry sector.

Table 17 | GGFI 7 Industry Sector Sub-Indices - Top 15

Rank	Industry Sub-Sector				
	Professional Services	Knowledge	Banking	Investment	All Other Sectors
1	London	Amsterdam	Hong Kong	Amsterdam	London
2	Vienna	Paris	Washington DC	London	Geneva
3	San Francisco	London	Beijing	Geneva	Zurich
4	Zurich	Copenhagen	Boston	Dublin	Beijing
5	Washington DC	Brussels	Shanghai	San Francisco	Luxembourg
6	Tokyo	Frankfurt	Los Angeles	Luxembourg	Edinburgh
7	Paris	Hamburg	San Francisco	Copenhagen	Amsterdam
8	Oslo	San Francisco	Zurich	Boston	Paris
9	Frankfurt	Stockholm	Singapore	Los Angeles	Oslo
10	Shenzhen	Los Angeles	London	Tokyo	Sydney
11	Shanghai	Helsinki	Guangzhou	Zurich	Singapore
12	Luxembourg	Luxembourg	Sydney	Osaka	San Francisco
13	Stockholm	Shenzhen	Shenzhen	Edinburgh	Vancouver
14	Los Angeles	Dublin	Seoul	Brussels	Dublin
15	Singapore	Edinburgh	Chicago	Helsinki	Tokyo

Taking the sectoral analysis further, we can also calculate the index using the responses only from those working directly in green finance in financial services organisations. The results are shown in table 18.

Table 18 | GGFI 7 Using Responses Only From Respondents Working Directly In Green Finance

City	Rating	Adjusted Rank	GGFI 7 Rank	Change	City	Rating	Adjusted Rank	GGFI 7 Rank	Difference
Amsterdam	518	1	1	0	Melbourne	441	37	46	-9
Paris	504	2	11	-9	Milan	438	41	54	-13
London	500	3	3	0	Rome	435	42	51	-9
Zurich	494	4	2	2	Shanghai	434	43	17	26
Luxembourg	491	5	6	-1	Guernsey	432	44	54	-10
Vienna	489	6	22	-16	Malta	430	45	58	-13
Copenhagen	486	7	8	-1	Seoul	429	46	22	24
San Francisco	484	8	5	3	Casablanca	428	47	33	14
Oslo	483	9	4	5	Sao Paulo	427	48	60	-12
Stockholm	481	10	9	1	Tel Aviv	425	49	48	1
Sydney	477	11	18	-7	Mauritius	425	49	52	-3
Geneva	476	12	7	5	Jersey	425	49	54	-5
GIFT-City Gujarat	475	13	47	-34	Johannesburg	423	52	66	-14
Munich	474	14	15	-1	Osaka	421	53	30	23
Brussels	471	15	16	-1	Istanbul	420	54	74	-20
Dublin	471	15	40	-25	Mexico City	419	55	73	-18
Los Angeles	465	17	10	7	Dubai	417	56	45	11
Helsinki	465	17	12	5	Mumbai	417	56	60	-4
Tokyo	461	19	13	6	Beijing	415	58	14	44
Singapore	461	19	20	-1	Prague	414	59	67	-8
Wellington	461	19	33	-14	Jakarta	413	60	62	-2
Washington DC	457	22	21	1	Doha	412	61	59	2
Boston	455	23	25	-2	Busan	411	62	31	31
Frankfurt	455	23	42	-19	Bangkok	410	63	49	14
Montreal	454	25	19	6	Cayman Islands	410	63	69	-6
Hamburg	452	26	25	1	Warsaw	410	63	72	-9
Toronto	451	27	29	-2	Almaty	406	66	62	4
New York	450	28	31	-3	New Delhi	406	66	69	-3
Lisbon	448	29	33	-4	Cape Town	404	68	62	6
Shenzhen	447	30	28	2	Kuala Lumpur	402	69	52	17
Vancouver	446	31	25	6	Rio de Janeiro	402	69	76	-7
Liechtenstein	446	31	62	-31	Guangzhou	401	71	22	49
Madrid	445	33	37	-4	Isle of Man	401	71	74	-3
Calgary	444	34	42	-8	Bermuda	401	71	78	-7
Hong Kong	443	35	40	-5	Bahrain	398	74	67	7
Nur-Sultan	442	36	57	-21	British Virgin Islands	397	75	77	-2
Chicago	441	37	36	1	Moscow	389	76	71	5
Edinburgh	441	37	38	-1	Qingdao	386	77	38	39
Glasgow	441	37	44	-7	Abu Dhabi	378	78	50	28

GGFI 7 Interest, Impact, And Drivers Of Green Finance

In addition to requesting ratings of depth and quality for financial centres, the GGFI questionnaire asks additional questions concerning the development of green finance. Amongst the topics covered are:

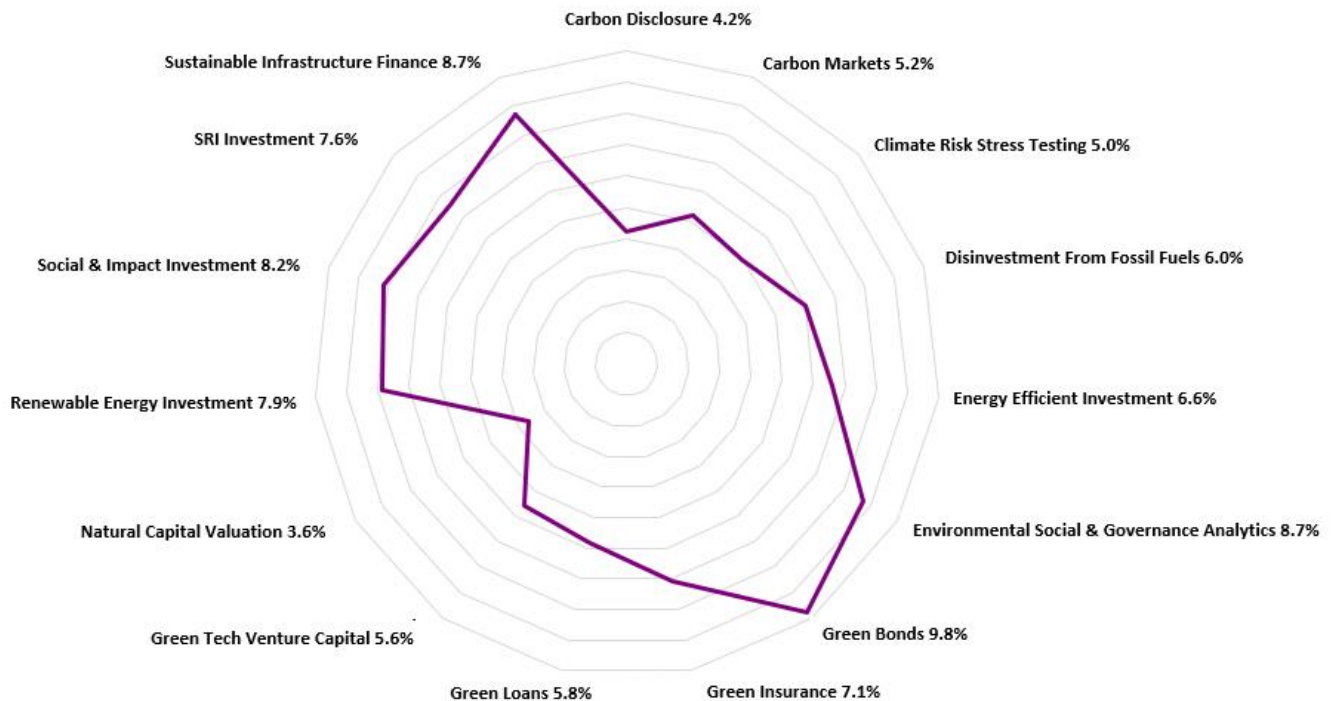
- The areas of green finance considered most interesting by respondents;
- The areas of green finance which respondents consider to have the greatest impact on sustainability; and
- Factors driving the development of green finance.

