

# **The Global Green Finance Index 16**



October 2025











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, and more recently with support from Abu Dhabi Global Market. Z/Yen continues this work and is pleased to present the sixteenth edition of the Global Green Finance Index (GGFI 16).

**Z/Yen** helps organisations make better choices - our <u>clients</u> 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.

<u>Long Finance</u> 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.

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



### **Foreword**

Despite a complex and challenging global climate governance outlook, China remains steadfast in advancing and delivering its dual-climate goals. Recently China announced a new Nationally Determined Contribution (NDC) target under the Paris Agreement, which covers all types of greenhouse gas emissions by 2035. This is a renewed commitment that will unlock massive green and low-carbon investment in China in the decades to come. Against this backdrop, transition finance - a key instrument for supporting the orderly transition of hard-to-abate sectors towards a cleaner and low-carbon emission pattern, is gaining increasing importance at home and aboard.

Over the last few years, China has established a national policy framework guiding the rapid development of green and transition finance, featured by the publication of national and local standards and taxonomies, incentive mechanisms, regionally tailored pilot projects, as well as financial product innovation. China has systematically promoted the effective alignment of green finance and transition finance, thereby providing critical support for the real economy's low-carbon transformation. Shanghai, China's leading international financial centre, has implemented a series of pioneering initiatives in the field of transition finance, which may offer a valuable model for peer financial centres in the emerging market, seeking green finance development and industrial decarbonization.

The Global Green Finance Index (GGFI) is an important benchmark for assessing the progress of green finance development across global financial centres. At the Green Finance Forum of 60, we appreciate the thought-leadership provided by Z/Yen Group in this critical field and are honoured to contribute to the 16<sup>th</sup> edition of GGFI with a timely analysis on the development of transition finance in China to a global audience. We look forward to deepening our cooperation with GGFI to jointly explore further development of the GGFI indicator system in an effort to better reflect the regional and local context and needs of emerging markets, thereby providing a meaningful guidance for the green and low-carbon economic transition for the Global South.

At the Green Finance Forum of 60 (GF60), we are committed to fostering an international non-profit platform for sharing thought-leadership and industrial good practices and promoting international cooperation in the field of climate finance, ESG investment and carbon markets. As an international thinktank for green finance headquartered in Shanghai, GF60 will continue in leading green finance research, convene policy and industrial knowledge and dialogues, and promote the industry-finance collaboration contributing Chinese wisdom to the global low-carbon transition.

Shuanghui Liao

Chairman, Shanghai Jinsinan Institute of Finance Secretary-General, Green Finance Forum of 60 (GF60)

## **Summary**

#### Overview

This is the sixteenth edition of the Global Green Finance Index (GGFI 16). 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. GGFI 16 features 94 financial centres.

There has been a continuing drop in confidence in the development of green finance in financial centres. In the last edition of the index, the average rating was down 5.91%. In this edition the average rating is down 3.08% compared with GGFI 15, with all but three centres dropping in the ratings. This reflects a net drop of 8.83% over the last 12 months. This may reflect changes in the outlook for the economy generally, and lack of certainty about the direction of US policy.

This is marked by the difference in the change in the quality ratings as opposed to the depth ratings, with quality ratings falling 6.64% over the year, while depth ratings fell 11.05%. This suggests major concerns about the amount of green finance being transacted across the world.

We continue to see strong performance from Western European centres, which reflects their history of developing green finance products and expertise. US centres perform less well in GGFI 16, with a notable exception in San Francisco. The general commitment of a city or jurisdiction to sustainability is a strong influence on the depth and quality of green finance in a financial centre.

Among those responding to the GGFI survey, Green Bonds, Sustainable Infrastructure Finance, and Green Loans are rated as the areas of green finance with most impact, while Renewable Energy Investment, Sustainable Infrastructure Finance, and ESG Analytics are seen as the areas of most interest.

Policy and Regulatory Frameworks, Climate Change, and Public Awareness are listed by respondents as the major drivers of green finance. These underline the importance of regulatory frameworks and demand in green finance.

In the supplement to this edition of the GGFI, the Green Finance Forum of 60, based in Shanghai, provide an update on the development of transition finance globally but with a particular focus on China.

#### **Index Results**

- Zurich overtook London to take first place in the index, while Singapore and Geneva retained third and fourth positions. Zurich's quality rating fell by less than London in GGFI 16.
- Amsterdam, Paris, and Brussels entered the top 10 in this edition of the index, replacing Montreal, Oslo, and Toronto.
- Western European centres take nine of the top 10 places. Singapore is the only Asia/Pacific centre in this leading group. No US centres feature in the top 10.
- The margins separating centres at the top of the index are small. Among the top 10 centres the spread of ratings has widened from 13 points out of 1,000 in GGFI 15 to 24 points in this edition.
- Thirteen centres rose 10 or more places in the rankings. Seven centres fell 10 or more places.

#### **Western Europe**

- Fifteen Western European centres feature in the top 20 in GGFI 16.
- Amsterdam, Frankfurt, Rome, Vienna, Lisbon, Milan, Malta, and Monaco rose 10 or more rank places.
- The average rating among Western European centres fell 2.38%, the smallest fall in any region.

#### **North America**

- Montreal, Toronto, and Vancouver lead in the region, with Los Angeles the leading US centre. San Francisco overtook New York to take fifth place in the region.
- San Francisco was the only centre in the region to improve 10 or more places.
- The average rating for centres in North America fell 4.01%.

### Asia/Pacific

- Singapore maintained its third position overall and leads the Asia/Pacific region, ahead of Busan, Seoul, and Shenzhen.
- Just over half the centres in the region fell in the rankings.
- The average decrease in the ratings in Asia/Pacific was 3.56%.

#### Middle East & Africa

- Dubai led in the Middle East & Africa, in 37<sup>th</sup> place overall. Tel Aviv rose four rank places in second place in the region, followed by Abu Dhabi and Casablanca. Casablanca continues as the leading GGFI centre in Africa.
- Most centres in the region rose in the rankings, with Doha, Kigali, and Riyadh gaining 10 or more places.
- The average rating in the region fell 2.78%.

### **Latin America & The Caribbean**

- Sao Paulo and Santiago continued to lead the Latin America & The Caribbean region with Mexico City regaining third position.
- Five of the eight centres in the region either maintained or improved their rank position.
- The average rating in the region fell by 3.88%.

### **Eastern Europe & Central Asia**

- Kaunas took the leading position in Eastern Europe & Central Asia, with Prague retaining second position.
- Almaty rose 20 places in the ranking.
- The average rating in the region fell 2.61%.

#### **GGFI 16**

GGFI 16 was compiled using 125 instrumental factors. These quantitative measures are provided by third parties including the World Bank, the OECD, and the United Nations. Details can be found in Appendix 5.

The instrumental factors were combined with 3,322 financial centre assessments provided by respondents to the GGFI online questionnaire. A breakdown of the 458 respondents is shown in Appendix 3. Further details of the methodology behind GGFI 16 are in Appendix 4.

The 94 centres listed in GGFI 16 are those which received a minimum of 25 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 16 Ranks And Ratings**

Table 1 | GGFI 16 Ranks And Ratings

Contro	GG	FI 16	GG	FI 15	Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Zurich	1	591	2	597	<b>1</b>	<b>▼</b> 6
London	2	589	1	598	▼1	<b>▼</b> 9
Singapore	3	586	3	592	0	▼6
Geneva	4	581	4	591	0	<b>▼</b> 10
Amsterdam	5	580	15	580	<b>▲</b> 10	0
Copenhagen	6	573	5	590	<b>▼</b> 1	<b>▼</b> 17
Luxembourg	7	570	9	586	<b>A</b> 2	<b>▼</b> 16
Stockholm	8	569	7	588	<b>▼</b> 1	<b>▼</b> 19
Paris	9	568	11	584	<b>A</b> 2	<b>▼</b> 16
Brussels	10	567	17	578	<b>A</b> 7	▼11
Frankfurt	11	566	22	573	<b>▲</b> 11	▼7
Lugano	12	565	13	582	<b>1</b>	▼17
Montreal	13	564	8	587	▼5	▼23
Oslo	14	563	6	589	▼8	▼26
Madrid	15	562	20	575	<b>\$</b> 5	<b>▼</b> 13
Munich	16	561	25	570	<b>▲</b> 9	▼9
Toronto	17	560	10	585	<b>▼</b> 7	▼25
Edinburgh	18	559	18	577	0	▼18
Vancouver	19	558	12	583	▼7	▼25
Los Angeles	20	557	14	581	▼6	<b>▼</b> 24
San Francisco	21	556	32	563	<b>▲</b> 11	▼7
New York	22	555	16	579	▼6	<b>▼</b> 24
Minneapolis / St Paul	23	554	21	574	▼2	▼ 24 ▼ 20
Washington DC	24	553	19	576	▼5	▼ 20 ▼ 23
Rome	25	552	44	551	<b>▲</b> 19	<b>↓</b> 23
	<u>25</u> 26	551	24	571	<b>▼</b> 2	▼20
Busan	27				<b>↓</b> 11	▼ 20 ▼ 7
Vienna	28	550 549	38 26	557 569	<b>▼</b> 2	▼ 20
Seoul						
Chicago	29	548	29	566	0	▼18
Shenzhen	30	547	33	562	<b>▲</b> 3	▼15
Calgary	31	546	28	567	▼3	<b>▼</b> 21
Beijing	32	545	40	555	<b>▲</b> 8	▼10
Shanghai	33	544	31	564	<b>▼</b> 2	▼20
Sydney	34	543	30	565	▼4	<b>▼</b> 22
Qingdao	35	542	36	559	<b>1</b>	<b>▼</b> 17
Lisbon	36	541	46	549	<b>▲</b> 10	▼8
Dubai	37	540	34	561	▼3	<b>▼</b> 21
Hamburg	38	539	27	568	▼11	▼29
Tel Aviv	39	538	43	552	<b>4</b>	<b>▼</b> 14
Milan	40	537	51	544	<b>▲</b> 11	▼7
Hong Kong	41	536	42	553	▲1	▼17
Glasgow	42	535	39	556	▼3	▼21
Berlin	43	534	49	546	<b>▲</b> 6	<b>▼</b> 12
Malta	44	533	60	535	<b>▲</b> 16	▼2
Tokyo	45	532	52	543	<b>▲</b> 7	▼11
Osaka	46	531	47	548	▲1	<b>▼</b> 17
Kaunas	47	530	45	550	▼2	<b>▼</b> 20

Table 1 (continued) | GGFI 16 Ranks And Ratings

Combus	GG	FI 16	GG	FI 15	Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Melbourne	48	529	35	560	<b>▼</b> 13	▼31
Abu Dhabi	49	528	48	547	▼1	<b>▼</b> 19
Casablanca	50	527	50	545	0	▼18
Prague	51	526	56	539	<b>\$</b> 5	<b>▼</b> 13
Boston	52	525	41	554	<b>▼</b> 11	▼29
Sao Paulo	53	524	54	541	<b>1</b>	▼17
Atlanta	54	523	37	558	▼17	▼35
Dublin	55	522	53	542	▼2	▼20
Miami	56	521	57	538	<b>1</b>	▼17
Santiago	57	520	55	540	▼2	▼20
Sofia	58	519	65	530	<b>A</b> 7	<b>▼</b> 11
Guangzhou	59	518	58	537	<b>▼</b> 1	<b>▼</b> 19
Mauritius	60	517	64	531	<b>4</b>	<b>▼</b> 14
Jersey	61	516	62	533	<b>1</b>	<b>▼</b> 17
Doha	62	515	72	523	<b>▲</b> 10	▼8
Riga	63	514	68	527	<b>\$</b> 5	<b>▼</b> 13
Guernsey	64	513	67	528	<b>A</b> 3	<b>▼</b> 15
Kigali	65	512	75	520	<b>▲</b> 10	▼8
Warsaw	66	511	66	529	0	<b>▼</b> 18
Astana	67	510	63	532	▼4	▼22
Riyadh	68	509	83	512	<b>▲</b> 15	▼3
Philadelphia	69	508	59	536	<b>▼</b> 10	▼28
Isle of Man	70	507	61	534	▼9	<b>▼</b> 27
Almaty	71	506	91	504	<b>▲</b> 20	<b>A</b> 2
Mexico City	72	505	70	525	▼2	<b>▼</b> 20
Monaco	73	504	86	509	<b>▲</b> 13	▼5
Rio de Janeiro	74	503	69	526	▼5	▼23
Bermuda		502	79	516	<b>4</b>	<b>▼</b> 14
Bahrain	76	501	73	522	▼3	<b>▼</b> 21
Johannesburg	77	500	77	518	0	<b>▼</b> 18
Istanbul	78	499	85	510	<b>A</b> 7	▼11
Liechtenstein	79	498	71	524	▼8	<b>▼</b> 26
Moscow	80	497	82	513	<b>A</b> 2	<b>▼</b> 16
Cape Town	81	496	81	514	0	<b>▼</b> 18
Bangkok	82	495	78	517	▼4	▼22
Nairobi	83	494	84	511	<b>1</b>	<b>▼</b> 17
Kuala Lumpur	84	493	80	515	▼4	▼22
St Petersburg	85	492	88	507	<b>A</b> 3	<b>▼</b> 15
Lagos	86	491	92	503	<b>A</b> 6	▼12
Bahamas	87	490	89	506	<b>▲</b> 2	<b>▼</b> 16
Jakarta	88	489	74	521	<b>▼</b> 14	▼32
New Delhi	89	488	76	519	<b>▼</b> 13	<b>▼</b> 31
Cyprus	90	487	90	505	0	<b>▼</b> 18
Manila	91	486	87	508	▼4	▼22
Cayman Islands	92	483	93	501	<b>1</b>	▼18
Mumbai	93	482	95	497	<b>A</b> 2	▼15
British Virgin Islands	94	466	94	499	0	▼33
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## **GGFI Dimensions**

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. 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. This 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 16		GGFI Dimensions				
Rank	Centre	Green Fin	<b>Green Finance Depth</b>		nce Quality	
		Rank	Rating	Rank	Rating	
1	Zurich	2	287	1	304	
2	London	2	287	2	302	
3	Singapore	6	286	3	300	
4	Geneva	2	287	6	294	
5	Amsterdam	2	287	9	293	
6	Copenhagen	1	288	21	285	
7	Luxembourg	11	276	6	294	
8	Stockholm	13	275	6	294	
9	Paris	22	271	4	297	
10	Brussels	7	281	15	286	
11	Frankfurt	8	280	15	286	
12	Lugano	25	269	5	296	
13	Montreal	9	277	12	287	
14	Oslo	16	273	10	290	
15	Madrid	17	272	10	290	

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. The relative score of Monaco, Bermuda, Sydney, and Paris for green finance quality are high compared with their scores in depth. On the other side of the line, Copenhagen, New York, and Dublin have high relative scores for depth.