Areas Of Interest In Green Finance And Areas With The Most Impact

We asked respondents to identify the areas of green finance which they considered most interesting; and areas of green finance that they consider have most impact on sustainability. The results are shown in Charts 41 and 42.

With respect to interest, the leading areas are Green Bonds, and Sustainable Infrastructure Finance. This mirrors the increased volumes of activity in these areas. The area considered least interesting remains natural capital valuation, possibly reflecting the lack of products, tools and techniques in this field.

Chart 41 | Interest - Percentage Of Total Mentions



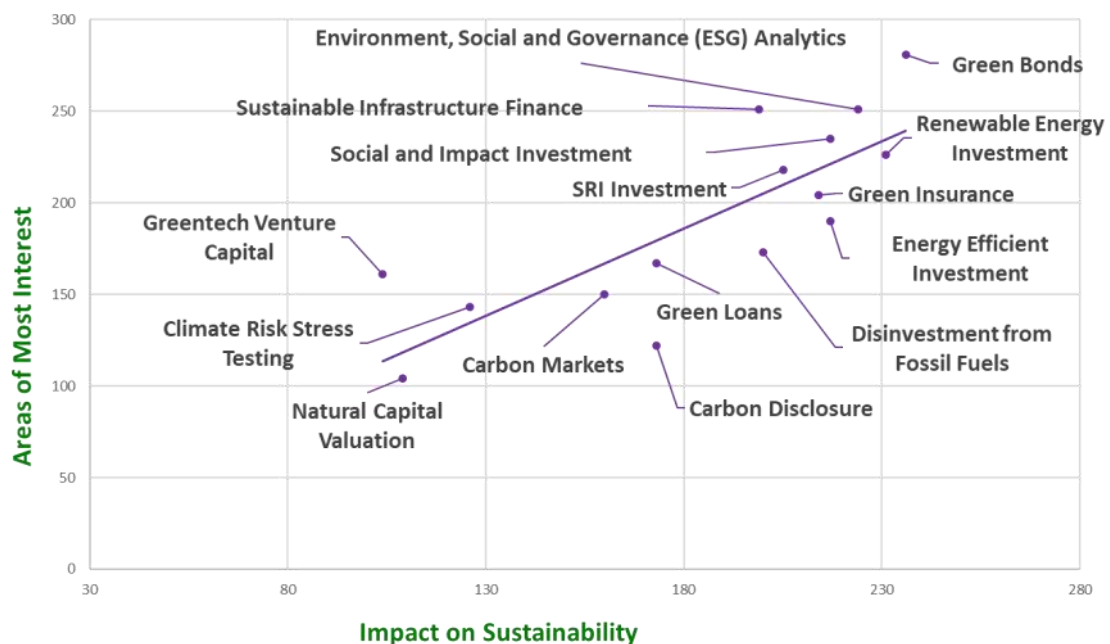
With respect to impact, Green Bonds, and Renewable Policy & Regulatory Frameworks continue to be rated as the areas of green finance with the most impact. Disinvestment from fossil fuels has seen a doubling in its perceived impact since it was first mentioned by respondents in GGFI 2. Green Tech Venture Capital has seen a fall in its perceived impact, and Natural Capital Valuation continues to be rated low.

Chart 42 | Impact—Percentage Of Total Mentions



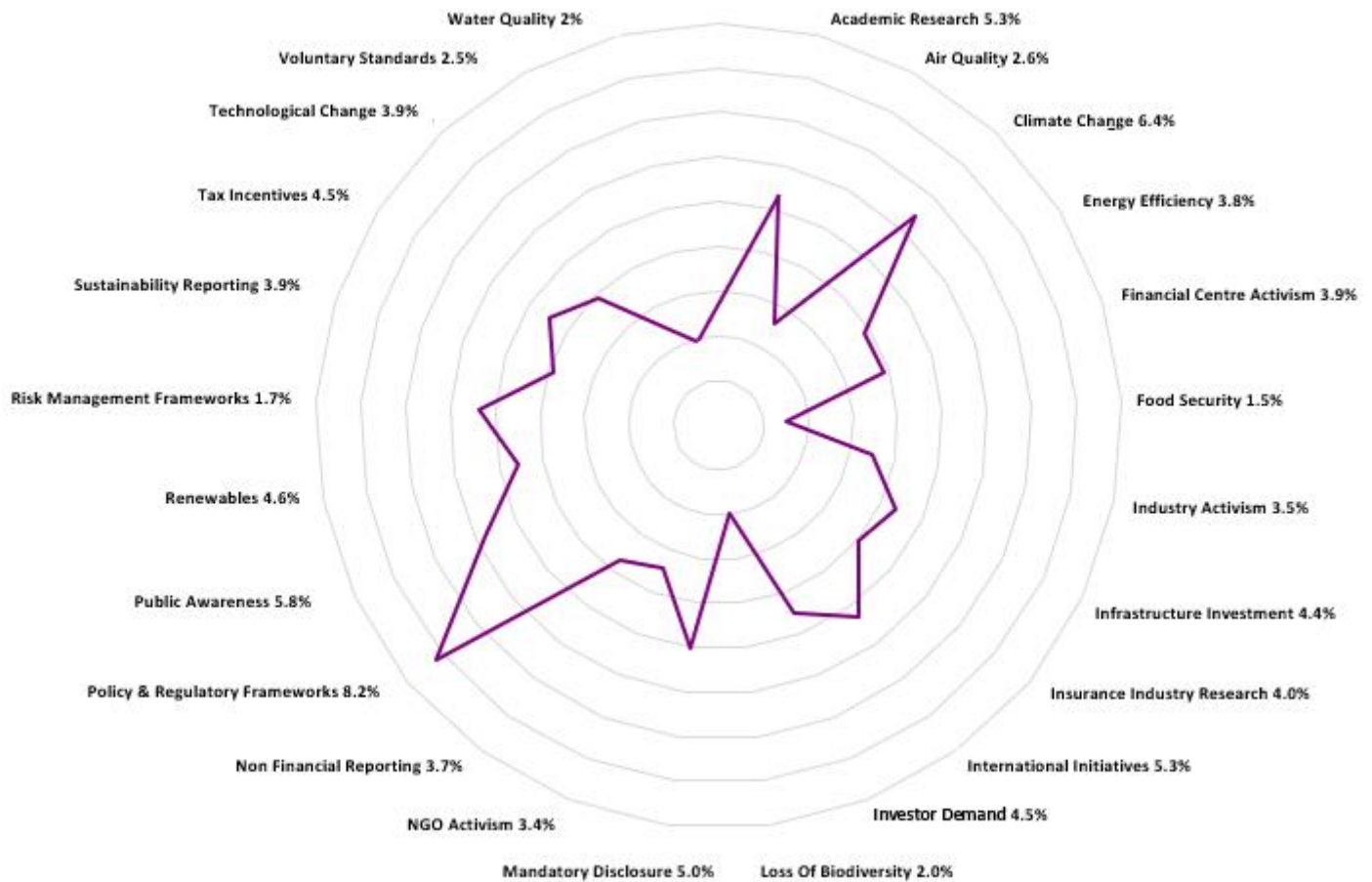
Chart 43 illustrates the correlation, between areas of interest and impact. Carbon Disclosure stands out as furthest from the trendline, indicating that this is seen as having greater impact than the interest currently shown in it.

Chart 43 | The Correlation Between Interest and Impact



With respect to drivers, Policy & Regulatory Frameworks continues to be rated as the most important driver of green finance, whereas Loss of Biodiversity, and Risk Management Frameworks are ranked the lowest, illustrating the continued importance of policy and regulation in the development of green finance.

Chart 44 | Drivers—Percentage Of Total Mentions



“There are quite a few innovations but not nearly enough uptake. Pricing carbon was good while it lasted, now something similar is needed for water.”

Director, International Business Development Consultancy, UK

Appendix 1: Assessment Details

Table 19 | Details Of GGFI 7 Assessments By Centre

Centre	GGFI 7 Assessments					Centre	GGFI 7 Assessments				
	Rank	Rating	Number	Average	Std Dev		Rank	Rating	Number	Average	Std Dev
Amsterdam	1	567	76	705	200	Edinburgh	38	511	44	580	239
Zurich	2	563	88	644	265	Qingdao	38	511	149	765	149
London	3	562	172	657	238	Hong Kong	40	510	142	539	263
Oslo	4	547	24	653	213	Dublin	40	510	43	464	234
San Francisco	5	546	58	708	220	Frankfurt	42	509	90	546	237
Luxembourg	6	542	72	635	238	Calgary	42	509	25	480	286
Geneva	7	541	61	559	265	Glasgow	44	507	19	489	281
Copenhagen	8	540	28	665	179	Melbourne	46	504	27	616	278
Stockholm	9	539	52	590	220	GIFT City-Gujarat	47	503	200	795	201
Los Angeles	10	538	50	659	246	Tel Aviv	48	502	23	436	267
Paris	11	537	101	578	220	Bangkok	49	499	17	451	255
Helsinki	12	534	27	646	149	Abu Dhabi	50	496	64	498	271
Tokyo	13	532	92	626	279	Rome	51	493	31	547	211
Beijing	14	531	136	710	247	Kuala Lumpur	52	491	33	549	231
Munich	15	530	27	631	202	Mauritius	52	491	26	565	201
Brussels	16	529	52	598	228	Guernsey	54	487	26	532	280
Shanghai	17	528	162	640	241	Jersey	54	487	23	508	277
Sydney	18	527	51	642	227	Milan	54	487	26	467	201
Montreal	19	526	36	553	256	Nur-Sultan	57	485	21	490	256
Singapore	20	525	118	592	241	Malta	58	484	26	432	184
Washington DC	21	524	53	637	243	Doha	59	483	21	498	205
Vienna	22	523	23	532	183	Mumbai	60	479	33	346	275
Seoul	22	523	41	621	263	Sao Paulo	60	479	24	422	200
Guangzhou	22	523	73	764	197	Liechtenstein	62	478	15	510	176
Vancouver	25	522	38	587	238	Jakarta	62	478	19	508	272
Hamburg	25	522	38	657	220	Cape Town	62	478	17	543	206
Boston	25	522	61	600	246	Almaty	62	478	27	438	276
Shenzhen	28	521	70	667	236	Johannesburg	66	477	25	455	231
Toronto	29	519	59	550	255	Bahrain	67	476	22	433	270
Osaka	30	518	34	627	272	Prague	67	476	23	443	209
New York	31	517	181	559	258	Cayman Islands	69	473	30	384	239
Busan	31	517	36	683	254	New Delhi	69	473	35	346	295
Casablanca	33	516	22	631	185	Moscow	71	469	60	458	235
Lisbon	33	516	22	610	229	Warsaw	72	468	21	387	236
Wellington	33	516	22	651	219	Mexico City	73	463	28	465	193
Chicago	36	513	54	538	241	Istanbul	74	459	31	467	235
Madrid	37	512	39	574	211	Isle of Man	74	459	14	404	254
						Rio de Janeiro	76	458	24	368	173
						British Virgin Islands	77	456	25	444	247
						Bermuda	78	455	18	315	226

Table 20 | Details Of Assessments Of GGFI Dimensions By Centre

Centre	Overall Rank	Depth Rating	Quality Rating	Centre	Overall Rank	Depth Rating	Quality Rating
Amsterdam	1	281	286	Hong Kong	40	250	260
Zurich	2	274	289	Dublin	41	260	250
London	3	275	287	Frankfurt	41	248	261
Oslo	4	270	277	Calgary	43	251	258
San Francisco	5	272	274	Glasgow	43	250	257
Luxembourg	6	271	271	Dubai	43	248	257
Geneva	6	269	272	Melbourne	46	251	253
Copenhagen	8	269	271	GIFT City-Gujarat	46	250	253
Stockholm	8	268	271	Tel Aviv	46	248	254
Los Angeles	10	270	268	Bangkok	49	241	258
Paris	10	268	269	Abu Dhabi	49	243	253
Helsinki	12	267	267	Rome	51	243	250
Tokyo	13	264	268	Kuala Lumpur	51	238	253
Beijing	13	264	267	Mauritius	53	244	247
Munich	15	263	267	Guernsey	54	229	258
Brussels	15	265	264	Jersey	54	237	250
Shanghai	15	264	264	Milan	54	239	248
Sydney	18	262	265	Nur-Sultan	57	239	246
Montreal	18	258	268	Malta	57	233	251
Singapore	18	259	266	Doha	59	236	247
Washington DC	21	265	259	Mumbai	59	235	244
Vienna	21	258	265	Sao Paulo	59	244	235
Seoul	23	259	264	Liechtenstein	62	230	248
Guangzhou	23	261	262	Jakarta	62	236	242
Vancouver	23	258	264	Cape Town	64	240	238
Hamburg	26	259	263	Almaty	64	240	238
Boston	26	262	260	Johannesburg	66	240	237
Shenzhen	26	263	258	Bahrain	67	232	244
Toronto	29	260	259	Prague	68	238	238
Osaka	29	256	262	Cayman Islands	68	229	244
New York	29	254	263	New Delhi	70	237	236
Busan	32	256	261	Moscow	70	231	238
Casablanca	32	260	256	Warsaw	72	238	230
Lisbon	32	261	255	Mexico City	72	231	232
Wellington	35	263	253	Istanbul	74	226	233
Chicago	35	255	258	Isle of Man	74	230	229
Madrid	35	256	256	Rio de Janeiro	76	232	226
Edinburgh	38	252	259	British Virgin Islands	77	223	233
Qingdao	39	261	250	Bermuda	78	216	239

Appendix 2: Interest, Impact, And Drivers Details

Table 21 | Areas Of Green Finance Of Most Interest To Respondents

Area of Green Finance	Number of Mentions	Percentage of Total
Green Bonds	281	9.80%
Sustainable Infrastructure Finance	251	8.70%
Environment, Social and Governance (ESG) Analytics	251	8.70%
Social and Impact Investment	235	8.20%
Renewable Energy Investment	226	7.90%
SRI Investment	218	7.60%
Green Insurance	204	7.10%
Energy Efficient Investment	190	6.60%
Disinvestment from Fossil Fuels	173	6.00%
Green Loans	167	5.80%
Greentech Venture Capital	161	5.60%
Carbon Markets	150	5.20%
Climate Risk Stress Testing	143	5.00%
Carbon Disclosure	122	4.20%
Natural Capital Valuation	104	3.60%
Totals	2,876	100.0

Table 22 | Areas Of Green Finance With The Greatest Impact

Area of Green Finance	Number of Mentions	Percentage of Total
Green Bonds	236	8.50%
Renewable Energy Investment	231	8.30%
Environment, Social and Governance (ESG) Analytics	224	8.00%
Energy Efficient Investment	217	7.80%
Social and Impact Investment	217	7.80%
Green Insurance	214	7.70%
SRI Investment	205	7.40%
Disinvestment from Fossil Fuels	200	7.20%
Sustainable Infrastructure Finance	199	7.10%
Green Loans	173	6.20%
Carbon Disclosure	173	6.20%
Carbon Markets	160	5.70%
Climate Risk Stress Testing	126	4.50%
Natural Capital Valuation	109	3.90%
Greentech Venture Capital	104	3.70%
Total	2,788	100.0