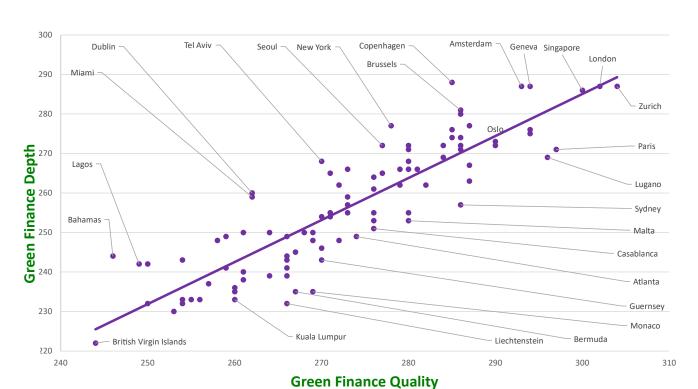
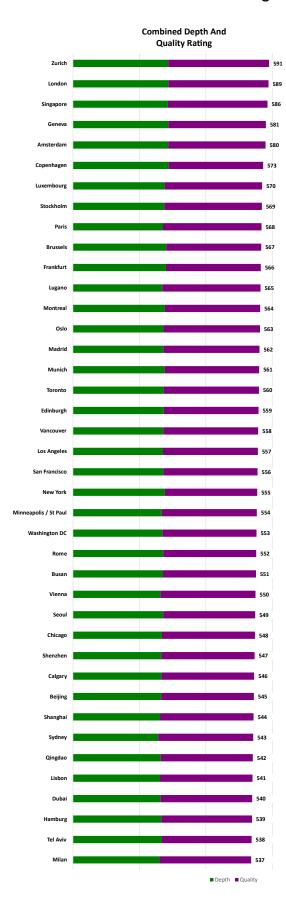


Chart 1 | Relationship Between Ratings Of Depth And Quality

Chart 2 on the following page shows the contribution of each of the dimensions to the overall rating for the top 40 centres in the GGFI. Zurich came first for green finance quality but equal second for green finance depth. Successful financial centres focused on green finance have both good quality products and services in their green markets, and depth of investment.

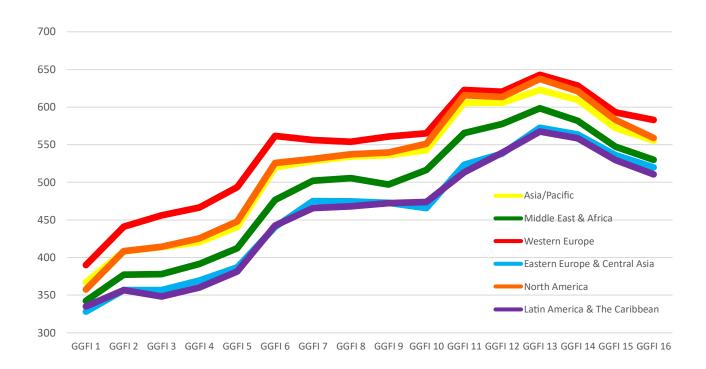
Chart 2 | The Contribution Of The Dimensions To The Overall Rating - GGFI 16 Top 40 Centres



# **Regional Performance**

The average rating of the top five centres in all regions fell, with Western Europe improving its lead over North America on this measure. The leading Asia/Pacific centres follow, some way ahead of the leading centres in the Middle East & Africa.

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





Examination of the quality and depth dimensions demonstrates that on both measures, the average rating for the top five centres in all regions fell. In the depth scores, the leading centres in North America fell back compared with Western Europe. In the quality measure, the leading centres in North America fell back and those in Latin America & The Caribbean overtook centres in Eastern Europe & Central Asia, reversing the position in GGFI 15.

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

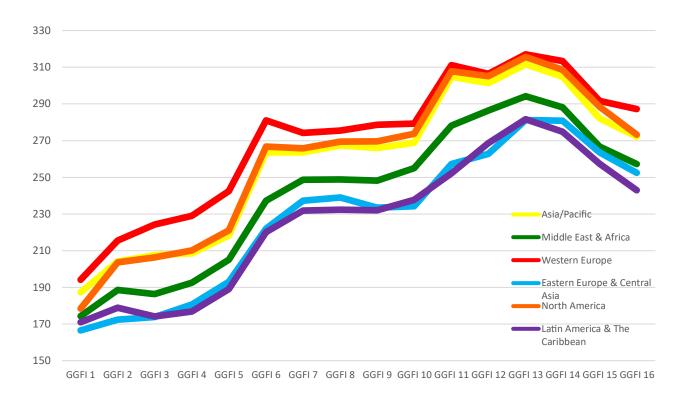
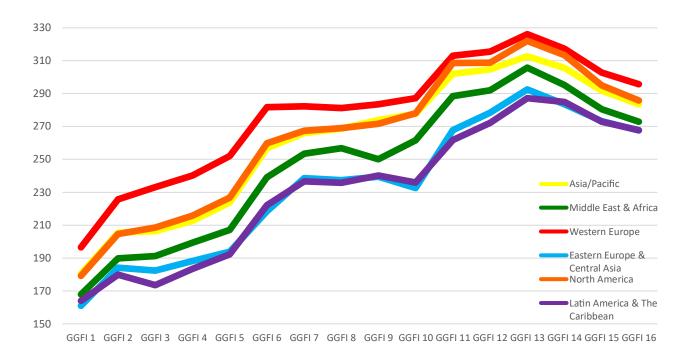


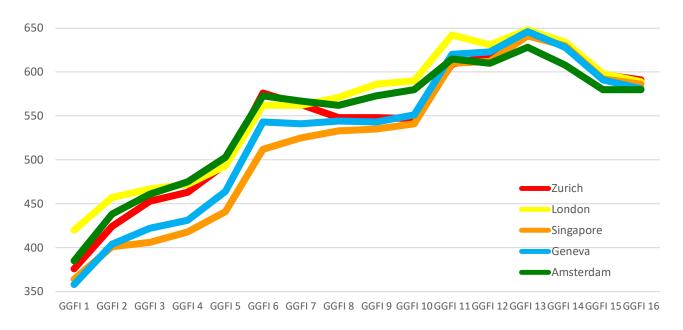
Chart 5 | Average Ratings For Quality Of The Top Five Centres In Each Region



# **Top Five Centres**

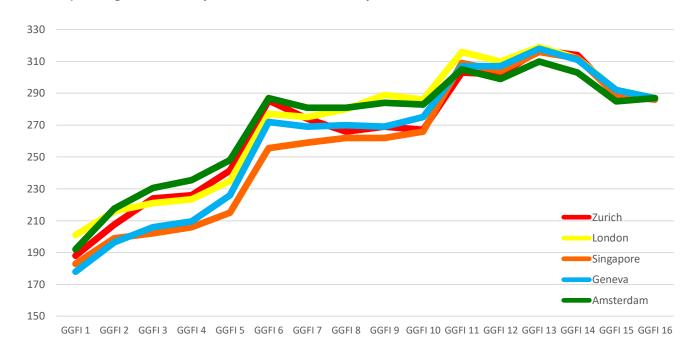
Competition at the top of the index continued to be fierce. Only 11 points separate Zurich in first position from Amsterdam in fifth.

Chart 6 | The Top Five Centres Over Time



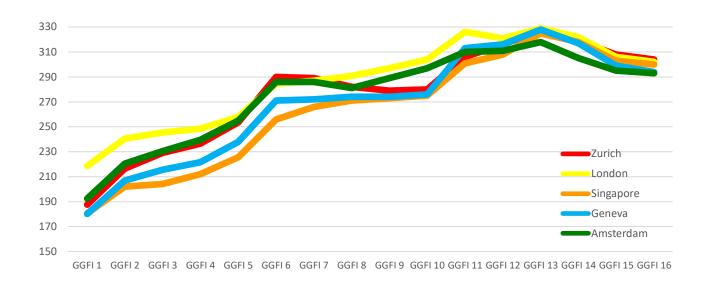
When the depth dimension is examined, Zurich, London, Geneva, and Amsterdam are matched with Singapore just one point behind.

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



On the quality measure, Zurich takes the top position followed by London and Singapore. Eleven points separate the top five centres on this measure.

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



"Regulatory frameworks are evolving positively, but more unified and clear guidelines specific to green finance are still needed to drive consistent adoption across financial centres."

COMPLIANCE MANAGER, INSURANCE FIRM, RIYADH



# **Leading Financial Centres**

It is notable that some leading financial centres perform less well than expected in the GGFI, considering their performance in the <u>Global Financial Centres Index</u> (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 some disconnection between the highest performing centres in the GFCI and performance on green finance in the GGFI. In total, just seven centres feature in the top 20 in both measures with London and Singapore featuring in the top 10 in both indices.

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

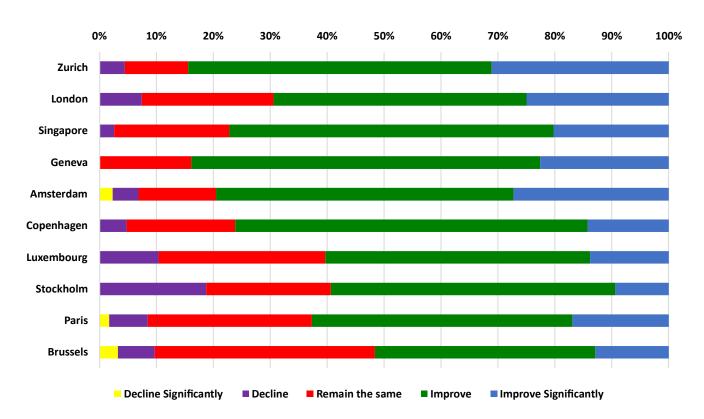
Centre	Global Green Finance Index	Green Finance Depth	Green Finance Quality	Financial Centre Competitiveness
New York	22	9	36	1
London	2	2	2	2
Hong Kong	41	34	51	3
Singapore	3	6	3	4
San Francisco	21	17	24	5
Chicago	29	27	28	6
Los Angeles	20	22	15	7
Shanghai	33	38	26	8
Shenzhen	30	30	27	9
Seoul	28	17	37	10
Dubai	37	36	39	11
Frankfurt	11	8	15	12
Washington DC	24	25	24	13
Geneva	4	2	6	14
Tokyo	45	43	45	15
Zurich	1	2	1	16
Boston	52	51	51	17
Paris	9	22	4	18
Luxembourg	7	11	6	19
Dublin	55	42	72	20
Source	GGFI 16 Rank	GGFI 16 Depth Rank	GGFI 16 Quality Rank	GFCI 38 Rank

## **GGFI 16 Further Analysis**

### **Expected Change In Centres**

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. The results for the top 10 centres are displayed in Chart 9, showing high levels of confidence, with the majority of respondents predicting an improvement by all centres in this group, and with very high levels of confidence in Geneva, Zurich, and Amsterdam.

Chart 9 | Top 10 Centres - Expected Change In Green Finance Offering



"The presence of a clear and credible green taxonomy (e.g., EU Taxonomy, China's Green Bond Endorsed Project Catalogue) provides a common language for identifying green investments. It reduces greenwashing risk, builds investor confidence, and facilitates cross-border investment."

TAX PARTNER, PROFESSIONAL SERVICES FIRM, ROME

### **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 125 instrumental factors relating to a range of aspects of financial centre competitiveness. These include measures of sustainability, the business environment, infrastructure, and human capital.

Table 4 shows the top 15 instrumental factors' correlation with the GGFI ranking. The closest correlation is with the Urban Mobility Readiness Index, the Safe Cities Index, and the Global Cities Outlook Ranking.

Table 4 | Top 15 Instrumental Factors By R-Squared Correlation

Instrumental Factor	R Squared
Urban Mobility Readiness Index	0.709
Safe Cities Index	0.642
Global Cities Outlook Ranking	0.602
The Future Growth Report	0.596
Legatum Prosperity Index	0.594
IESE Cities In Motion Index	0.587
Quality Of Living City Rankings	0.566
Sustainable Cities Index	0.562
Sustainable Economic Development	0.558
Blavatnik Index Of Public Administration	0.544
The Green Future Index	0.537
International IP Index	0.524
World Talent Rankings	0.519
The Global Financial Centres Index	0.507
Adjusted Net National Income Per Capita	0.507

"It is important to ensure consistency with global standards rather than creating additional compliance burdens discrete to specific markets."

GLOBAL HEAD OF SUSTAINABLE INVESTMENT, INVESTMENT FIRM, LONDON

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 5. The leading factors continue to focus on cities as sustainable places and on the development of the green economy.

Table 5 | Top 15 Sustainability Instrumental Factors By R-Squared Correlation

Instrumental Factor	R Squared
Urban Mobility Readiness Index	0.709
The Future Growth Report	0.596
IESE Cities In Motion Index	0.587
Quality Of Living City Rankings	0.566
Sustainable Cities Index	0.562
Sustainable Economic Development	0.558
The Green Future Index	0.537
Energy Sustainability Index	0.483
The Global Green Economy Index	0.482
Energy Transition Index	0.469
Environmental Performance	0.439
Global Sustainable Competitiveness Index	0.377
Global Green Growth Index	0.339
Climate Finance Vulnerability Index	0.306
Proportion Of Population Using Safely-Managed Drinking-Water Services (%)	0.293

"While awareness is growing, the green finance talent pipeline remains shallow, particularly outside of donor-funded or policy-facing circles. Nairobi and similar centres need sustained investment in training, professional development, and practical exposure to close the skill gap and scale green finance in a credible way."

FINANCE DIRECTOR, TRADING FIRM, NAIROBI

# **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 10.

### **Chart 10 | GGFI Areas Of Competitiveness**

Areas of Competitiveness Infrastructure Sustainability **Human Capital Business** Built **Availability Of Political Stability Green Finance** Infrastructure **Skilled Personnel** And Rule Of Law Activity Institutional And **Environment And** Flexible Labour ICT Regulatory Infrastructure **Biodiversity** Market **Environment** Transport Tax And Cost Renewable Wealth and Infrastructure Competitiveness Energy Economy Economic **Quality Of Life Fossil Fuel Usage** Governance **Environment** 



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 6.

The leading centres in the GGFI have strengths across all four areas of competitiveness, with Zurich, London, and Singapore sharing the top three positions. Some centres are strong in a particular area, for example, Frankfurt in Infrastructure or Brussels in Business.

**Table 6 | Top 15 Centres By Area Of Competitiveness** 

Rank	Sustainability	Business	Human Capital	Infrastructure
1	London	Zurich	Zurich	London
2	Zurich	Singapore	Singapore	Singapore
3	Singapore	London	London	Zurich
4	Amsterdam	Geneva	Geneva	Frankfurt
5	Copenhagen	Amsterdam	Copenhagen	Brussels
6	Luxembourg	Brussels	Amsterdam	Amsterdam
7	Oslo	Lugano	Brussels	Paris
8	Geneva	Copenhagen	Oslo	Montreal
9	Montreal	Oslo	Stockholm	Oslo
10	Toronto	Montreal	Luxembourg	Luxembourg
11	Edinburgh	Paris	Montreal	Stockholm
12	Stockholm	Frankfurt	Los Angeles	Geneva
13	Frankfurt	Luxembourg	New York	Toronto
14	Brussels	Stockholm	Paris	Copenhagen
15	Paris	Los Angeles	Munich	New York

### **Index Ranking For Sustainability**

We can compare the overall index ranking with the ranking based on the sustainability area of competitiveness, 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, Singapore retains its position. Oslo, Toronto, and Edinburgh gain seven places, while Lugano and Madrid drop out of the top 15.

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

Rank	All Factors	Sustainability Factors
1	Zurich	London (+1)
2	London	Zurich (-1)
3	Singapore	Singapore
4	Geneva	Amsterdam (+1)
5	Amsterdam	Copenhagen (+1)
6	Copenhagen	Luxembourg (+1)
7	Luxembourg	Oslo (+7)
8	Stockholm	Geneva (-4)
9	Paris	Montreal (+4)
10	Brussels	Toronto (+7)
11	Frankfurt	Edinburgh (+7)
12	Lugano	Stockholm (-4)
13	Montreal	Frankfurt (-2)
14	Oslo	Brussels (-4)
15	Madrid	Paris (-6)

"Development of accounting standards for the treatment of carbon credits and offsets in corporate financial statements need to be developed to facilitate the take up of carbon credits by corporates."