Table 23 | Drivers Of Green Finance

Driver	Number of Mentions	Percentage Of Total
Policy & Regulatory Frameworks	231	8.20%
Climate Change	181	6.40%
Public Awareness	163	5.80%
Risk Management Frameworks	151	5.40%
International Initiatives	149	5.30%
Academic Research	149	5.30%
Mandatory Disclosure	141	5.00%
Renewables	129	4.60%
Tax Incentives	126	4.50%
Investor Demand	127	4.50%
Infrastructure Investment	123	4.40%
Insurance Industry Research	114	4.00%
Technological Change	110	3.90%
Finance Centre Activism	109	3.90%
Sustainability Reporting	109	3.90%
Energy Efficiency	108	3.80%
Non-financial Reporting	105	3.70%
Industry Activism	98	3.50%
NGO Activism	97	3.40%
Air Quality	73	2.60%
Voluntary Standards	70	2.50%
Water Quality	55	2.00%
Loss of Biodiversity	56	2.00%
Food Security	42	1.50%
Total	2,816	100.0

Appendix 3: Respondents' Details

Table 24 | Respondents By Industry Sector

Industry Sector	Number Of Respondents	Percentage Of Respondents
Banking	62	8.39%
Debt Capital Market	49	6.63%
Equity Capital Markets	55	7.44%
Insurance	30	4.06%
Investment	80	10.83%
Knowledge	87	11.77%
Local Green Initiatives	31	4.19%
Policy & Public Finance	71	9.61%
Professional Services	152	20.57%
Trading	86	11.64%
Other	36	4.87%
Total	739	100.00%

Table 25 | Respondents By Engagement In Green Finance

Engagement In Green Finance	Number Of Respondents	Percentage Of Respondents
Working Full-time On Green Finance	284	38.43%
Working Part-time On Green Finance	138	18.67%
Interested In Green Finance	281	38.02%
Other/Not Given	36	4.87%
Total	739	100.00%

Table 26 | Respondents By Region

Region	Number Of Respondents	Percentage Of Respondents
Asia/Pacific	264	35.72%
Western Europe	198	26.79%
Eastern Europe & Central Asia	111	15.02%
North America	61	8.25%
Middle East & Africa	50	6.77%
Latin America & The Caribbean	45	6.09%
Other	10	1.35%
Total	739	100.00%

Table 27 | Respondents By Size Of Organisation

Size of Organisation	Number Of Respondents	Percentage Of Respondents
<100	353	47.77%
100-500	87	11.77%
500-1000	59	7.98%
1000-2000	58	7.85%
2000-5000	50	6.77%
>5000	85	11.50%
Other/Not Given	47	6.36%
Total	739	100.00%

Table 28 | Respondents By Gender

Gender	Number Of Respondents	Percentage Of Respondents
Male	453	61.30%
Female	254	34.37%
Other	2	0.27%
Prefer Not To Say/Not Given	30	4.06%
Total	739	100.00%

Table 29 | Respondents By Age

Age Band	Number Of Respondents	Percentage Of Respondents
18-30	292	39.51%
30-45	218	29.50%
45-60	144	19.49%
60+	57	7.71%
Other/Not Given	28	3.79%
Total	739	100.00%

Appendix 4: Methodology

The GGFI provides ratings of the green finance offering of financial centres. The process involves taking two sets of ratings – one from survey respondents and one generated by a statistical model – and combining them into a single ranking.

For the first set of ratings, the financial centre assessments, respondents use an [online questionnaire](#) to rate the depth and quality of each financial centre's green finance offering, using a 10 point scale ranging from little depth/very poor to mainstream/excellent. Responses are sought from a range of individuals drawn from the financial services sector, non-governmental organisations, regulators, universities, and trade bodies.

For the second set of ratings, we use a database of indicators, or Instrumental Factors, that contains quantitative data about each financial centre. We use a machine learning algorithm to investigate the correlation between the financial centre assessments and these Instrumental Factors to predict how each respondent would have rated the financial centres they do not know. These instrumental factors draw on data from 140 different sources covering sustainability, business, human capital, and infrastructure, including telecommunications and public transport. A full list of the instrumental factors used in the model is in Appendix 5.

The respondents' actual ratings as well as their predicted ratings for the centres they did not rate, are then combined into a single table to produce the ranking. We add the results for depth and quality to produce the GGFI.

Factors Affecting The Inclusion Of Centres In The GGFI

The questionnaire lists a total of 124 financial centres which can be rated by respondents. The questionnaire also asks whether there are financial centres that will improve their green finance offering significantly over the next two to three years. Centres which are not currently within the questionnaire and which receive a number of mentions in response to this question will be added to the questionnaire for future editions.

We give a financial centre a GGFI rating and ranking if it receives a statistically significant minimum number of assessments from individuals based in other geographical locations - at least 20 in GGFI 7. This means that not all 124 centres in the questionnaire receive a ranking.

We will also develop rules as successive indices are published as to when a centre may be removed from the rankings, for example, if over a 24 month period, a centre has not received a minimum number of assessments.

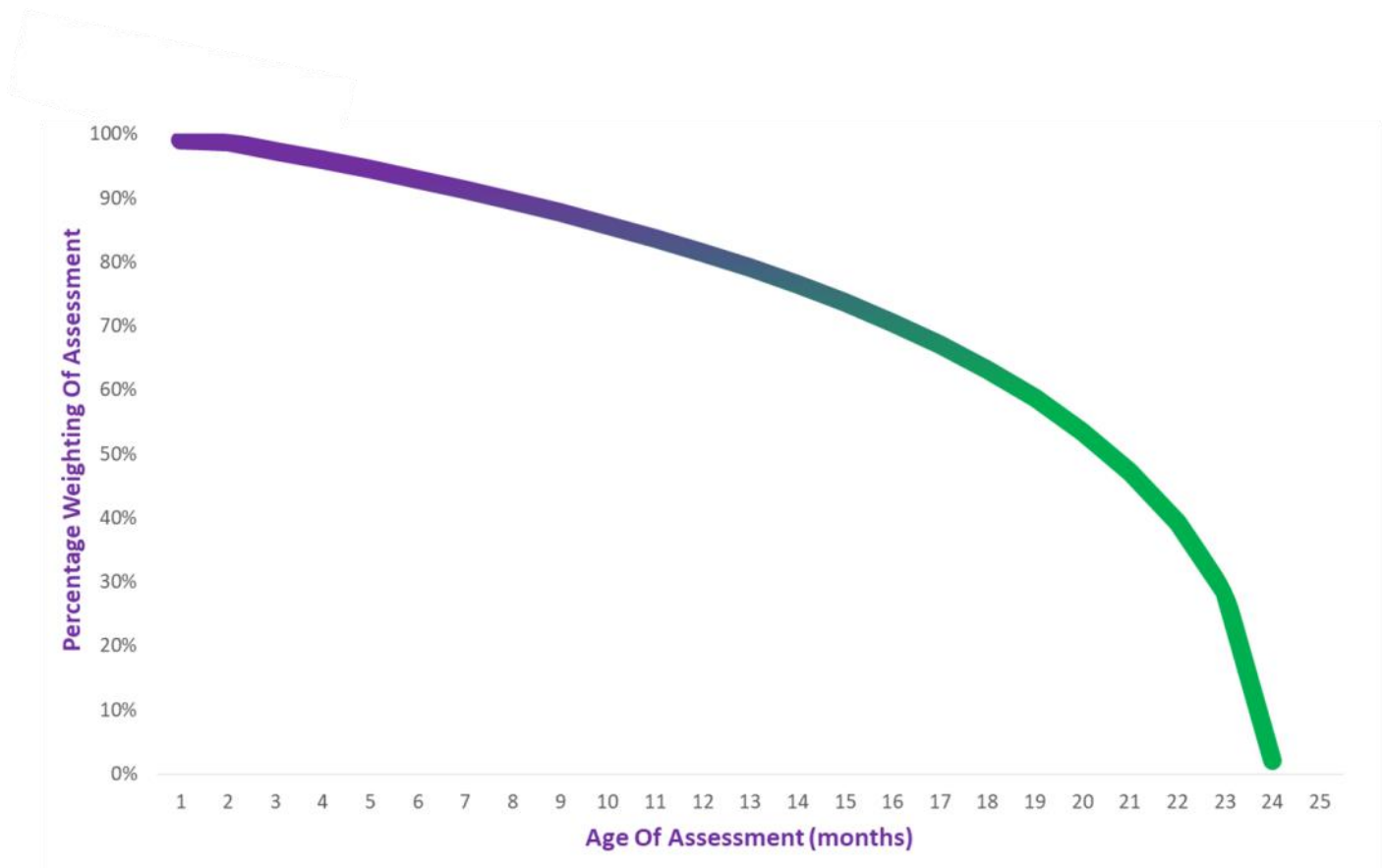
Financial Centre Assessments

Financial centre assessments are collected via an online questionnaire which runs continuously and which is at greenfinanceindex.net/survey/. A link to this questionnaire is emailed to a target list of respondents at regular intervals. Other interested parties can complete the questionnaire by following the link given in GGFI publications.

In calculating the GGFI:

- the score given by a respondent to their home centre, and scores from respondents who do not specify a home centre, are excluded from the model – this is designed to prevent home bias;
- financial centre assessments are included in the GGFI model for 24 months after they have been received – we consider that this is a period during which assessments maintain their validity; and
- financial centre assessments from the month when the GGFI is created will be given full weighting with earlier responses given a reduced weighting on a logarithmic scale as shown in Chart 45 - this recognises that older ratings, while still valid, are less likely to be up-to-date.

Chart 45 | Reduction In Weighting As Assessments Get Older



Instrumental Factor Data

For the instrumental factors, we have the following data requirements:

- data series should come from a reputable body and be derived by a sound methodology; and
- data series should be readily available (ideally in the public domain) and be regularly updated.

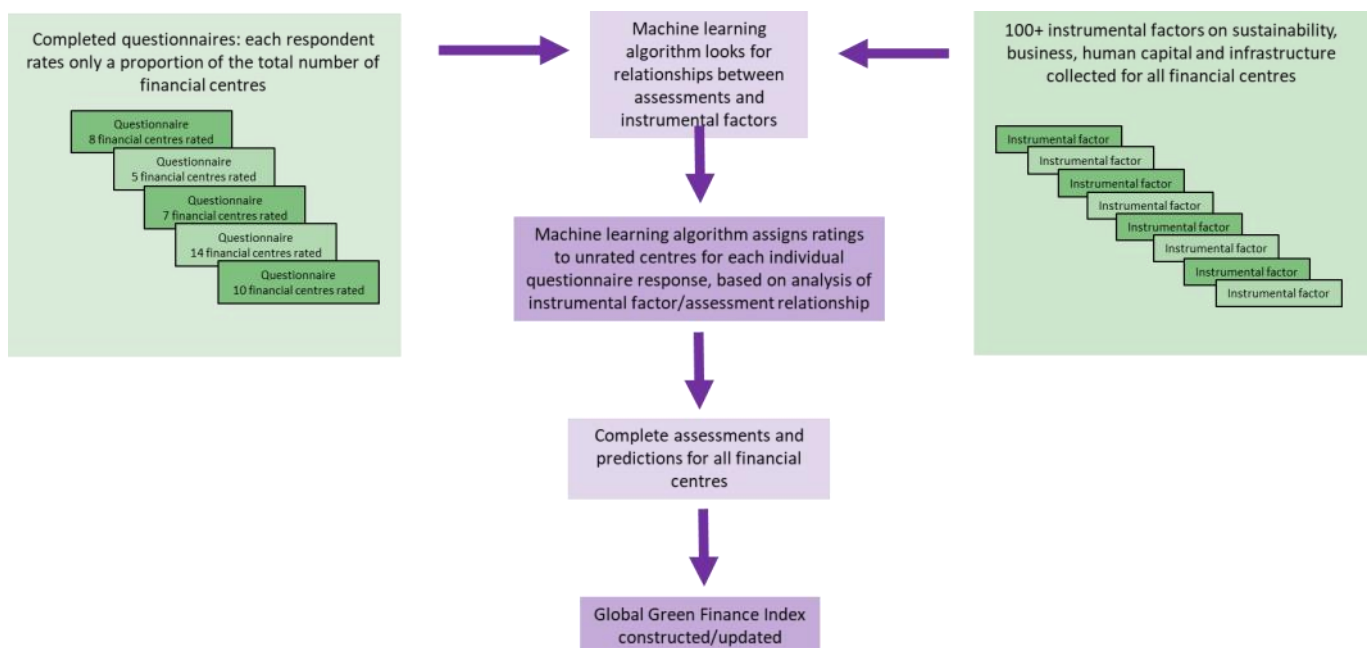
The rules on the use of instrumental factor data in the model are as follows:

- updates to the indices are collected and collated every six months;
- no weightings are applied to indices;
- indices are entered into the GGFI model as directly as possible, whether this is a rank, a derived score, a value, a distribution around a mean or a distribution around a benchmark;
- if a factor is at a national level, the score will be used for all centres in that country; nation-based factors will be avoided if financial centre (city)-based factors are available;
- if an index has multiple values for a city or nation, the most relevant value is used;
- if an index is at a regional level, the most relevant allocation of scores to each centre is made (and the method for judging relevance is noted); and
- if an index does not contain a value for a particular financial centre, a blank is entered against that centre (no average or mean is used)

The details of the methodology can be accessed at <https://www.longfinance.net/programmes/financial-centre-futures/global-green-finance-index/ggfi-methodology/>.

The process of creating the GGFI is outlined in Chart 46.

Chart 46 | The GGFI Process



Appendix 5: Instrumental Factors

Table 30 | Sustainability Instrumental Factor Correlation With GGFI Ratings - Highest 15 Factors

Instrumental Factors	R-squared
IESE Cities In Motion Index	0.548
Water Quality	0.492
Sustainable Cities Index	0.479
Quality of Living City Rankings	0.421
Sustainable Economic Development	0.396
Environmental Performance	0.334
Financial Centre Corporate Sustainability Performance	0.275
World Energy Trilemma Index	0.224
Global Sustainable Competitiveness Index	0.182
Quality of Life Index	0.132
Stock Exchanges With A Green Bond Segment (Y/N)	0.130
Pollution Index	0.124
Financial Centre Sustainability Disclosure	0.121
Concentrations of fine particulate matter (PM2.5)	0.110
Total Number Of Labelled Green Bonds Issued To December 2018	0.084

Table 31 | All Instrumental Factor Correlation With GGFI Ratings - Highest 15 Factors

Instrumental Factors	R-squared
Global Innovation Index	0.625
The Global Financial Centres Index	0.562
OECD Country Risk Classification	0.555
IESE cities in motion index	0.548
Corruption Perception Index	0.498
Domestic Credit Provided by Banking Sector (% of GDP)	0.494
Water Quality	0.492
Legatum Prosperity Index	0.489
Best Countries for Business	0.487
Sustainable Cities Index	0.479
World Talent Rankings	0.478
World Competitiveness Scoreboard	0.467
Networked Society Index	0.465
Global Enabling Trade Report	0.456
Logistics Performance Index	0.454