PARTNER, PROFESSIONAL SERVICES FIRM, LONDON

# **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 8.

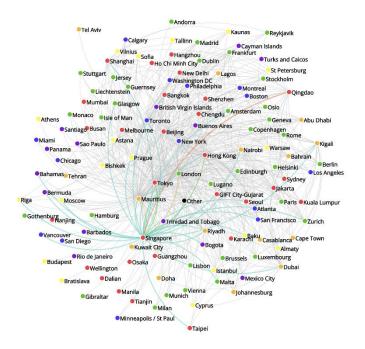
**Table 8 | Commentary On Areas Of Competitiveness** 

Area Of Competitiveness	Number Of Mentions	Main Themes
Regulatory Environment	82	<ul> <li>Current regulatory frameworks are often slow to adapt, weak, or early-stage with insufficient enforcement and commitment.</li> <li>Key priorities include developing clear green taxonomies, standardised carbon credit systems, mandatory climate disclosure requirements (TCFD/TNFD), and transparent reporting standards.</li> <li>Strong regulatory foundations are important while allowing market-driven innovation and avoiding excessive compliance burdens.</li> </ul>
The Availability Of Skills In Green Finance	80	<ul> <li>There is a significant lack of green finance expertise, with specialised knowledge in environmental literacy, financial tools, and regulatory frameworks falling short of demand.</li> <li>There is a need to incorporate green finance into university education and create professional development programmes to build talent pipelines.</li> <li>Many world regions face severe talent gaps that slow the adoption and scaling of green finance initiatives.</li> </ul>
Taxation	76	<ul> <li>Current tax incentives for green finance are limited, inadequate, or non-existent across many jurisdictions, hindering the acceleration of green investment adoption.</li> <li>There was support for tax deductions and credits for green projects, preferential treatment for green bonds and loans, capital allowances for carbon credits, and reduced tax rates for companies investing in green initiatives.</li> <li>Most people think that well-structured, targeted tax incentives significantly activate green capital flows, encourage corporate compliance, and align investments with climate goals, although some caution against over-reliance on taxation.</li> </ul>
Other	24	<ul> <li>Public awareness campaigns, investor education, and government leadership to promote green finance concepts and drive broader market participation beyond institutional players is important.</li> <li>Key barriers include limited access to green funds, lack of scalable investable projects for large asset managers, and insufficient pipelines connecting local markets to international climate finance.</li> <li>Success requires political stability, long-term policy commitment, supply chain development, tax incentives, and coordinated public sector action to de-risk investments.</li> </ul>

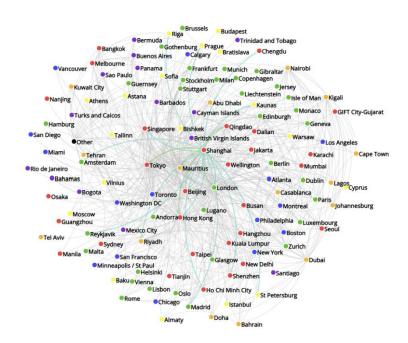
## **Connectivity**

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 in the GGFI survey. Charts 11 and 12 use Singapore and Shanghai as examples to contrast the different levels of connectivity that the two centres enjoy. Both cities are well-connected, but Singapore has a depth of connections across all regions of the world, including better connections with major financial centres.

Chart 11 | GGFI 16 Connectivity – Singapore







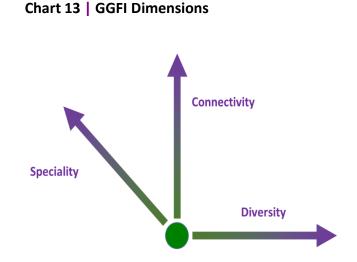


### **Financial Centre Profiles**

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.



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 9, 'Diversity' (Breadth) and 'Speciality' (Depth) are combined on one axis to create a two-dimensional table of financial centre profiles. The 94 centres in GGFI 16 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.

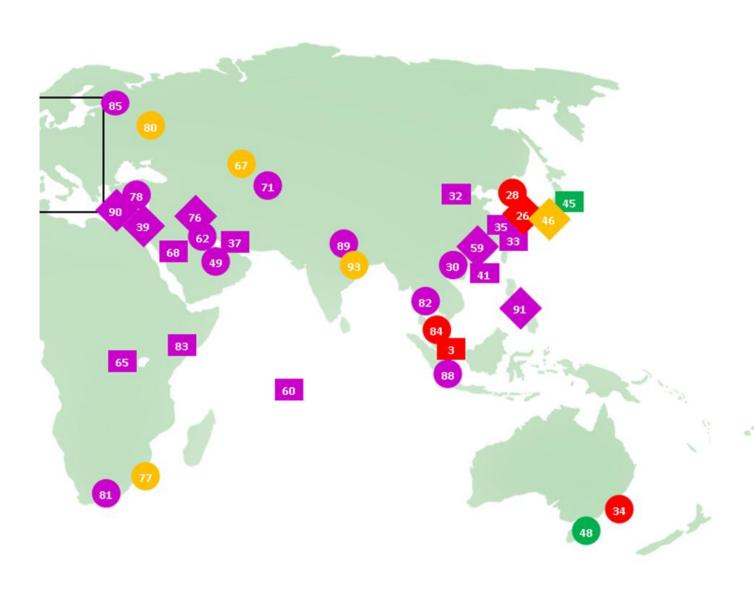
The Global Leaders (in the top left of the table) have both broad and deep green finance activity and are connected with a greater range of other financial centres. Other leading centres are profiled as Established International Centres.

**Table 9 | Financial Centre Profiling** 

	Broad and Deep	Relatively Broad	Relatively Deep	Emerging
	Global Leaders	Global Diversified	Global Specialists	Global Contenders
	Zurich	Toronto*	Luxembourg*	Edinburgh*
	London	Tokyo	Beijing	
Global	Singapore	Santiago*	Shanghai	
	Paris		Qingdao	
	Frankfurt*		Dubai	
	New York*		Hong Kong	
	Washington DC*		Abu Dhabi*	
			Mauritius*	
			Kigali	
			Riyadh*	
			Nairobi*	
	Established	International	International	International
	International	Diversified	Specialists	Contenders
	Amsterdam*	Chicago*	Geneva	Kaunas
	Stockholm	Melbourne	Shenzhen*	Astana
	Brussels*	Boston	Sao Paulo*	Johannesburg*
	Madrid		Doha*	Moscow*
	Munich		Riga*	Mumbai
	Los Angeles		Guernsey*	
International	San Francisco*		Almaty*	
	Rome		Bermuda	
	Seoul		Istanbul*	
	Sydney*		Cape Town*	
	Berlin*		Bangkok	
	Kuala Lumpur*		St Petersburg*	
			Jakarta	
			New Delhi	
	Established Players	Local Diversified	Local Specialists	<b>Evolving Centres</b>
	Copenhagen*	Hamburg*	Lugano	Oslo
	Montreal*	Milan	Tel Aviv*	Minneapolis / St Paul
	Vancouver	Atlanta	Malta*	Vienna
	Busan	Miami	Casablanca*	Glasgow*
	Calgary*	Warsaw	Dublin*	Osaka
	Lisbon*	Philadelphia	Sofia*	Lagos
	Prague*		Guangzhou	Cayman Islands*
	110800		Jersey*	British Virgin Islands*
Local			Isle of Man	2111011 111811 10101100
2000.			Mexico City*	
			Monaco	
			Rio de Janeiro*	
			Bahrain*	
			Liechtenstein*	
			Bahamas*	
			Cyprus*	
			Manila	

# The GGFI 16 World – Centres In The Inde





Broad and Deep	Relatively Broad	Broad Relatively Deep		Emerging		
Global Leaders		Global Diversified		Global Specialists		Global Contenders
Established International		International Diversified		International Specialists		International Contenders
Established Players		Local Diversified	<b>^</b>	Local Specialists		Evolving Centres

# Transition Finance In China – Provided By The GF60 Group

### 1. Concept and the Imperative of Transition Finance In The Global Climate Finance Agenda

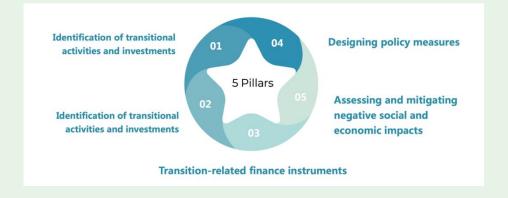
Transition finance plays an increasingly prominent role in the global climate finance agenda. First proposed by the G20 in 2019, transition finance refers to "financial services that support the transition to a low-carbon, net-zero emissions, and climate-resilient economy aligned with the goals of the Paris Agreement, within the framework of sustainable development goals." While definitions vary among institutions, a consensus has been reached on key aspects: supporting high-carbon, hard-to-abate sectors; facilitating the transition to net-zero; and applying to both corporate entities and economic activities in transition.

According to International Energy Agency (IEA) analysis, achieving net-zero emissions by 2050 requires annual global energy sector investments to increase to approximately USD 4.5 trillion, a significant portion of which will rely on transition finance. Transition finance focuses on assisting high-carbon industries in gradually achieving a low-carbon transition, thereby filling some gaps left by traditional finance in addressing climate change.

In this process, the G20 has consistently been a key force driving the development of transition finance. In 2021, the G20 established the Sustainable Finance Working Group (SFWG) to address the financing needs for climate and sustainable development goals, developing a sustainable finance roadmap aimed at scaling up financing for the Paris Agreement and the 2030 Agenda.

Key SFWG policy documents include the 2022 G20 Sustainable Finance Report, which for the first time introduced the G20 Transition Finance Framework<sup>1</sup>. This framework proposes five pillar principles, as illustrated in Figure 1, that are designed to serve as globally applicable high-level standards for promoting transition finance. The SFWG has continued to refine and expand these principles. In 2023, it called for resource scaling, optimization of climate finance policies, social investment tools, and technical assistance capacity building. In 2024, it deepened the focus on just transition, formulated seven implementation guidelines, integrated labour and financial innovation, and implemented transition measures in sectors like steel and cement.





G20 Sustainable Finance Working Group, 2022 G20 sustainable finance report, <a href="https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf">https://g20sfwg.org/wp-content/uploads/2022/10/2022-G20-Sustainable-Finance-Report-2.pdf</a>

Regarding implementation, transition finance is primarily defined through two approaches: taxonomy-based and principles-based. The taxonomy-based approach, exemplified by frameworks from the People's Bank of China (PBoC) and the European Union (EU), provides explicit lists of eligible transition activities and typically covers over twenty sectors, such as steel and oil. The principles-based approach emphasises developing Paris Agreement-aligned transition plans subject to third-party verification, adopted by bodies like Japan's Ministry of Economy, Trade and Industry (METI), covering over ten sectors.

Transition finance instruments in international markets are diverse, including credit linked to sustainable performance targets (e.g., Sustainability-Linked Loans); bonds tied to the issuer's sustainability goals (e.g., Sustainability-Linked Bonds); and equity investments established by international institutions or banks targeting just transition and SMEs, such as transition funds.

### 2. Global Transition Finance Development: An overview

### 2.1 Development of Transition Finance in Major Global Jurisdictions

In recent years, the global transition finance landscape has evolved dynamically, with major countries and regions taking significant steps.

#### China

China has been actively and comprehensively advancing transition finance development, focusing on four key areas: "standard setting, product innovation, risk management, and international cooperation." The PBOC, as the top-level designer and regulator of China's green finance, has recently focused on effectively linking green finance and transition finance<sup>2</sup>. It emphasizes a step-by-step, phased approach to green and low-carbon transition activities, ensuring stability while pursuing progress, and balancing energy transition, economic development, and social welfare. Following the principle of "Prioritizing Urgent Needs" it started with developing transition finance standards for key sectors like coal-fired power, steel, construction materials, and agriculture, as illustrated in Figure 2.

China continuously updates policies and has released multiple policy and standard documents supporting the development of green loans, green bonds, etc. In April 2024, the PBOC, jointly with several other departments, issued the *Guidelines on Further Strengthening Financial Support for Green and Low-Carbon Development*, explicitly encouraging and supporting financial institutions to back the green and low-carbon transition of high-emission industries and projects. In June 2025, the PBOC and other financial regulatory authorities jointly released the *Green Finance Endorsed Project Catalogue (2025 Edition)* <sup>3</sup>. Compared to the previous version, this edition adds several transition economic activities and promotes greater convergence in standards for green financing instruments like green loans and green bonds.

<u>www.zyen.com</u> 27 <u>www.longfinance.net</u>

The People's Bank of China, Promoting the Effective Linkage between Green Finance and Transition Finance (in Chinese), http://www.pbc.gov.cn/redianzhuanti/118742/5118184/5134061/5135397/index.html

The People's Bank of China, National Financial Regulatory Administration, China Securities Regulatory Commission, Notice on Issuing the \*Catalogue of Projects Supported by Green Finance (2025 Edition) \*, June 2025 (in Chinese).

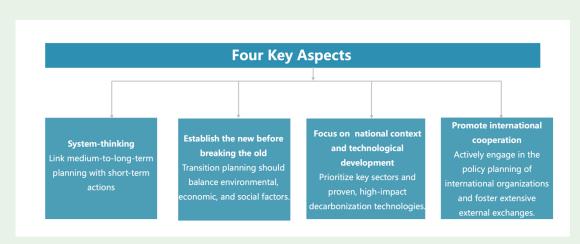


Figure 2 | The People's Bank of China's Plan for Linking Transition Finance and Green Finance

### **European Union (EU)**

The EU has achieved significant results in promoting transition finance, positioning itself as a global leader. In March 2018, the European Commission published its *Action Plan: Financing Sustainable Growth*<sup>4</sup>, first incorporating "transition finance" into the policy framework. In June 2020, the EU released the *EU taxonomy for sustainable activities*<sup>5</sup>, classifying economic activities into six categories, including climate change adaptation and mitigation, and defining criteria for low-carbon, transition, and enabling activities. Transition finance is included under climate change mitigation; transition activities must meet criteria such as having greenhouse gas emission levels at the sector's best performance, not hampering the development and deployment of low-carbon alternatives, and not leading to carbon lock-in for the asset's lifetime. Since 2023, the EU has been promoting its *Transition Finance Roadmap*, including corporate transition plan disclosures, climate benchmarks<sup>6</sup>, and the European Green Bond Standard, gradually forming a comprehensive system covering standard setting, disclosure, and financial instrument innovation.

### Japan

Referencing the *Climate Transition Finance Handbook* published by the International Capital Markets Association (ICMA), Japan released a set of principles-based guidelines for transition finance in May 2021<sup>7</sup>. Furthermore, Japan is actively exploring issuing transition sovereign bonds. In November 2023, the Japanese government formulated the world's first *Climate Transition Bond Framework*, planning to issue ¥20 trillion in national transition bonds over 10 years<sup>8</sup>. This initiative is expected to mobilize substantial domestic capital to support the transition of high-carbon industries, such as the automotive and manufacturing sectors, towards more sustainable production methods. In the first year (2023), ¥1.6

<sup>&</sup>lt;sup>4</sup> European Commission, Action Plan: Financing Sustainable Growth, 2018, <a href="https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097">https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0097</a>

<sup>&</sup>lt;sup>5</sup> European Commission, EU taxonomy for sustainable activities, <a href="https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities">https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-taxonomy-sustainable-activities</a> en

<sup>&</sup>lt;sup>6</sup> European Securities and Market Authority, Climate benchmarks and ESG disclosure, <a href="https://www.esma.europa.eu/esmas-activities/sustainable-finance/climate-benchmarks-and-esg-disclosure">https://www.esma.europa.eu/esmas-activities/sustainable-finance/climate-benchmarks-and-esg-disclosure</a>

Financial Services Agency, Ministry of Economy, Trade and Industry and Ministry of the Environment, Japan, Basic Guidelines on Climate Transition Finance, May 2021

<a href="https://www.meti.go.jp/policy/energy">https://www.meti.go.jp/policy/energy</a> environment/global warming/transition/basic guidelines on climate transition finance eng.pdf

Cabinet Secretariat of Japan, Japan Climate Transition Bond Framework, November 2023, https://www.meti.go.jp/policy/energy\_environment/global\_warming/climate\_transition\_bond\_framework\_en.pdf

trillion was raised, with approximately ¥250 billion used to support companies like Nippon Steel in developing green hydrogen ironmaking technology, and about ¥330 billion to expand battery production for electric vehicles (EVs) by companies like Honda.