Table 32 | Sustainability Factors

Instrumental Factor	Source	Website	Updated
Average Precipitation In Depth (mm Per Year)	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=AG.LND.PRCP.MM	N
Buildings Energy Efficiency Policies Database (Y/N)	IEA	https://www.iea.org/policies	N
Certified Climate Bonds Issued To December 2018, % Of Centre Total	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
City Commitment To Carbon Reduction (Cooperative Action)	UNFCCC	http://climateaction.unfccc.int/views/stakeholders.html?type=cities	Y
City Commitment To Carbon Reduction (Individual Action)	UNFCCC	http://climateaction.unfccc.int/views/stakeholders.html?type=cities	Y
Climate-Aligned Bonds Outstanding By Country Of Issuer	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
CO2 Emissions Per Capita	World Bank	https://databank.worldbank.org/reports.aspx?source=2&series=EN.ATM.CO2E.PC&country=#	N
Concentrations Of Fine Particulate Matter (PM2.5)	WHO	https://www.who.int/data/gho/data/indicators/indicator-details/GHO/concentrations-of-fine-particulate-matter-(pm2-5)	New
Energy Intensity Of GDP	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Environmental Performance	Yale University	https://epi.yale.edu/epi-results/2020/component/epi	N
Externally-Reviewed (Excl CCB) Labelled Green Bonds Issued To December 2018, % Of Centre Total	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centre Carbon Intensity	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centre Clean To Fossil-Fuel Related Revenue (Clean Revenue)	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centre Clean To Fossil-Fuel Related Revenue (Dirty Revenue)	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centre Corporate Sustainability Performance	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centre Sustainability Disclosure	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centres Green Alignment - Non-Regulatory Actors	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Financial Centres Green Alignment - Regulators And Stock Exchanges	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Forestry Area	World Bank	http://databank.worldbank.org/data/reports.aspx?source=2&series=AG.LND.FRST.ZS&country=	N
Global Sustainable Competitiveness Index	Solability	http://solability.com/the-global-sustainable-competitiveness-index/the-index	Y
GRESB Green Real Estate And Infrastructure Investment Score	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
IESE Cities In Motion Index	IESE	http://citiesinmotion.iese.edu/indicecim/?lang=en	N
Labelled Green Bonds Issued By Country Of Issuer	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Not-Externally-Reviewed Labelled Green Bonds Issued To December 2018, % of centre total	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Protected Land Area % Of Land Area	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=2&series=ER.LND.PTLD.ZS&country=	N
Quality Of Life Index	Numbeo	http://www.numbeo.com/quality-of-life/rankings.jsp	Y
Quality Of Living City Rankings	Mercer	https://mobilityexchange.mercer.com/Insights/quality-of-living-rankings	N
Ratio Climate-Aligned Bonds To Total Debt Securities By Issuer Location	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N

Table 32 | (Continued) Sustainability Factors

Instrumental Factor	Source	Website	Updated
Ratio Labelled Green Bonds To Total Debt Securities By Issuer Location	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Share Of Renewables In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Share Of Wind And Solar In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Stock Exchanges With A Green Bond Segment (Y/N)	CBI	https://www.climatebonds.net/green-bond-segments-stock-exchanges	N
Sum Of GHG Emissions	Corporate Knights	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Sustainable Cities Index	Arcadis	https://www.arcadis.com/en/global/our-perspectives/sustainable-cities-index-2018/citizen-centric-cities/	N
Sustainable Economic Development	Boston Consulting Group	https://www.bcg.com/en-gb/publications/2019/seda-measuring-well-being.aspx	N
Sustainable Stock Exchanges (Y/N)	UN Sustainable Stock Exchange Initiative	https://sseinitiative.org/members/	Y
Total Issuance Of Labelled Green Bonds To December 2018, USDm	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Total Number Of Labelled Green Bonds Issued To December 2018	CBI	https://www.finance-watch.org/publication/global-greenfinance-index-3/	N
Water Quality	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
World Energy Trilemma Index	World Energy Council	https://trilemma.worldenergy.org/	Y
Pollution Index	Numbeo	https://www.numbeo.com/pollution/rankings.jsp	New
Climate Change Performance Index	Germanwatch, NewClimate Institute & Climate Action Network	https://ccpi.org/download/the-climate-change-performance-index-2021/	New

Table 33 | Human Capital Factors

Instrumental Factor	Source	Website	Updated
Purchasing Power Index	Numbeo	https://www.numbeo.com/quality-of-life/rankings.jsp?title=2021&displayColumn=1	New
Corruption Perception Index	Transparency International	https://www.transparency.org/en/cpi/2019/	N
Cost Of Living City Rankings	Mercer	https://www.mercer.com/our-thinking/career/cost-of-	N
Crime Index	Numbeo	http://www.numbeo.com/crime/rankings.jsp#	Y
Educational Attainment	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Employees Working Very Long Hours	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
GDP Per Person Employed (constant 2017 PPP \$)	The World Bank	https://databank.worldbank.org/reports.aspx?source=world-development-indicators&series=SL.GDP.PCAP.EM.KD	Y
Global Cities Index	AT Kearney	https://www.atkearney.com/global-cities/2020	Y
Global Innovation Index	INSEAD	http://www.globalinnovationindex.org/content.aspx?page=GII-Home	Y
International IP Index	GIPC	https://www.theglobalipcenter.com/ipindex2020/	New
Global Peace Index	Institute for Economics & Peace	https://www.visionofhumanity.org/maps/#/	N
Global Skills Index	Hays	http://www.hays-index.com/	N
Global Terrorism Index	Institute for Economics & Peace	http://visionofhumanity.org/indexes/terrorism-index/	Y
Good Country Index	Good Country Party	https://www.goodcountry.org/index/results	Y
Government Effectiveness	The World Bank	http://info.worldbank.org/governance/wgi/	Y

Table 33 | (Continued) Human Capital Factors

Instrumental Factor	Source	Website	Updated
Graduates In Social Science, Business And Law (As % Of Total Graduates)	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=Education%20Statistics&series=UIS.FOSGP.5T8.F400	Y
Gross Tertiary Graduation Ratio	The World Bank	http://databank.worldbank.org/data/reports.aspx?	Y
Health Care Index	Numbeo	http://www.numbeo.com/health-care/rankings.jsp	Y
Homicide Rates	UN Office of Drugs & Crime	https://dataunodc.un.org/content/data/homicide/homicide-rate	N
Household Net Adjusted Disposable Income	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Household Net Financial Wealth	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Human Development Index	UN Development Programme	http://hdr.undp.org/en/2019-report/download	Y
Human Freedom Index	Cato Institute	https://www.cato.org/human-freedom-index	Y
ICT Development Index	United Nations	http://www.itu.int/net4/ITU-D/idi/2017/index.html	N
Individual Income Tax Rates	KPMG	https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/individual-income-tax-rates-table.html	N
Innovation Cities Global Index	2ThinkNow Innovation Cities	https://www.innovation-cities.com/index-2019-global-city-rankings/18842/	N
Legatum Prosperity Index	Legatum Institute	http://www.prosperity.com/#!/ranking	Y
Life Expectancy	OECD	https://stats.oecd.org/Index.aspx?DataSetCode=BLI	N
Linguistic Diversity	Ethnologue	https://www.ethnologue.com/guides/countries-most-	N
Lloyd's City Risk Index 2015-2025	Lloyd's	https://cityriskindex.lloyds.com/about/	N
Number Of High Net Worth Individuals	Capgemini	https://www.worldwealthreport.com/	N
Number Of International Association Meetings	World Economic Forum	http://reports.weforum.org/travel-and-tourism-competitiveness-report-2019/rankings/#series=NRFAIREX	N
OECD Country Risk Classification	OECD	http://www.oecd.org/trade/topics/export-credits/	Y
Open Data Barometer	World Wide Web Foundation	https://opendatabarometer.org/4thedition/?_year=2016&indicator=ODB	N
Open Government	World Justice Project	http://worldjusticeproject.org/rule-of-law-index	N
Henley Passport Index	Henley Partners	https://www.henleypassportindex.com/passport	Y
Personal Tax Rates	OECD	https://stats.oecd.org/index.aspx?DataSetCode=TABLE_I6	N
Political Stability And Absence Of Violence/Terrorism	The World Bank	http://info.worldbank.org/governance/wgi/	Y
Press Freedom Index	Reporters Without Borders (RSF)	https://rsf.org/en/ranking/2020	N
Prime International Residential Index	Knight Frank	http://www.knightfrank.com/wealthreport	N
Regulatory Quality	The World Bank	http://info.worldbank.org/governance/wgi/	Y
Tax Revenue As Percentage Of GDP	The World Bank	https://databank.worldbank.org/reports.aspx?	Y
Top Tourism Destinations	Euromonitor	https://go.euromonitor.com/white-paper-travel-2019-100-	N
Average Wages	UBS	https://www.ubs.com/microsites/prices-earnings/en/	N
World Talent Rankings	IMD	https://www.imd.org/wcc/world-competitiveness-center-	Y
People Near Services	ITDP	https://pedestriansfirst.itdp.org/	New