### 2.2 Global Transition Finance: Key Trends And Features

Compared to traditional green finance, transition finance differs significantly in scope of support and risk characteristics. Traditional green finance primarily supports "pure green" industries like new energy, whereas transition finance focuses on the low-carbon transition of high-carbon emission sectors like steel and cement, which urgently need funding for technological upgrades and emission reductions. Risk-wise, transition finance must balance the short-term emission reduction costs and long-term transition risks of high-carbon sectors, making it susceptible to "greenwashing" concerns and transition failure risks; green finance supports "pure green" projects, which generally carry lower risks. In performance management, transition finance tracks the dynamic process of transition in high-carbon industries, while green finance focuses on assessing emission reduction outcomes. Regarding policy requirements, transition finance emphasizes third-party verification of credible transition plans, whereas green finance focuses on environmental standard certification. The two are complementary, jointly facilitating the achievement of the Paris Agreement's climate goals.

Currently, the development of global transition finance shows the following trends:

- Financial instruments are becoming increasingly diverse. Beyond traditional loans and bonds, innovative instruments like sustainability-linked derivatives and transition investment funds are emerging, providing diversified and risk-appropriate financing solutions for transition activities.
- Standardisation and harmonisation are continuously improving. The initial lack of global standards led to concerns about "greenwashing." Recently, international organizations and major economies have been working towards converging standards, with the G20's efforts in promoting the *G20 Transition Finance Framework* playing a key role.
- The application of digital tools is facilitating the scaling of transition finance. The promotion of digital
  solutions like automated carbon accounting tools and carbon account platforms provides a reliable
  data foundation for accurately tracking, accounting for, and managing the carbon emissions of
  transition projects, thereby enhancing market trust and participation in transition finance activities.

### 3. China's Progress on Transition Finance in Major Financial Centres

### 3.1 Overall Framework for Transition Finance Development in China

China's approach to transition finance development centres on "systematic design and differentiated advancement," constructing a two-tier collaborative framework of "national top-level design and local characteristic practices." At the national level, the focus is on providing overarching guidance through a unified standard system and clear direction: defining the scope of support based on the taxonomy approach, formulating sector-specific transition standards for high-carbon industries like steel and coal power, and creating a targeted support model of "sector list and technical pathway." Currently, the PBOC has led the development of the first batch of transition finance standards for four key sectors -steel, coal power, building materials, and agriculture - while standards for a second batch of seven sectors, including shipping and chemicals, are under development.

At the regional level, the emphasis is on differentiated exploration based on regional industrial characteristics, forming a dynamic balancing mechanism of "national framework guidance and local

independent innovation." Local governments develop technical standards and financing tools suited to regional features according to the distribution of local high-carbon industries. Currently, about 20 regions in China have formulated transition finance catalogues and related policies (Table 1). Meanwhile, China has adopted a pilot mechanism to encourage local authorities to pioneer innovative practices. This approach allows for the exploration of transition finance product innovations, information disclosure models, and just transition pathways under controlled risks. Once replicable experiences are generated, they are progressively scaled up nationwide. This strategy not only ensures policy coherence but also accommodates the unique needs of local industrial transition.

Table 1 | Transition Finance Catalogues Issued By Major Regions In China

Province / Municipality	Catalogue / Standard	Industries Covered
Shanghai	Shanghai Transition Finance Catalogue (Trial)	Water Transport, Smelting and Pressing of Ferrous Metals, Petroleum Processing Industry, Manufacture of Raw Chemicals and Chemical Products Automobile Manufacturing, Air Transport
Huzhou City, Zhejiang	Huzhou Transition Finance Supported Activities Catalogue (2023 Edition, Trial)	Textile, Paper and Paper Products, Raw Chemicals and Chemical Products Chemical Fiber, Non-Metallic Mineral Products, Ferrous and Non-Ferrous Metals Smelting and Pressing, Electrical Machinery and Equipment, Electric Power and Heat Power Production and Supply
Zhejiang	Zhejiang Province Transition Finance Supported Economic Activities Catalogue for the Textile Industry	Textile
Jiangsu	Jiangsu Province Transition Finance Supported Economic Activities Catalogue	Petrochemicals, Chemicals, Steel, Non- ferrous Metals, Printing and Dyeing, Shipping, Building Materials, Papermaking
Guizhou	Guizhou Province Transition Finance Supported Technologies Catalogue for the Chemical, Building Materials, and Non-ferrous Metals Industries (2024 Edition)	Chemical, Building Materials, Non- ferrous Metals
Chongqing	Chongqing Transition Finance Supported Projects Catalogue (2023 Edition)	Energy, Agriculture, Chemicals, Steel, Building Materials, and Non-ferrous Metals Industries
Hebei	Hebei Province Transition Finance Supported Technologies Catalogue for the Steel Industry (2023-2024 Edition)	Steel
Tianjin	Tianjin Transition Finance Supported Projects Catalogue for the Chemical Industry (2023 Edition)	Chemicals
Fujian	Transition Finance Supported Economic Activities Catalogue (Building Materials Industry)	Building Materials

#### 3.2 Transition Finance Products

China's transition finance market is developing rapidly, forming a landscape dominated by debt instruments, with equity and insurance instruments also being explored. The instrument system mainly includes two categories: First, structured monetary policy instruments created by the PBOC, such as the carbon-reduction supporting tools, which is actively considering including transition economic activities, using low-cost funds to guide financial institutions in precisely supporting the transition of high-carbon industries. Second, market-based financial instruments, including loan-based tools like transition loans and sustainability-linked loans (SLLs), as well as bond-based tools like transition bonds and carbon neutrality bonds. As of the end of 2024, the outstanding amounts for these two tools were RMB 438.5 billion and RMB 207.3 billion respectively. The carbon-reduction supporting tools had cumulatively supported financial institutions in issuing over RMB 1.2 trillion in carbon reduction loans<sup>9</sup>.

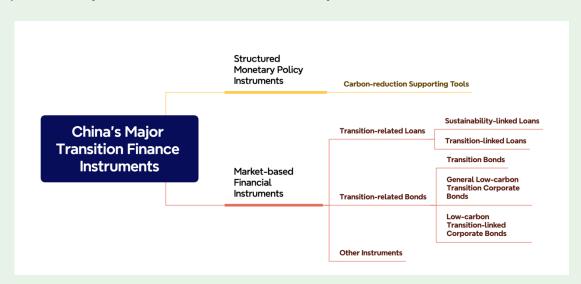


Figure 3 | China's Major Transition Finance Instrument System

### 3.2.1 Transition-related Loans

Transition-related loans in China focus on the funding needs for the low-carbon transition of high-carbon industries, forming a product system centred on transition loans and sustainability-linked loans (SLLs). Transition loans, as basic instruments, provide medium- to long-term funding for high-carbon emission industries like steel, petrochemicals, and coal power, supporting technological transformation and energy efficiency improvements. Sustainability-linked loans employ an "interest rate linked to pre-set sustainability performance targets" mechanism (e.g., carbon emission reduction rates, energy efficiency improvement rates), using interest rate incentives/disincentives to encourage companies to implement transition actions.

From a market development perspective, China's transition finance is still in its early stages, with model iteration and scaling still under exploration. Currently, transition-related loans are often implemented as regional pilots or industry-case projects in specific sectors, for example, in Shanghai focusing on steel

Monetary Policy Analysis Group of the People's Bank of China, \*China Monetary Policy Execution Report, Fourth Quarter 2024\*, February 2025 (in Chinese), <a href="https://www.gov.cn/lianbo/bumen/202502/P020250213645909132498.pdf">https://www.gov.cn/lianbo/bumen/202502/P020250213645909132498.pdf</a>

and chemical industries. As of the end of 2024, financial institutions within the Shanghai jurisdiction had issued nearly RMB 4.95 billion in transition loans 10.

Overall, various regions in China have developed a number of demonstration projects in transition lending, but a standardized, replicable national model has not yet emerged. The overall scale of deployment still falls significantly short compared to the funding needs of high-carbon industries for transition. However, as the national transition finance standard system, risk-sharing mechanisms, etc., gradually improve, transition loans are expected to evolve from "case-by-case exploration" to "batch promotion".

### 3.2.2 Transition-related Bonds

China's transition-related bond market has developed into a multi-variety, multi-market landscape. Transition-related bonds have become a primary financial product for transition finance in China, mainly consisting of three sub-types: transition bonds issued in the interbank bond market, and general lowcarbon transition corporate bonds and low-carbon transition-linked corporate bonds issued on stock exchanges.

In recent years, the issuance and management systems for transition-related bonds in China have been continuously refined. Since 2022, stock exchanges and the National Association of Financial Market Institutional Investors (NAFMII) have successively issued documents clarifying issuance requirements for various transition bond products. In October 2024, NAFMII issued the Notice on Further Optimizing Mechanisms Related to Green and Transition Bonds, providing guidance to enrich transition finance products through five key dimensions: diversifying the target design of Sustainability-Linked Bonds (SLBs), encouraging the integration of SLBs with ESG principles, broadening the scope of eligible issuers for transition bonds, expanding the permitted use of proceeds for transition bonds, and enhancing the linkage between debt financing instruments and carbon assets.

In recent years, the issuance volume in China's transition-related bond market has shown some fluctuation but retains significant growth potential. From 2022 to 2024, the issuance volumes were RMB 30.02 billion, RMB 16.35 billion, and RMB 29.89 billion<sup>11</sup>, respectively. In terms of sector distribution, issuance is mainly concentrated in Building Decoration, Steel, Utilities (primarily power), Non-Bank Financial Institutions (Financial Leasing), and Building Materials (Figure 4). Geographically, issuers are concentrated in Shanghai, Beijing, Shandong, and Hubei. Shanghai's cumulative issuance from 2022-2024 reached RMB 17.33 billion, accounting for 22.7% of the total.

<sup>&</sup>lt;sup>10</sup> The People's Bank of China Shanghai Head Office, Enriching the Green Financial Product System and Solidly Promoting Low-Carbon Transition Development, March 2025 (in Chinese), http://www.pbc.gov.cn/goutongjiaoliu/113456/113475/5612419/index.html

<sup>&</sup>lt;sup>11</sup> Far East Credit Rating Co., Ltd., \*Review of the Transition Bond Market in 2024 and Outlookfor2025\*, March2025(in Chinese), https://mp.weixin.qq.com/s/YdevA DPK17Hulxlwzhu8w

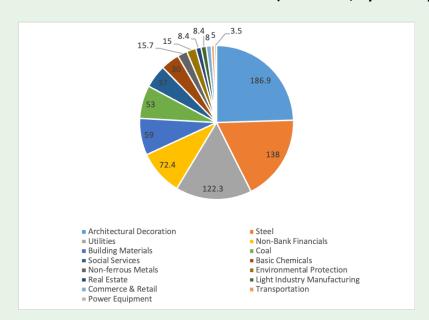


Figure 4 | Cumulative Issuance Of Transition Bonds In China (2022-2024, By Industry Of Issuer)

#### 3.2.3 Other Financial Instruments

Beyond debt-based instruments, Chinese financial institutions are also exploring more diverse transition finance tools. Themed fund products such as "Industrial Transition," "Dual Carbon," or "Low-Carbon Transition" are increasingly available. For example, in 2022, eight Chinese fund managers successively launched ETF funds linked to the "CSI SSE SEEE Carbon Neutrality Index," with a total issuance scale exceeding RMB 16 billion<sup>12</sup>.

Simultaneously, the insurance industry is playing an increasingly important role in supporting climate change response and low-carbon transition, for instance, by providing insurance coverage for energy-saving renovations in the steel, non-ferrous metals, construction materials, and petrochemical/chemical industries.

### 4. Case Studies: Transition Finance Practices In Chinese Financial Centres

### 4.1 City Of Shanghai

As China's most important international financial centre, Shanghai has taken the lead in building a dual-driver system of "policy framework leadership and market product innovation" in the field of transition finance. Shanghai's distinctive features in transition finance development are evident in two main aspects: First, leveraging its advantage as an international financial centre, it pioneered the issuance of the *Shanghai Transition Finance Catalogue (Trial)* in 2023, covering six high-carbon sectors: "water transport, steel, chemicals, petroleum processing, automobile manufacturing, and air transport." The catalogue specifies over 200 decarbonization technology pathways and innovatively adopts a "positive list and principles-based fallback" mechanism, allowing enterprises outside the catalogue that meet certain criteria to apply for financing by reference, enhancing flexibility.

Shanghai Environment and Energy Exchange, "Three-Year In-Depth Observation of 'CSI SSE SEEE Carbon Neutrality Index' Fund Products – ETFs Piloting Green and Low-Carbon Investment", August 2025 (in Chinese), <a href="https://mp.weixin.qq.com/s/T3TTOQY0shmvF7tFyaABfA">https://mp.weixin.qq.com/s/T3TTOQY0shmvF7tFyaABfA</a>

Second, Shanghai promotes the coordinated use of both loan and bond instruments. Financial institutions within its jurisdiction actively issue transition loans according to the catalogue and have executed several nationwide "first-of-their-kind" transition bonds, achieving a closed loop from standard setting to market practice. Additionally, Shanghai strengthens tiered information disclosure management and third-party verification mechanisms, for example, requiring differentiated disclosure of transition progress based on company size and capability, to mitigate the risk of "transition-washing", providing a replicable model for the nation and globally.

Regarding transition loans, Shanghai's innovation highlight lies in combining bank-insurance cooperation models with Sustainability-Linked Loans (SLLs), showcasing innovation in integrated risk management tools. A typical case is the nation's first transition finance loan for the chemical industry, issued by Shanghai Rural Commercial Bank to a chemical company in April 2024. This loan used an SLL structure, linking the RMB 41 million loan's interest rate to the company's transition performance targets (SPTs) – if the company achieves production energy consumption indicators superior to the "advanced value" set in the catalogue, the interest rate is reduced by 10 basis points, providing market-based incentives to lower transition costs. Notably, Shanghai introduced an insurance mechanism to mitigate project risk: China Pacific Insurance (CPIC) provided exclusive insurance coverage for this loan, covering the risk of the company not meeting its transition targets, making it China's first "loan + insurance" transition finance case.

In transition bonds, leveraging its financial market infrastructure advantages, Shanghai promotes the deep integration of bond products with the transition catalogue and national policies. A representative case is the nation's first "Two upgrades (Equipment upgrades and consumer product trade-ins) + Transition" bond jointly underwritten by Bank of Shanghai and Bank of Communications for a large industrial group in Shanghai in December 2024. The bond, sized at RMB 1 billion with a 3-year tenor, innovatively combined requirements for "large-scale equipment renewal" and "low-carbon transition". The proceeds were dedicated to the group's low-carbon project upgrades. By adopting green process technologies and high-efficiency equipment, it is estimated to save approximately 430,000 tons of standard coal and reduce CO2 emissions by about 940,000 tons annually. This project precisely followed the technical standards of the Catalogue and was verified by a third-party institution, ensuring traceability and verifiability of the transition activities. The bond not only provided low-cost, medium- to long-term funding for the enterprise but also established a positive ESG image in the public market, setting a template for subsequent promotion of transition bonds in sectors like steel and shipping in Shanghai.

#### 4.2 City Of Huzhou

Huzhou, a pioneer in green financial reform and innovation, has actively explored pathways for implementing transition finance in recent years, becoming the first region in China to introduce a relatively complete transition finance framework at the local government level.

In June 2023, Huzhou formulated and released the *Huzhou Transition Finance Supported Activities Catalogue (2023 Edition)*, incorporating the core principles of the *G20 Transition Finance Framework*. Based on local industrial structure characteristics, this catalogue systematically identifies 106 specific transition technology pathways using a combination of a "whitelist" and a "technology-neutral" approach.

In terms of sector coverage, Huzhou focuses on traditional high-carbon areas, precisely selecting eight key sectors including textiles, paper, chemicals, and non-ferrous metals, and additionally including the wire and cable sector as a medium-level industry, forming an "8+1" support system. This is further broken down into 37 sub-sector categories. Notably, the selected sectors are highly representative and face urgent transition needs: five sectors, including chemicals, fall under the national "Two Highs" (high energy consumption, high emissions) category; eight sectors, including textiles, are classified as high-energy-consuming industries in Zhejiang Province; and wire and cable is a high-energy-consuming industry specific to Huzhou that urgently needs to promote low-carbon transition.

To precisely support the transition of key sectors, financial institutions in Huzhou innovatively launched specialized products like transition loans, securing dedicated quotas through the whitelist mechanism and employing floating interest rates linked to transition performance. Related products can provide total financing of RMB 2.07 billion for listed enterprises, with interest rates potentially up to 55 basis points below the Loan Prime Rate (LPR). By the end of 2024, financial institutions in the city had granted cumulative credit lines of RMB 16.3 billion to enterprises on the transition list, with loans disbursed amounting to RMB 4 billion, and the average interest rate decreased by 40 basis points yearly, effectively reducing corporate transition costs.

Regarding bond instruments, a transportation company in Huzhou successfully issued the national first sustainability-linked bond in the transportation sector in 2023, achieving a record-low issuance rate for medium-term notes of the same rating in Zhejiang Province. Furthermore, Huzhou is exploring the development of a specialized transition finance model, simultaneously advancing institutional capacity building to guide financial institutions in achieving low-carbon transition from both their own operations and asset structures. To this end, Huzhou Bank has not only established one of China's first transition finance dedicated sub-branches but is also actively promoting the construction of a carbon-neutral banking system. This dual approach involves initiating the low-carbon transition from the bank's own operations while simultaneously driving the transition of its corporate clients to facilitate the transformation of its own credit business.

### 5. Looking Forward

### 5.1 Major Obstacles And Opportunities

The development of transition finance currently faces several key challenges:

- a) The criteria for defining transition activities are not yet unified, with significant local variations. Although the *Multi-Jurisdiction Common Ground Taxonomy* (M-CGT) has advanced the interoperability of taxonomies, it presently covers approximately 100 climate-mitigation activities only and still excludes numerous transition activities in high-carbon sectors. Globally, more than twelve jurisdictions have released their own transition-finance taxonomies, which follow either a "principles-based" or a "catalogue-based" approach. The absence of a single classification complicates cross-border project certification and increases the risk of "transition-washing". For instance, Japan's transition-finance taxonomy still allows coal-power transition under certain conditions, whereas the EU taxonomy has strictly excluded coal, highlighting the divergence.
- b) The quality of information disclosure is uneven, lacking a consistent framework and third-party verification mechanisms. Due to the non-existent of a globally unified mandatory transition-disclosure framework, corporates must simultaneously comply with multiple regimes including G20 Transition Finance Framework, ISSB Standards, and Sustainable Finance Disclosure Regulation (SFDR), generating high compliance costs. While ISSB has push forward 36 jurisdictions to adopt or benchmark

- its climate-related disclosure standards, methodologies for carbon accounting, granularity of transition plans and third-party assurance expectations still differ<sup>13</sup>. SMEs in developing economies face acute capacity constraints and often lack the technical expertise to meet elaborate disclosure
- c) The immature of carbon accounting and transition-pathway planning tools and weak data foundation. Many industries still lack a well-established carbon-accounting methodology, especially regarding Scope-3 data availability and accuracy. Financial institutions confront similar challenges. Although the Partnership for Carbon Accounting Financials (PCAF) has set forward a global industry standard for financed emission accounting and reporting for the financial industry, banks and asset managers still rely heavily on the industry-average estimate emission factors rather than project-level data based on actual measurement, undermining the scientific robustness of transition-target setting.
- Transition finance instruments generally offer no clear "green premium" and carry elevated technology and policy risks, deterring private capital. Expert view is that additional costs associated with transition financing—such as formulating transition plans, disclosures, and third-party verification—could dampen corporate enthusiasm without incentives<sup>14</sup>. Recently, several countries have experimented with policies such as concessional finance, guarantees, interest subsidies, and tax relief but deployment remains limited. In Africa, climate-finance flows rose 48% to USD 15 billion in 2023, yet the region has the lowest private-sector participation rate of 18%15, mainly because of onproject Foreign-exchange (FX) risk, debt-sustainability concerns and the absence of reliable powertariff guarantee mechanisms. Even in the EU, the Action Plan: Financing Sustainable Development has not yet fully resolved subsidy and risk-sharing issues for transition activities.

Transition finance is gradually becoming a key focus at the UN Climate Change Conferences (COPs). In 2024, COP29 made positive progress on standard harmonization, including advancements related to the M-CGT. As COP30 approaches, it will provide a significant opportunity to advance global transition finance, potentially realizing the following opportunities:

- The process of standard coordination and mutual recognition is expected to accelerate. The foundation laid by initiatives like the Common Ground Taxonomy (CGT) at COP29 paves the way for broader participation in standard coordination. COP30 is expected to further expand the scope of taxonomies, incorporating more transition activities, particularly reaching international consensus on typical scenarios in high-carbon sectors and emerging economies. The cooperation experience of major economies like China, the EU, and Singapore in taxonomy alignment can serve as a reference for others, promoting the formation of a more inclusive global benchmark.
- The information disclosure frameworks will tend towards unification and mandatory application. COP30 could be a key milestone for integrating transition plan disclosure requirements into Nationally Determined Contributions (NDCs) and Long-Term Low Greenhouse Gas Emission Development Strategies (LTS). More countries and regions are planning to consider implementing mandatory disclosure systems by 2030.
- The COP30 will further consolidate international consensus and promote the fulfilment of financial commitments. Although there is currently a gap in climate finance commitments from developed countries, COP30 is expected to facilitate new targets for resource mobilization and accelerate the

<sup>&</sup>lt;sup>13</sup> IFRS Foundation publishes jurisdictional profiles providing transparency and evidencing progress towards adoption of ISSB Standards, June 2025. https://www.ifrs.org/news-and-events/news/2025/06/ifrs-foundation-publishes-jurisdictionalprofiles-issb-standards/

<sup>&</sup>lt;sup>14</sup> Ma Jun. "Transition Finance: China's Opportunities and Challenges Under Global Climate Governance." Tsinghua Financial Review, July 2025, <a href="https://www.163.com/dy/article/K5LFS0KS0530P452.html?spss=dy\_author">www.163.com/dy/article/K5LFS0KS0530P452.html?spss=dy\_author</a>

<sup>15</sup> Gifty Baidoo, Innovative Climate Finance Accelerating Africa's Energy Transition, October 2025. https://rsisinternational.org/journals/ijriss/articles/innovative-climate-finance-accelerating-africas-energy-transition/

delivery of existing pledges. Emerging economies, through frameworks like South-South Cooperation, multilateral development banks, and the New Development Bank, will play a more important role in project demonstration, knowledge exchange, and risk-sharing, contributing to a more resilient and equitable global climate finance architecture.

### 5.2 Championing Transition Finance in Asian Financial Centres

Facing the shortfall in climate finance commitments from developed countries, Asian financial centres are actively shifting their role from passive recipients of international rules to proactive builders of a transition finance ecosystem adapted to regional characteristics.

Asian financial centres are actively promoting regional cooperation and standard mutual recognition in transition finance. The joint development of the CGT by China, the EU, and Singapore may become a leverage point for wider standard harmonization. This could not only further break down barriers to mutual recognition of standards within the region but also provide an Asian model for global compatibility in transition finance, deepening regional financial governance and cooperation mechanisms.

Ensuring the credibility of transition finance will be the cornerstone for Asian financial centres in the future. Requirements for high-quality information disclosure and regulatory scrutiny of "greenwashing" are set to increase significantly within the region. Mainland China plans to establish a unified disclosure system by 2030, signalling a substantial elevation in transparency requirements across the region, providing investors with more reliable decision-making basis. Australia will maintain anti-greenwashing as a long-term enforcement priority, and Japan's strict control over ESG labels will become the industry norms.

Regarding financial product innovation, Asia is exploring innovative financial instruments and technical support solutions. Future financial product innovation will be deeply integrated with technological enablement. For instance, utilizing big data and AI technologies to optimize carbon footprint tracking and management will become an effective means of assessing the environmental performance of projects, particularly complex large-scale infrastructure and energy projects. This fusion of "finance + technology" will greatly enhance the transparency of fund allocation, the quantifiability of emission reduction outcomes, and the persuasiveness of disclosures.

Despite the funding gap from developed countries, Asian financial centres, with China playing a leading role, will continue to exert critical influence. Financial centres like Shanghai are determined to deepen the South-South Cooperation framework, mobilize their own resources, and provide practical and effective support within their capabilities for the green and low-carbon transition of other developing countries, becoming an indispensable stabilizing force in global climate action.

The <u>Green Finance Forum of 60</u> (GF60) is a non-profit international platform hosted by the Shanghai Jinsinan Institute of Finance and the Xiamen Straits Federation for Sustainable Business. GF60 convenes global leaders from governments, industries, financial institutions, and academia to promote green finance innovation and facilitate the transition to a green and low-carbon economy.

# **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.

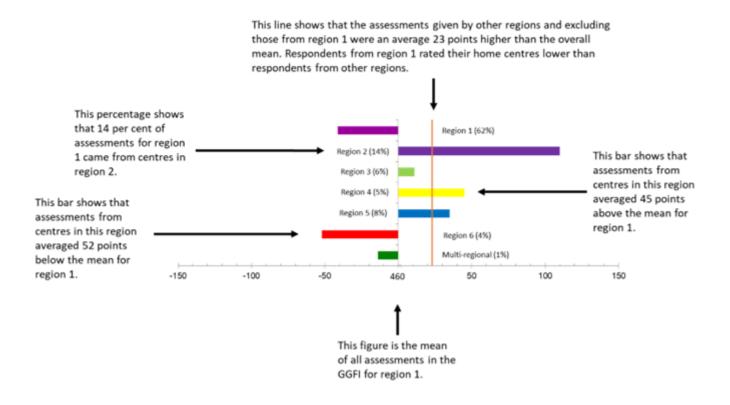
We display this analysis in charts, either for a region or an individual centre. These charts show:

- 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 14 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 14 | Example: Assessments Compared With The Mean For A Region



## North America

- Canadian centres continued in the leading three positions in the region, led by Montreal, while both Canadian and most U.S. centres fell sharply in the index rankings.
- San Francisco rose 11 places, against this trend.
- North American centres were rated significantly above average by people from Asia/Pacific and below average by those from all other regions.

Table 10 | North American Centres In GGFI 16

Contro	GGI	FI 16	GG	FI 15	Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Montreal	13	564	8	587	<b>▼</b> 5	<b>▼</b> 23
Toronto	17	560	10	585	▼7	▼25
Vancouver	19	558	12	583	▼7	▼25
Los Angeles	20	557	14	581	<b>▼</b> 6	▼24
San Francisco	21	556	32	563	<b>▲</b> 11	<b>▼</b> 7
New York	22	555	16	579	<b>▼</b> 6	<b>▼</b> 24
Minneapolis/St Paul	23	554	21	574	▼2	▼20
Washington DC	24	553	19	576	<b>▼</b> 5	<b>▼</b> 23
Chicago	29	548	29	566	0	▼18
Calgary	31	546	28	567	▼3	▼21
Boston	52	525	41	554	▼11	▼29
Atlanta	54	523	37	558	▼17	▼35
Miami	56	521	57	538	<b>1</b>	▼17
Philadelphia	69	508	59	536	<b>▼</b> 10	▼28

**Chart 15 | Top Five North American Centres Ratings Over Time** 

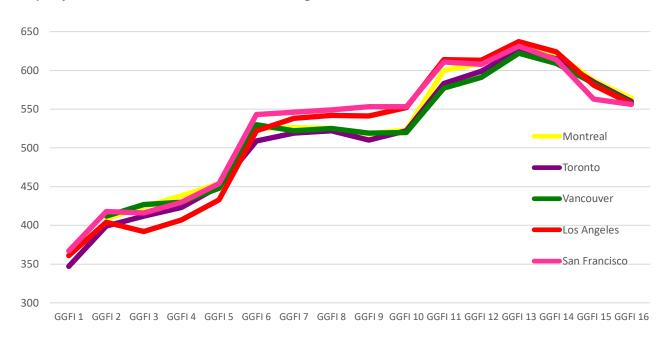


Chart 16 | North American Regional Assessments - Difference From The Mean

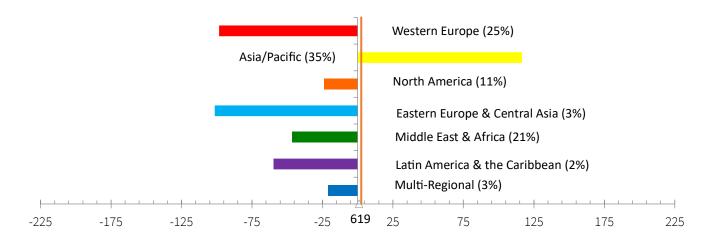


Chart 17 | Regional Assessments For Montreal - Difference From The Mean

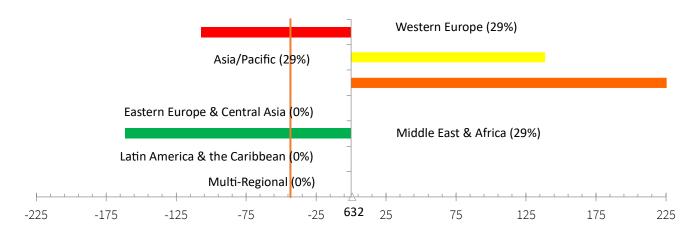
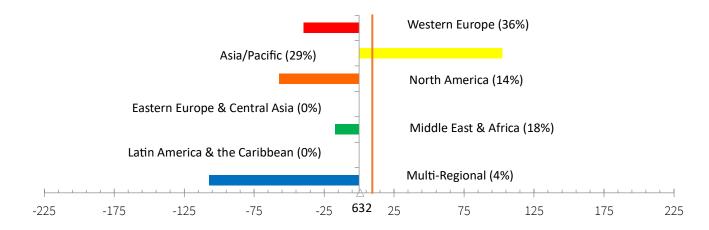


Chart 18 | Regional Assessments For Toronto - Difference From The Mean



### Middle East & Africa

- Dubai leads in the region and fell three places. Tel Aviv and Abu Dhabi follow in the region and Casablanca leads in Africa.
- Most centres in the region maintained their position or improved in the ranking, with Doha, Kigali, and Riyadh up 10 or more places.
- Respondents from Asia/Pacific, North America, Latin America & The Caribbean, and those with a multiregional background rated Middle East & African centres higher than average.