Table 34 | Business Factors

Instrumental Factor	Source	Website	Updated
Best Countries For Business	Forbes	https://www.forbes.com/best-countries-for-business/list/	N
Bilateral Tax Information Exchange Agreements	OECD	http://www.oecd.org/ctp/exchange-of-tax-information/taxinformationexchangeagreementsstieas.htm	N
Broad Stock Index Levels	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2020/market-statistics	Y
Business Environment Rankings	EIU	http://country.eiu.com/All	Y
Capitalisation Of Stock Exchanges	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2020/market-statistics	Y
Common Law Countries	CIA	https://www.cia.gov/library/publications/the-world-factbook/fields/308.html	N
Corporate Tax Rates	PWC	https://www.pwc.com/payingtaxes	N
Democracy Index	The Economist	https://www.eiu.com/topic/democracy-index	N
Domestic Credit Provided By Banking Sector (% Of GDP)	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=FS.AST.DOMS.GD.ZS	Y
Ease Of Doing Business Index	The World Bank	https://www.doingbusiness.org/en/reports/global-reports/doing-business-2020	N
Economic Performance Index	The Brookings Institution	https://www.brookings.edu/research/global-metro-monitor-2018/#rank	N
External Positions Of Central Banks As A Share Of GDP	The Bank for International Settlements	http://www.bis.org/statistics/annex_map.htm	Y
FDI Confidence Index	AT Kearney	https://www.atkearney.com/foreign-direct-investment-confidence-index	N
FDI Inward Stock (in million dollars)	UNCTAD	http://unctad.org/en/Pages/DIAE/World%20Investment%20Report/Annex-Tables.aspx	N
Financial Secrecy Index	Tax Justice Network	http://www.financialsecrecyindex.com/	N
Foreign Direct Investment Inflows	UNCTAD	http://unctadstat.unctad.org/wds/TableView/tableView.aspx?ReportId=96740	Y
Global Connectedness Index	DHL	https://www.dhl.com/global-en/spotlight/globalization/global-connectedness-index.html	Y
Global Enabling Trade Report	World Economic Forum	https://www.weforum.org/focus/global-enabling-trade-report-2016	N
Global Services Location	AT Kearney	https://www.atkearney.com/digital-transformation/gsli	N
Government Debt as % of GDP	CIA	https://www.cia.gov/library/publications/the-world-factbook/rankorder/2186rank.html	N
Net External Positions Of Banks	The Bank for International Settlements	http://www.bis.org/statistics/annex_map.htm	Y
Office Occupancy Cost	CBRE Research	https://www.cbre.com/research-and-reports/Global-Prime-Office-Occupancy-Costs-2019	N
Open Budget Survey	International Budget Partnership	http://survey.internationalbudget.org/#download	N
Operational Risk Rating	EIU	http://viewswire.eiu.com/site_info.asp?info_name=VW2_RISK_nib&page=rk&page_title=Risk%20table	Y
Percentage Of Firms Using Banks To Finance Investment	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators&series=IC.FRM.BNKS.ZS	Y
Real Interest Rate	The World Bank	https://databank.worldbank.org/reports.aspx?source=world-development-indicators&series=FR.INR.RINR	Y
Total Net Assets Of Regulated Open-End Funds	Investment Company Institute	http://www.icifactbook.org/	N

Table 34 | (Continued) Business Factors

Instrumental Factor	Source	Website	Updated
Value Of Bond Trading	The World Federation of Stock Exchanges	https://statistics.world-exchanges.org/ReportGenerator/Generator#	Y
Value Of Share Trading	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2020/market-statistics	Y
Volume Of Share Trading	The World Federation of Stock Exchanges	https://statistics.world-exchanges.org/ReportGenerator/Generator#	Y
World Competitiveness Scoreboard	IMD	https://www.imd.org/wcc/world-competitiveness-center-rankings/world-competitiveness-ranking-2020/	N
The Global Financial Centres Index	Z/Yen	https://www.longfinance.net/programmes/financial-centre-futures/global-financial-centres-index/	Y
The Global Fintech Index	Findexable	https://findexable.com/	N
TRACE Bribery Risk Matrix	Trace International	https://matrixbrowser.traceinternational.org/	Y
Jurisdictions Participating In The Convention On Mutual Administrative Assistance In Tax Matters	OECD	http://www.oecd.org/	N
FATF AML Effectiveness	FATF	http://www.fatf-gafi.org/media/fatf/documents/4th-Round-Ratings.pdf	New

Table 35 | Infrastructure Factors

Instrumental Factor	Source	Website	Updated
Refined Oil Products Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	N
Global Competitiveness Index	World Economic Forum	http://reports.weforum.org/global-competitiveness-report-2019/competitiveness-rankings/	N
INRIX Traffic Scorecard	INRIX	http://inrix.com/scorecard/	N
JLL Real Estate Transparency Index	Jones Lang LaSalle	https://www.jll.co.uk/en/trends-and-insights/research/global-real-estate-transparency-index	N
Liner Shipping Connectivity Index	The World Bank	http://databank.worldbank.org/data/reports.aspx?source=2&series=IS.SHP.GCNW.XQ	N
Logistics Performance Index	The World Bank	http://lpi.worldbank.org/international/global	N
Metro Network Length	Metro Bits	http://mic-ro.com/metro/table.html	N
Networked Readiness Index	World Economic Forum	http://reports.weforum.org/global-information-technology-report-2016/	N
Networked Society Index	Ericsson	https://www.ericsson.com/en/reports-and-papers/networked-society-insights/city-index	N
Quality Of Domestic Transport Network	World Economic Forum	http://reports.weforum.org/travel-and-tourism-competitiveness-report-2019/rankings/#series=TRSPEFFICY	N
Quality of Road Infrastructure	World Economic Forum	http://reports.weforum.org/travel-and-tourism-competitiveness-report-2019/rankings/#series=EOSQ057	N
Railways Per Land Area	CIA	https://www.cia.gov/library/publications/the-world-factbook/rankorder/2121rank.html	Y
Roadways Per Land Area	CIA	https://www.cia.gov/library/publications/the-world-factbook/rankorder/2085rank.html	Y
Telecommunication Infrastructure Index	United Nations	https://publicadministration.un.org/egovkb/en-us/Data-Center	N
TomTom Traffic Index	TomTom	https://www.tomtom.com/en_gb/traffic-index/ranking/	Y
Smart City Index	IMD	https://www.imd.org/smart-city-observatory/smart-city-index/	New

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Vantage Financial Centres is an exclusive network of financial centres around the world looking for a deeper understanding of financial centre competitiveness. Members receive enhanced access to GGFI and GFCI data, marketing opportunities, and training for centres seeking to enhance their profile and reputation.



Supported by the industry, the Financial Services Development Council (FSDC) is a high-level, cross-sectoral advisory body to the Hong Kong Special Administrative Region Government.

FSDC formulates proposals to promote the further development of Hong Kong's financial services industry and to map out the strategic direction for the development. As of March 2020, 110 of the 137 policy recommendations had been adopted by the Government and relevant regulators since FSDC's inception in 2013. On top of research, FSDC also carries out market promotion and human capital development functions.

Among others, FSDC focuses on topics including Mainland and international connectivity, green and sustainable finance, FinTech, as well as asset and wealth management.

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Since 2009 Busan Metropolitan City has been developing a financial hub specialising in maritime finance and derivatives. With its strategic location in the center of the southeast economic block of Korea and the crossroads of a global logistics route, Busan envisions growing into an international financial city in Northeast Asia. Busan Finance Center (BFC) will continue to develop and implement measures to promote Busan as the financial hub and bolster the local financial industry, while working together with various local economic players to pursue sustainable growth of the financial sector including FinTech. These efforts will enable BFC to play a leading role in taking Busan to the next level and become the international financial center and maritime capital of Northeast Asia.