Table 11 | Middle Eastern & African Centres In GGFI 16

Combine	GGF	116	GGI	GGFI 15		Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Dubai	37	540	34	561	▼3	▼21
Tel Aviv	39	538	43	552	<b>4</b>	<b>▼</b> 14
Abu Dhabi	49	528	48	547	<b>▼</b> 1	<b>▼</b> 19
Casablanca	50	527	50	545	0	<b>▼</b> 18
Mauritius	60	517	64	531	<b>▲</b> 4	<b>▼</b> 14
Doha	62	515	72	523	<b>▲</b> 10	▼8
Kigali	65	512	75	520	<b>▲</b> 10	▼8
Riyadh	68	509	83	512	<b>▲</b> 15	▼3
Bahrain	76	501	73	522	<b>▼</b> 3	<b>▼</b> 21
Johannesburg	77	500	77	518	0	<b>▼</b> 18
Cape Town	81	496	81	514	0	<b>▼</b> 18
Nairobi	83	494	84	511	<b>1</b>	<b>▼</b> 17
Lagos	86	491	92	503	<b>A</b> 6	<b>▼</b> 12

Chart 19 | Top Five Middle East & Africa Centre Ratings Over Time

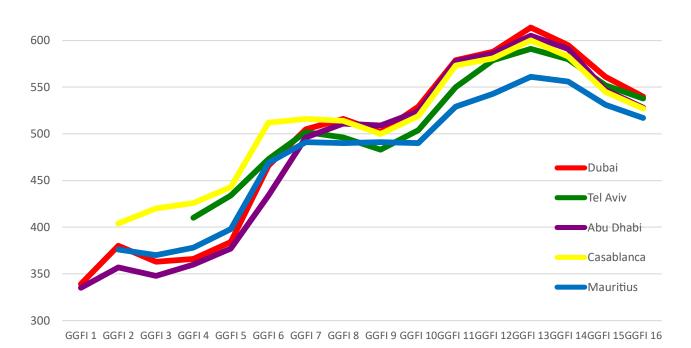


Chart 20 | Middle East & Africa Regional Assessments - Difference From The Mean

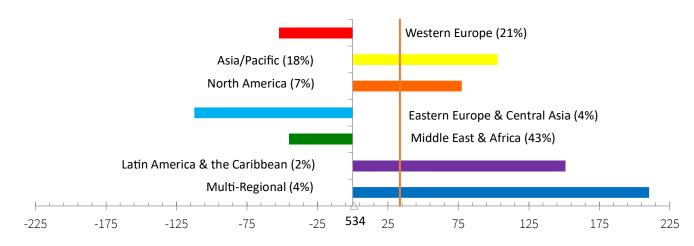


Chart 21 | Regional Assessments For Dubai - Difference From The Mean

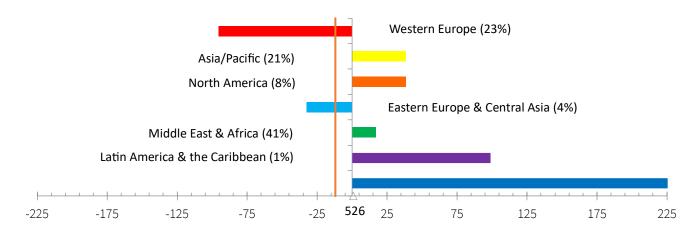
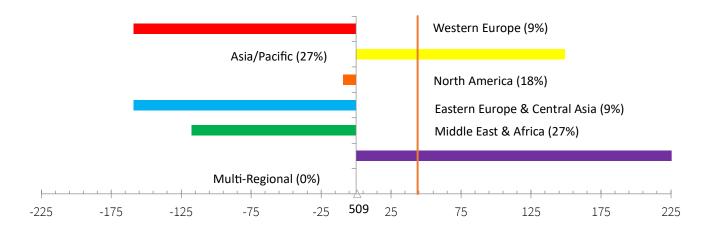


Chart 22 | Regional Assessments For Tel Aviv - Difference From The Mean



# Asia/Pacific

- Singapore continued to lead the region in third place globally. Busan and Seoul are second and third in the region.
- Respondents from Asia/Pacific, North America, Latin America & The Caribbean, and people operating across more than one region rated centres in Asia/Pacific above average.

Table 12 | Top 15 Asia/Pacific Centres In GGFI 16

Combus	GGI	I 16	GGFI 15		Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Singapore	3	586	3	592	0	<b>▼</b> 6
Busan	26	551	24	571	▼2	<b>▼</b> 20
Seoul	28	549	26	569	▼2	<b>▼</b> 20
Shenzhen	30	547	33	562	<b>▲</b> 3	<b>▼</b> 15
Beijing	32	545	40	555	▲8	<b>▼</b> 10
Shanghai	33	544	31	564	▼2	▼20
Sydney	34	543	30	565	▼4	▼22
Qingdao	35	542	36	559	<b>1</b>	▼17
Hong Kong	41	536	42	553	<b>1</b>	<b>▼</b> 17
Tokyo	45	532	52	543	<b>▲</b> 7	▼11
Osaka	46	531	47	548	<b>1</b>	▼17
Melbourne	48	529	35	560	<b>▼</b> 13	▼31
Guangzhou	59	518	58	537	▼1	▼19
Bangkok	82	495	78	517	▼4	▼22
Kuala Lumpur	84	493	80	515	▼4	▼22

Chart 23 | Top Asia/Pacific Centre Ratings Over Time

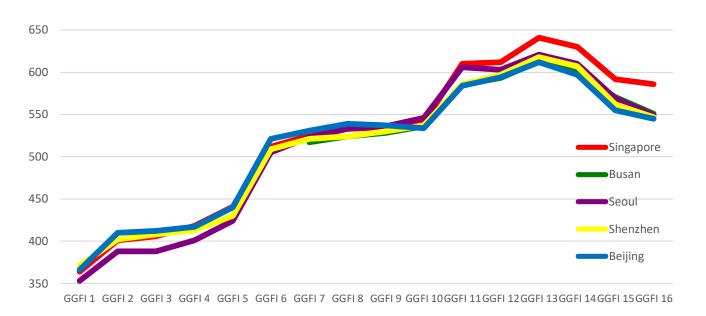


Chart 24 | Asia/Pacific Regional Assessments - Difference From The Mean

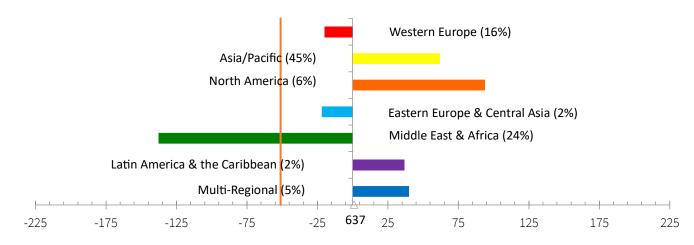


Chart 25 | Regional Assessments For Singapore - Difference From The Mean

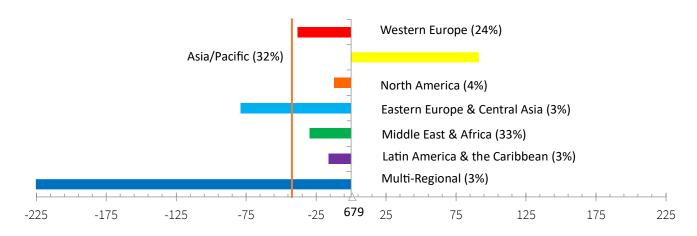
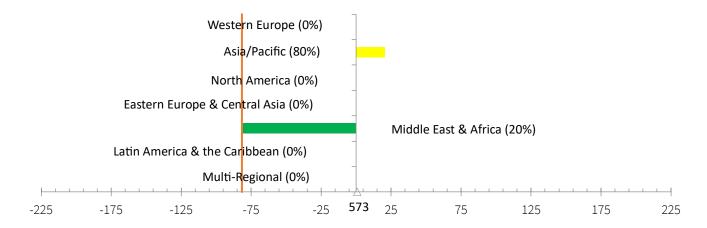


Chart 26 | Regional Assessments For Busan - Difference From The Mean



# **Eastern Europe & Central Asia**

- Kaunas continues to lead in the region and fell 2 rank places. Prague improved 5 places to consolidate its position in second place above Sofia.
- Respondents from Asia/Pacific, North America, Latin America & The Caribbean, and those from a multiregional background rated Eastern European & Central Asia centres higher than average.

Table 13 | Eastern European & Central Asia Centres In GGFI 16

Contro	GGF	116	GGFI 15		Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Kaunas	47	530	45	550	▼2	<b>▼</b> 20
Prague	51	526	56	539	<b>\$</b> 5	<b>▼</b> 13
Sofia	58	519	65	530	<b>▲</b> 7	<b>▼</b> 11
Riga	63	514	68	527	<b>\$</b> 5	<b>▼</b> 13
Warsaw	66	511	66	529	0	<b>▼</b> 18
Astana	67	510	63	532	▼4	▼22
Almaty	71	506	91	504	<b>▲</b> 20	▲2
Istanbul	78	499	85	510	<b>▲</b> 7	▼11
Moscow	80	497	82	513	<b>▲</b> 2	<b>▼</b> 16
St Petersburg	85	492	88	507	<b>▲</b> 3	<b>▼</b> 15
Cyprus	90	487	90	505	0	▼18

Chart 27 | Top Five Eastern Europe & Central Asia Centre Ratings Over Time

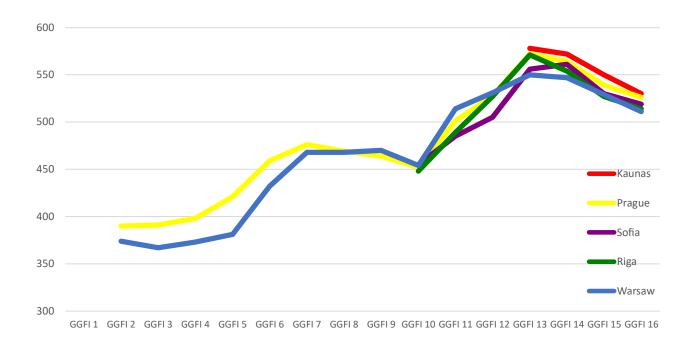


Chart 28 | Eastern Europe & Central Asia Regional Assessments - Difference From The Mean

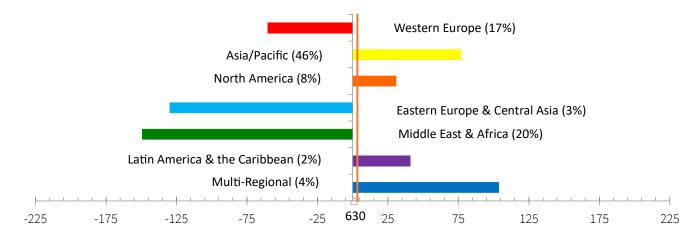


Chart 29 | Regional Assessments For Kaunas - Difference From The Mean

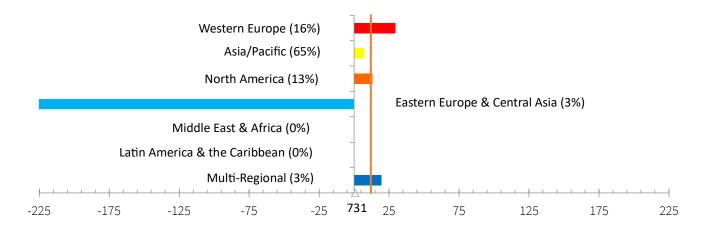
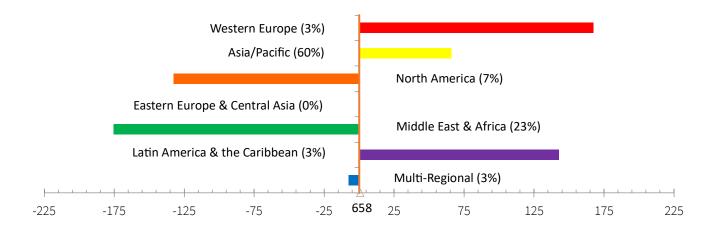


Chart 30 | Regional Assessments For Prague - Difference From The Mean



## **Latin America & The Caribbean**

- Sao Paulo leads the region, with Santiago in second position.
- Respondents from Asia/Pacific, North America, Latin America & The Caribbean, and those from a multiregional background rated Latin America & The Caribbean centres above average.

Table 14 | Latin American & Caribbean Centres In GGFI 16

Contro	GGI	I 16	GGFI 15		Change In	Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Sao Paulo	53	524	54	541	<b>1</b>	<b>▼</b> 17
Santiago	57	520	55	540	▼2	<b>▼</b> 20
Mexico City	72	505	70	525	▼2	<b>▼</b> 20
Rio de Janeiro	74	503	69	526	<b>▼</b> 5	<b>▼</b> 23
Bermuda	75	502	79	516	<b>A</b> 4	<b>▼</b> 14
Bahamas	87	490	89	506	<b>A</b> 2	<b>▼</b> 16
Cayman Islands	92	483	93	501	<b>1</b>	<b>▼</b> 18
British Virgin Islands	94	466	94	499	0	▼33

**Chart 31 | Top Five Latin American & Caribbean Centre Ratings Over Time** 

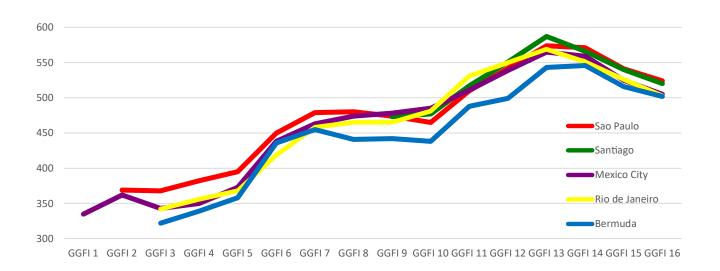


Chart 32 | Latin American & Caribbean Regional Assessments - Difference From The Mean

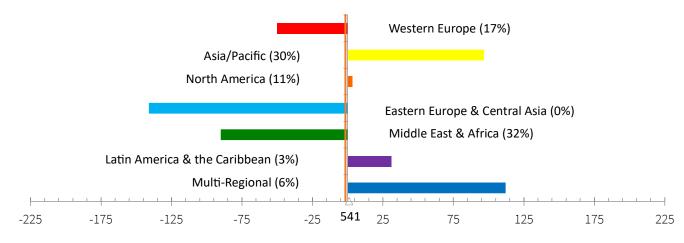


Chart 33 | Regional Assessments For Sao Paulo - Difference From The Mean

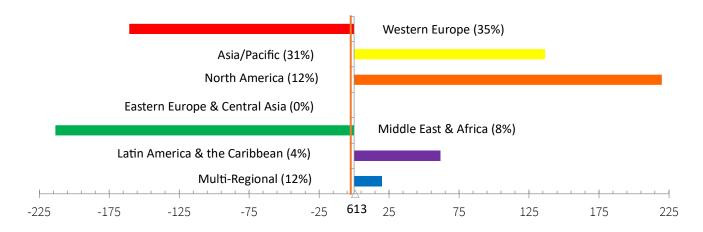
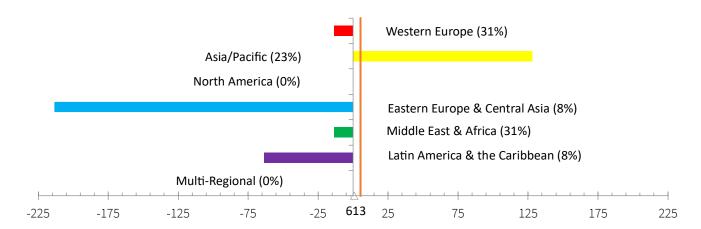


Chart 34 | Regional Assessments For Santiago - Difference From The Mean



# **Western Europe**

- Zurich has taken the top place in the region and world, with London down to second place. They are followed by Geneva, unchanged in the rankings and Amsterdam, which gained 10 places in GGFI 16.
- Nine Western European centres feature in the world top ten.
- Respondents from Western Europe, Eastern Europe & Central Asia, and the Middle East & Africa rated Western European centres lower than average.