BFC offers an attractive incentive package to global financial leaders and cooperation network of Busan Metropolitan City, and Busan Finance Center will support you to identify opportunities in Busan, one of the fastest developing cities in Asia.

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Dubai International Financial Centre (DIFC) is one of the world's most advanced financial centres, and the leading financial hub for the Middle East, Africa and South Asia (MEASA) region, which comprises 72 countries with an approximate population of 3 billion and a nominal GDP of US\$ 7.7 trillion.

DIFC is home to an internationally recognised, independent regulator and a proven judicial system with an English common law framework, as well as the region's largest financial ecosystem of more than 24,000 professionals working across over 2,300 active registered companies – making up the largest and most diverse pool of industry talent in the region. The Centre's vision is to drive the future of finance. Today, it offers one of the region's most comprehensive FinTech and venture capital environments, including cost-effective licensing solutions, fit-for-purpose regulation, innovative accelerator programmes, and funding for growth-stage start-ups.

Comprising a variety of world-renowned retail and dining venues, a dynamic art and culture scene, residential apartments, hotels and public spaces, DIFC continues to be one of Dubai's most sought-after business and lifestyle destinations.

www.difc.ae Twitter @DIFC



AIFC is an all-around financial centre located in Nur-Sultan, the capital of Kazakhstan, which offers ample opportunities for businesses to grow. AIFC provides greater access to world-class capital markets and the asset management industry. It also promotes financial technology and drives the development of niche markets such as Islamic and green finance in the region.

AIFC provides unprecedented conditions and opportunities for its participants and investors: legal system based on the principles of English law, independent judicial system, regulatory framework consistent with internationally recognised standards, wide range of financial services and instruments, simplified visa and labour regimes, zero corporate tax rate, and English as a working language.

Located in the heart of Eurasia, AIFC is striving to become the gateway to the Eurasian Economic Union, Central Asia and Caucasus, and play a key role in the Belt and Road Initiative. AIFC is already gaining tremendous recognition as a leading financial hub in the region: recently, Asiamoney Awards recognised it as the best Belt and Road Initiative project of 2019.

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Seoul is a rising star among the financial cities of the world. It is already one of the top 10 cities in the world based on various indices, and it has many more opportunities to offer as a financial hub and great growth potential. Seoul believes global financial companies are our true partners for growth. There are many incentives provided to global financial companies that enter into Seoul, such as the financial incentives provided when moving into IFC, so that we can all jointly work towards the growth and development of the financial market.

It is sure that Seoul will become a top star of global financial hubs in the near future! Pay close attention to Seoul's potentials and pre-emptively gain a foothold in the Seoul financial hub. Seoul is the gateway to Northeast Asia and the world.

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www.seoul.go.kr/main/index.jsp



Luxembourg for Finance (LFF) is the Agency for the Development of the Financial Centre. It is a public-private partnership between the Luxembourg Government and the Luxembourg Financial Industry Federation (PROFIL). Founded in 2008, its objective is to develop Luxembourg's financial services industry and identify new business opportunities.

LFF connects international investors to the range of financial services provided in Luxembourg, such as investment funds, wealth management, capital market operations or advisory services. In addition to being the first port of call for foreign journalists, LFF cooperates with the various professional associations and monitors global trends in finance, providing the necessary material on products and services available in Luxembourg.

Furthermore, LFF manages multiple communication channels, organises seminars in international business locations, and takes part in selected world-class trade fairs and congresses.

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The Long Finance initiative grew out of the London Accord, a 2005 agreement among investment researchers to share environmental, social and governance research with policy-makers and the public. Long Finance was established more formally by Z/Yen Group and Gresham College from 2007 with the aim of exploring long-term thinking across a global network of people.

We work on researching innovative ways of building a more sustainable financial system. In so doing, we try to operate openly and emulate scientific ideals. At the same time, we are looking to create a supportive and caring community where people can truly question the accepted paradigms of risk and reward.

www.longfinance.net



Approved by the China's State Council, China Development Institute (CDI) was founded in 1989 with 116 representatives from the government, academia and business in China. Being an independent think tank, CDI is committed to develop policy solutions via research and debates that help to advance China's reform and opening-up. After years of development, CDI has become one of the leading think tanks in China. CDI focuses on the studies of open economy and innovation-driven development, regional economy and regional development, industrial policies and industrial development, urbanization and urban development, business strategies and investment decision-making. Via conducting research, CDI provides policy recommendations for the Chinese governments at various levels and develops consultation for corporate sectors at home and abroad. CDI organizes events in different formats that evokes dialogue among scholars, government officials, business people and civil society members around the globe. Based in Shenzhen, Southern China, CDI has one hundred and sixty staff, with an affiliated network that consists of renowned experts from different fields.

Carol Feng at carolf@cdi.org.cn www.cdi.org.cn

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Finance Montréal's mandate is to promote Montréal as a world-class financial hub and foster cooperation among its member institutions to accelerate the industry's growth. With renowned research capacities in artificial intelligence and a booming fintech sector, Montréal offers an experienced, diversified and innovative pool of talent as well as a stable, low cost and dynamic business environment.

For financial institutions searching for an ideal location to set up an intelligent service centre and operationalize their digital transformation, Finance Montréal can advise on the advantageous tax incentives aimed at facilitating the establishment and development of financial services corporations in the city.

info@finance-montreal.com
www.finance-montreal.com/en



Abu Dhabi Global Market (ADGM), an award-winning financial centre in the capital of the UAE, opened for business in October 2015, consisting of three independent authorities: the Registration Authority (RA); the Financial Services Regulatory Authority (FSRA); and ADGM Courts. Comprised of the three independent authorities where Common English Law is directly applicable, ADGM plays an essential role in the diversification of the economy in the UAE and is committed to providing a comprehensive business ecosystem operating with the highest standards of integrity and is renowned for its ease of doing business.

Strategically situated in Abu Dhabi, home to one of the world's largest sovereign wealth funds, ADGM plays a vital role in positioning Abu Dhabi as a global trade and business hub and serves as a link between the growing economies of the Middle East, Africa and South Asia to the rest of the world. ADGM has earned industry recognition as the Financial Centre of the Year (MENA) four years in a row as well as being recognized as the leading FinTech Hub in the region.

www.adgm.com/ info@adgm.com



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www.zyen.com

Z/Yen helps organisations make better choices - our clients consider us a commercial think-tank that spots, solves and acts. Our name combines Zen and Yen - 'a philosophical desire to succeed' - in a ratio, recognising that all decisions are trade-offs. One of Z/Yen's specialisms is the development and publication of research combining factor analysis and perception surveys.

THE GLOBAL GREEN FINANCE INDEX



www.greenfinanceindex.net

The Global Green Finance Index provides a measure of how financial centres are responding to the challenge of developing a sustainable economy, enabling centres to compare their performance with their peers, improve policy makers' understanding of the drivers of green growth, and assist them in shaping the financial system to support sustainability goals.

SUSTAINABLE FUTURES



<https://www.longfinance.net/programmes/sustainable-futures/>

The sustainable futures programme focuses on ways in which the financial system supports the transition to a sustainable economic model. Alongside the GGFI, the programme supports the [London Accord](#), a free to access collection of over 650 environmental social and governance research reports from over 120 financial services, NGO, academic and policy making institutions.

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www.longfinance.net

Long Finance is a Z/Yen initiative designed to address the question **"When would we know our financial system is working?"** This question underlies 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 views the Long Finance timeframe is roughly 100 years.



www.financialcentrefutures.net

Financial Centre Futures is a programme within the Long Finance initiative that initiates discussion on the changing landscape of global finance. Financial Centre Futures comprises the Global Green Finance Index and other research publications that explore major changes to the way we will live and work in the financial system of the future.