Table 15 | Top 15 Western European Centres In GGFI 16

Contro	GGI	FI 16	GG	GGFI 15		Change In
Centre	Rank	Rating	Rank	Rating	Rank	Rating
Zurich	1	591	2	597	<b>1</b>	<b>▼</b> 6
London	2	589	1	598	<b>▼</b> 1	<b>▼</b> 9
Geneva	4	581	4	591	0	<b>▼</b> 10
Amsterdam	5	580	15	580	<b>▲</b> 10	0
Copenhagen	6	573	5	590	<b>▼</b> 1	<b>▼</b> 17
Luxembourg	7	570	9	586	▲2	<b>▼</b> 16
Stockholm	8	569	7	588	<b>▼</b> 1	<b>▼</b> 19
Paris	9	568	11	584	▲2	<b>▼</b> 16
Brussels	10	567	17	578	<b>A</b> 7	<b>▼</b> 11
Frankfurt	11	566	22	573	<b>▲</b> 11	▼7
Lugano	12	565	13	582	<b>1</b>	▼17
Oslo	14	563	6	589	▼8	▼26
Madrid	15	562	20	575	<b>\$</b> 5	▼13
Munich	16	561	25	570	<b>▲</b> 9	▼9
Edinburgh	18	559	18	577	0	▼18

**Chart 35 | Top Five Western European Centre Ratings Over Time** 

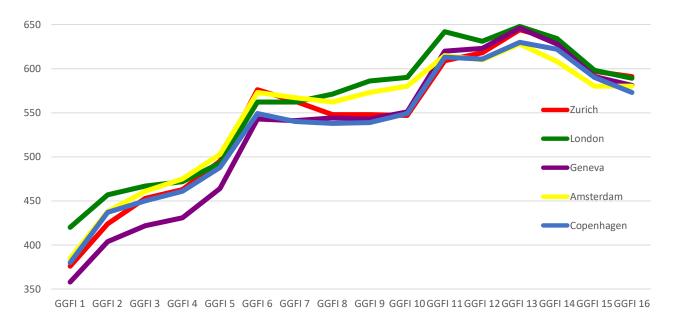


Chart 36 | Western European Regional Assessments - Difference From The Mean

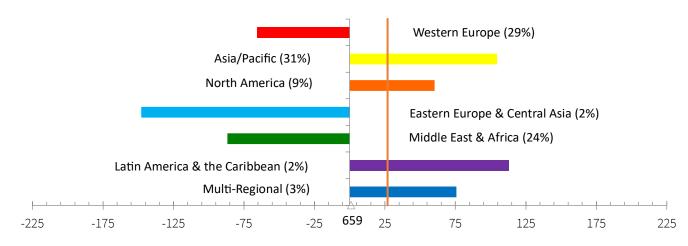


Chart 37 | Regional Assessments For Zurich - Difference From The Mean

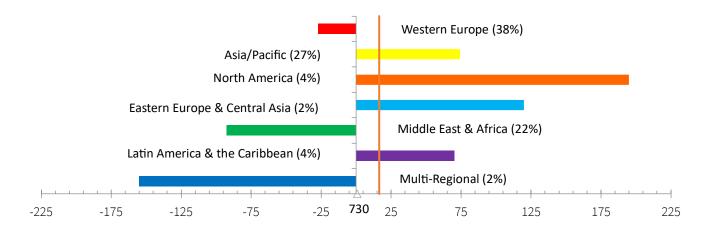
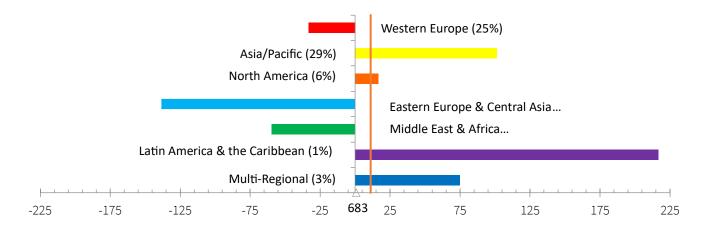


Chart 38 | Regional Assessments For London - Difference From The Mean

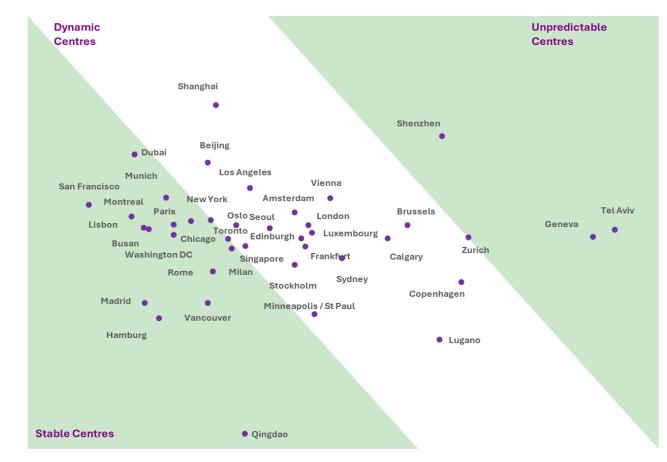


# **Stability**

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 39 contrasts the 'spread' or variance of the individual assessments given to the top 40 centres in GGFI 16, with sensitivity to changes in the instrumental factors.

The chart shows three bands of financial centres. Most centres in the top 40 fall in the stable or dynamic areas. The stable centres in the bottom left have a lower sensitivity to change and demonstrate greater consistency in their GGFI ratings.

**Chart 39 | Stability In Assessments And Instrumental Factors** 



Increasing Sensitivity To Instrumental Factors

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# **Industry Sectors**

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 16 illustrates separate sub-indices for the Policy, Knowledge, Capital Markets, and Professional Services sectors. The table shows how the index ranking varies according to industry sector. The leading centres in the index generally feature in the higher ranks of the industry sector sub-indices. However, Frankfurt leads in the policy sub-index, London in the knowledge sector, Singapore for capital markets and Stockholm among those working in professional services.

Table 16 | GGFI 16 Industry Sector Sub-Indices - Top 15

D. J		Industry Su	b-Sector	
Rank	Policy	Knowledge	Capital Markets	<b>Professional Services</b>
1	Frankfurt	London	Singapore	Stockholm
2	Singapore	Amsterdam	London	Zurich
3	London	Zurich	Oslo	Montreal
4	Zurich	Copenhagen	Zurich	Amsterdam
5	Geneva	Luxembourg	Toronto	Copenhagen
6	Lugano	Paris	Geneva	London
7	Los Angeles	Brussels	Copenhagen	Geneva
8	Luxembourg	Singapore	Luxembourg	Paris
9	Paris	Oslo	Amsterdam	Singapore
10	Amsterdam	Stockholm	Stockholm	Luxembourg
11	Copenhagen	Geneva	Paris	Brussels
12	Stockholm	Madrid	Brussels	Lugano
13	Brussels	Munich	Lugano	Oslo
14	Montreal	Edinburgh	Frankfurt	Munich
15	Oslo	Los Angeles	Montreal	Frankfurt

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 17.

Table 17 | GGFI 16 Using Responses Only From Respondents Working Directly In Green Finance

Centre	Rating	Adjusted Rank	GGFI 16 Rank	Difference
Zurich	604	1	1	0
London	600	3	2	-1
Singapore	590	5	3	-2
Geneva	601	2	4	2
Amsterdam	589	6	5	-1
Copenhagen	588	7	6	-1
Luxembourg	568	15	7	-8
Stockholm	572	13	8	-5
Paris	575	11	9	-2
Brussels	579	9	10	1
Frankfurt	564	21	11	-10
Lugano	570	14	12	-2
Montreal	577	10	13	3
Oslo	599	4	14	10
Madrid	553	34	15	-19
Munich	566	19	16	-3
Toronto	568	15	17	2
Edinburgh	586	8	18	10
Vancouver	549	36	19	-17
Los Angeles	554	31	20	-11
San Francisco	560	25	21	-4
New York	574	12	22	10
Minneapolis / St Paul	548	37	23	-14
Washington DC	532	47	24	-23
Rome	567	17	25	8
Busan	567	17	26	9
Vienna	561	24	27	3
Seoul	543	38	28	-10
Chicago	556	26	29	3
Shenzhen	554	31	30	-1
Calgary	542	39	31	-8
Beijing	554	31	32	1
Shanghai	539	42	33	-9
Sydney	552	35	34	-1
Qingdao	537	43	35	-8
Lisbon	525	56	36	-20
Dubai	513	69	37	-32
Hamburg	565	20	38	18
Tel Aviv	555	27	39	12
Milan	555	27	40	13
Hong Kong	535	45	41	-4
Glasgow	564	21	42	21
Berlin	541	40	43	3
Malta	534	46	44	-2
Tokyo	528	50	45	-5
Osaka	527	53	46	-7
Kaunas	541	40	47	7
		. •		

Centre	Rating	Adjusted Rank	GGFI 16 Rank	Difference
Melbourne	555	27	48	21
Abu Dhabi	508	70	49	-21
Casablanca	555	27	50	23
Prague	524	57	51	-6
Boston	532	47	52	5
Sao Paulo	526	54	53	-1
Atlanta	526	54	54	0
Dublin	563	23	55	32
Miami	521	60	56	-4
Santiago	520	61	57	-4
Sofia	523	58	58	0
Guangzhou	516	65	59	-6
Mauritius	504	77	60	-17
Jersey	532	47	61	14
Doha	506	75	62	-13
Riga	516	65	63	-2
Guernsey	507	73	64	-9
Kigali	508	70	65	-5
Warsaw	517	63	66	3
Astana	528	50	67	17
Riyadh	500	83	68	-15
Philadelphia	523	 58	69	11
Isle of Man	497	89	70	-19
-	517	63		
Almaty			71	8
Mexico City	507	73	72	-1
Monaco	508	70	73	3
Rio de Janeiro	500	83	74	-9
Bermuda	499	85	75	-10
Bahrain	499	85	76	-9
Johannesburg	516	65	77	12
Istanbul	502	81	78	-3
Liechtenstein	536	44	79	35
Moscow	499	85	80	-5
Cape Town	515	68	81	13
Bangkok	503	79	82	3
Nairobi	499	85	83	-2
Kuala Lumpur	488	91	84	-7
St Petersburg	485	93	85	-8
Lagos	475	94	86	-8
Bahamas	503	79	87	8
Jakarta	528	50	88	38
New Delhi	504	77	89	12
Cyprus	519	62	90	28
Manila	486	92	91	-1
Cayman Islands	502	81	92	11
Mumbai	505	76	93	17
British Virgin				
Islands	496	90	94	4

## **GGFI 16 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. Among the topics covered are:

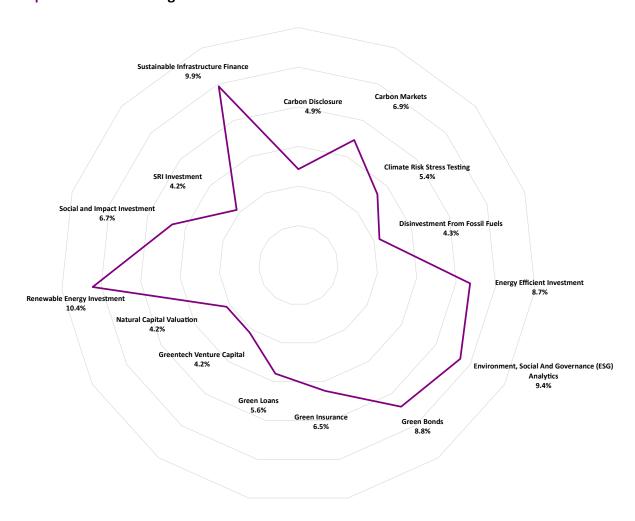
- The areas of green finance considered most interesting by respondents;
- The areas of green finance which respondents consider to have the greatest impact on sustainability;
   and
- Factors driving the development of green finance.

#### 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 separately the areas of green finance they consider have the most impact on sustainability. The results are shown in Charts 40 and 41.

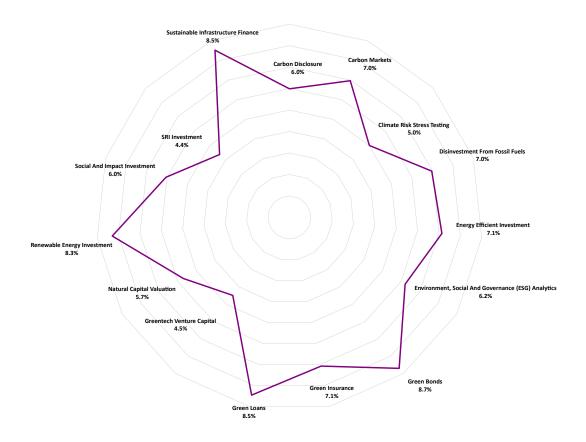
With respect to interest, Renewable Energy Investment is the leading issue mentioned by our respondents, ahead of Sustainable Infrastructure Finance Environment, and Social And Governance (ESG) Analytics. The areas considered least interesting are Natural Capital Valuation and SRI Investment.

### **Chart 40 | Interest - Percentage Of Total Mentions**

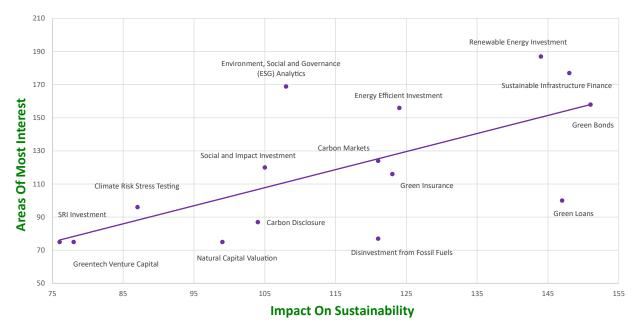


With respect to impact, Green Bonds, Sustainable Infrastructure Finance, and Green Loans are rated as the areas of green finance with most impact. Climate Risk Stress Testing, and Greentech Venture Capital, and SRI Investment are ranked lowest on this measure by our respondents.

**Chart 41 | Impact - Percentage Of Total Mentions** 

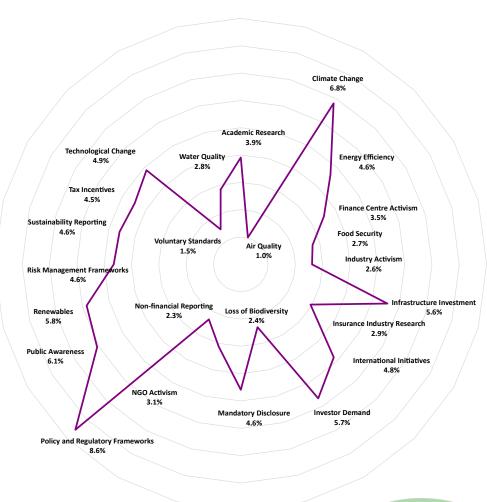


**Chart 42 | The Correlation Between Interest And Impact** 



With respect to drivers, Policy and Regulatory Frameworks, Climate Change, and Public Awareness are seen as the most important drivers of green finance. Non-financial Reporting, Voluntary Standards, and Air Quality are mentioned least frequently. These results underline the continuing importance of regulatory frameworks and public demand in the development of green finance, alongside risk management.

**Chart 43 | Drivers - Percentage Of Total Mentions** 





### **Balance Of Domestic And International Focus**

One of the features of green finance is the extent to which financial activity is international or focused on the domestic economy. We asked respondents to the GGFI survey for their experience in their own home centre and to assess the balance of green finance activity.

Overall, just over 50% of respondent judged that green finance in their centre was strongly or somewhat more focused on their domestic market, for example, raising money to deliver energy efficient housing locally. Another third of responses suggested a balance between a domestic and international focus. However, there were strong regional differences, with respondents in North America, Latin America & The Caribbean, and Eastern & Central Europe all reporting that the focus is on domestic markets.

Respondents from the Middle East & Africa and from Western Europe were most likely to say that the green finance in their centre was focused strongly or somewhat on international activity, for example, raising funds for the development of hydro-electric power in another country.

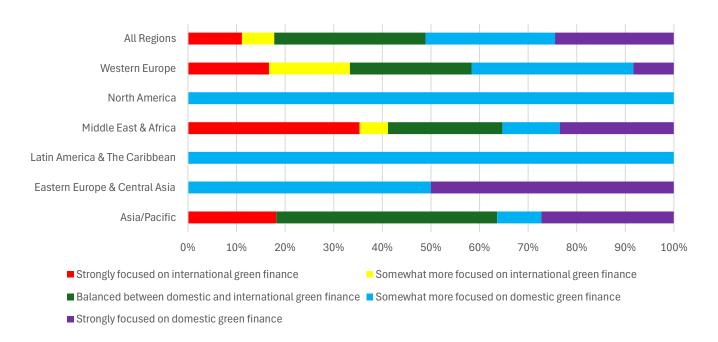


Chart 44 | Focus Of Green Finance – Domestic/International

We asked respondents to identify the reasons for the focus that they experienced in their own markets. 80% of those responding identified policy and regulatory frameworks as the main driver behind the focus in their centre, responding to government and regulatory incentives. Other drivers cited were tax incentives, customer and investor demand, and speed of results.

# **Appendix 1: Assessment Details**

Table 18 | Details Of GGFI 16 Assessments By Centre

	GG	FI 16	A	Assessmen	its
Centre	Rank	Rating	Numbe	Average	Std Dev
Zurich	1	591	45	730	192
London	2	589	108	683	201
Singapore	3	586	79	679	186
Geneva	4	581	31	720	192
Amsterdam	5	580	44	709	211
Copenhagen	6	573	21	718	159
Luxembourg	7	570	58	662	195
Stockholm	8	569	32	691	172
Paris	9	568	59	657	201
Brussels	10	567	31	627	201
Frankfurt	11	566	53	662	185
Lugano	12	565	14	725	116
Montreal	13	564	21	632	207
Oslo	14	563	11	720	201
Madrid	15	562	48	679	143
Munich	16	561	21	594	221
Toronto	17	560	28	632	191
Edinburgh	18	559	33	614	191
Vancouver	19	558	18	732	143
Los Angeles	20	557	22	655	229
San Francisco	21	556	39	685	216
New York	22	555	90	555	205
Minneapolis / St	23	554	12	706	135
Paul					
Washington DC	24	553	32	621	194
Rome	25	552	30	704	167
Busan	26	551	15	573	198
Vienna	27	550	18	571	221
Seoul	28	549	35	602	199
Chicago	29	548	25	547	204
Shenzhen	30	547	22	698	267
Calgary	31	546	15	653	191
Beijing	32	545	54	625	248
Shanghai	33	544	42	585	290
Sydney	34	543	27	593	177
Qingdao	35	542	186	837	47
Lisbon	36	541	10	685	199
Dubai	37	540	90	526	253
Hamburg	38	539	13	615	132
Tel Aviv	39	538	11	509	198
Milan	40	537	18	663	184
Hong Kong	41	536	69	544	216
Glasgow	42	535	27	581	202
Berlin	43	534	26	638	221
Malta	44	533	28	690	178
Tokyo	45	532	37	589	219
Osaka	46	531	17	654	175
Kaunas	47	530	31	731	89

	GGI	FI 16	Δs	sessment	s
Centre	Rank	Rating		Average	
Melbourne	48	529	17	590	222
Abu Dhabi	49	528	58	530	252
Prague	51	526	30	658	170
Boston	52	525	28	656	184
Casablanca	50	527	17	484	207
Sao Paulo	53	524	26	613	223
Atlanta	54	523	10	685	160
Dublin	55	522	28	561	214
Miami	56	521	15	562	177
Santiago	57	520	13	613	176
Sofia	58	519	25	732	114
Guangzhou	59	518	15	610	260
Mauritius	60	517	43	621	218
Jersey	61	516	20	583	126
Doha	62	515	35	543	211
Riga	63	514	29	758	79
Guernsey	64	513	21	548	189
Kigali	65	512	25	573	214
Warsaw	66	511	22	573	211
Astana	67	510	27	563	206
Riyadh	68	509	35	535	253
Philadelphia	69	508	14	589	169
Isle of Man	70	507	16	561	172
Almaty	71	506	15	647	230
Mexico City	72	505	22	591	222
Monaco	73	504	14	593	198
Rio de Janeiro	74	503	14	493	249
Bermuda	75	502	25	612	162
Bahrain	76	501	34	522	186
Johannesburg	77	500	33	491	193
	78	499	38	539	171
Liechtenstein	79	498	13	562	218
Moscow	80	497	29	608	203
Cape Town	81	496	34	509	175
Bangkok	82	495	25	516	245
Nairobi	83	494	26	495	210
Kuala Lumpur	84	493	26	525	196
St Petersburg	85	492	25	702	193
Lagos	86	491	18	533	252
Bahamas	87	490	24	529	213
Jakarta	88	489	14	479	205
New Delhi	89	488	21	471	212
Cyprus	90	487	29	486	201
Manila	91	486	13	431	224
Cayman Islands	92	483	28	445	191
Mumbai	93	482	31	425	187
British Virgin	94	466	28	430	199
Islands					

Table 19 | Details Of Ratings For The GGFI Dimensions By Centre

Centre	Overall	Depth	Quality
	Rank	Rating	Rating
Zurich	1	287	304
London	2	287	302
Singapore	3	286	300
Geneva	4	287	294
Amsterdam	5	287	293
Copenhagen	6	288	285
Luxembourg	7	276	294
Stockholm	8	275	294
Paris	9	271	297
Brussels	10	281	286
Frankfurt	11	280	286
Lugano	12	269	296
Montreal	13	277	287
Oslo	14	273	290
Madrid	15	272	290
Munich	16	276	285
Toronto	17	274	286
Edinburgh	18	274	285
Vancouver	19	272	286
Los Angeles	20	271	286
San Francisco	21	272	284
New York	22	277	278
Minneapolis / St Paul	23	267	287
Washington DC	24	269	284
Rome	25	272	280
Busan	26	271	280
Vienna	27	263	287
Seoul	28	272	277
Chicago	29	268	280
Shenzhen	30	266	281
Calgary	31	266	280
Beijing	32	266	279
Shanghai	33	262	282
Sydney	34	257	286
Qingdao	35	265	277
Lisbon	36	262	279
Dubai	37	264	276
Hamburg	38	266	273
Tel Aviv	39	268	270
Milan	40	261	276
Hong Kong	41	265	271
Glasgow	42	255	280
Berlin	43	262	272
Malta	44	253	280
	45		
Tokyo		259	273
Osaka	46	255	276
Kaunas	47	257	273

	Overall	Depth	Quality
Centre	Rank	Rating	Rating
Melbourne	48	253	276
Abu Dhabi	49	255	273
Prague	51	255	271
Boston	52	254	271
Casablanca	50	251	276
Sao Paulo	53	254	270
Atlanta	54	249	274
Dublin	55	260	262
Miami	56	259	262
Santiago	57	248	272
Sofia	58	250	269
Guangzhou	59	250	268
Mauritius	60	248	269
Jersey	61	246	270
Doha	62	249	266
Riga	63	250	264
Guernsey	64	243	270
Kigali	65	245	267
Warsaw	66	250	261
Astana	67	244	266
Riyadh	68	243	266
Philadelphia	69	249	259
Isle of Man	70	241	266
Almaty	71	248	258
Mexico City	72	239	266
Monaco	73	235	269
Rio de Janeiro	74	239	264
Bermuda	75	235	267
Bahrain	76	240	261
Johannesburg	77	241	259
Istanbul	78	238	261
Liechtenstein	79	232	266
Moscow	80	243	254
Cape Town	81	236	260
Bangkok	82	235	260
Nairobi	83	237	257
Kuala Lumpur	84	233	260
St Petersburg	85	242	250
Lagos	86	242	249
Bahamas	87	244	246
Jakarta	88	233	256
New Delhi	89	233	255
Cyprus	90	233	254
Manila	91	232	254
Cayman Islands	92	230	253
Mumbai	93	232	250
British Virgin Islands	94	222	244
British Virgin Islands	94	222	244

# **Appendix 2: Interest, Impact, And Drivers Details**

# Table 20 | Areas Of Green Finance With The Greatest Impact

Area Of Green Finance	Number Of Mentions	Percentage Of Total
Green Bonds	151	8.7
Sustainable Infrastructure Finance	148	8.5
Green Loans	147	8.5
Renewable Energy Investment	144	8.3
Energy Efficient Investment	124	7.1
Green Insurance	123	7.1
Carbon Markets	121	7.0
Disinvestment From Fossil Fuels	121	7.0
Environment, Social And Governance (ESG) Analytics	108	6.2
Social And Impact Investment	105	6.0
Carbon Disclosure	104	6.0
Natural Capital Valuation	99	5.7
Climate Risk Stress Testing	87	5.0
Greentech Venture Capital	78	4.5
SRI Investment	76	4.4
Totals	1,736	100.0

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

Area Of Green Finance	Number Of Mentions	Percentage Of Total
Renewable Energy Investment	187	10.4
Sustainable Infrastructure Finance	177	9.9
Environment, Social And Governance (ESG) Analytics	169	9.4
Green Bonds	158	8.8
Energy Efficient Investment	156	8.7
Carbon Markets	124	6.9
Social and Impact Investment	120	6.7
Green Insurance	116	6.5
Green Loans	100	5.6
Climate Risk Stress Testing	96	5.4
Carbon Disclosure	87	4.9
Disinvestment From Fossil Fuels	77	4.3
Greentech Venture Capital	75	4.2
Natural Capital Valuation	75	4.2
SRI Investment	75	4.2
Totals	1,792	100.0

### **Table 22 | Drivers Of Green Finance**

Driver	Number of Mentions	Percentage Of Total
Policy and Regulatory Frameworks	151	8.6
Climate Change	120	6.8
Public Awareness	107	6.1
Renewables	103	5.8
Investor Demand	100	5.7
Infrastructure Investment	98	5.6
Technological Change	86	4.9
International Initiatives	85	4.8
Energy Efficiency	82	4.6
Risk Management Frameworks	82	4.6
Mandatory Disclosure	81	4.6
Sustainability Reporting	81	4.6
Tax Incentives	79	4.5
Academic Research	69	3.9
Finance Centre Activism	62	3.5
NGO Activism	55	3.1
Insurance Industry Research	52	2.9
Water Quality	50	2.8
Food Security	48	2.7
Industry Activism	46	2.6
Loss of Biodiversity	42	2.4
Non-financial Reporting	41	2.3
Voluntary Standards	26	1.5
Air Quality	18	1.0
Totals	1,764	100.0

# **Appendix 3: Respondents' Details**

### Table 23 | Respondents By Industry Sector

Industry Sector	Number Of Respondents	Percentage Of Respondents
Banking	40	8.73%
Debt Capital Market	21	4.59%
Equity Capital Markets	20	4.37%
Insurance	24	5.24%
Investment	47	10.26%
Knowledge	53	11.57%
Local Green Initiatives	23	5.02%
Policy and Public Finance	55	12.01%
Professional Services	102	22.27%
Trading	20	4.37%
Other	53	11.57%
Total	458	100.00%

# Table 24 | Respondents By Engagement In Green Finance

Engagement In Green Finance	Number Of Respondents	Percentage Of Respondents
Working Full-time On Green Finance	58	12.66%
Working Part-time On Green Finance	181	39.52%
Interested in Green Finance	193	42.14%
Other/not given	26	5.68%
Total	458	100.00%

### Table 25 | Respondents By Region

Region	Number Of Respondents	Percentage Of Respondents
Asia Pacific	187	40.83%
Western Europe	106	23.14%
Eastern Europe & Central Asia	10	2.18%
North America	28	6.11%
Middle East & Africa	94	20.52%
Latin America & the Caribbean	8	1.75%
Multi-Regional	25	5.46%
Total	458	100.00%

### Table 26 | Respondents By Size Of Organisation

Size of Organisation	Number Of Respondents	Percentage Of Respondents
<100	129	28.17%
100-500	56	12.23%
500-1000	28	6.11%
1000-2000	49	10.70%
2000-5000	49	10.70%
>5000	120	26.20%
Other/not given	27	5.90%
Total	458	100.00%

### **Table 27 | Respondents By Gender**

Gender	Number Of Respondents	Percentage Of Respondents
Female	165	36.03%
Male	270	58.95%
Other	4	0.87%
Prefer not to say/not given	19	4.15%
Total	458	100.00%

### Table 28 | Respondents By Age

Age Band	Number Of Respondents	Percentage Of Respondents
18-30	90	19.65%
30-45	196	42.79%
45-60	104	22.71%
60+	45	9.83%
Other/not given	23	5.02%
Total	458	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 rating.

For the first set of ratings, the financial centre assessments, respondents use an <u>online questionnaire</u> 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 contain 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 125 Instrumental Factors draw on data from a range of 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 128 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 25 in GGFI 16. This means that not all 128 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.

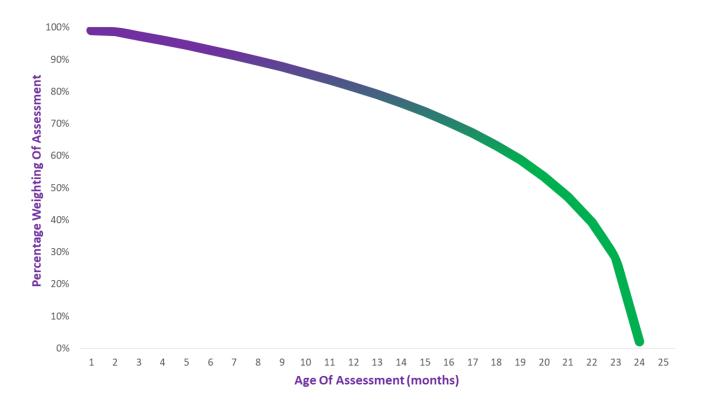
#### **Financial Centre Assessments**

Financial centre assessments are collected via an online questionnaire which runs continuously and which is at <a href="mailto:greenfinanceindex.net/survey/">greenfinanceindex.net/survey/</a>. 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.

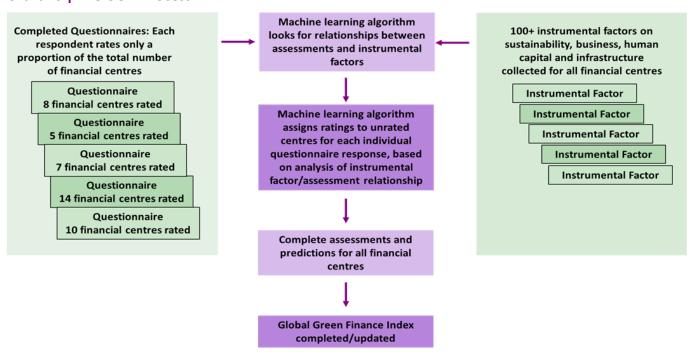
The rules on the use of instrumental factor data in the model are as follows:

- 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 <a href="https://www.longfinance.net/programmes/financial-centre-futures/global-green-finance-index/ggfi-methodology/">https://www.longfinance.net/programmes/financial-centre-futures/global-green-finance-index/ggfi-methodology/</a>.

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

#### Chart 46 | The GGFI Process



# **Appendix 5: Instrumental Factors**

Table 29 | Sustainability Instrumental Factor Correlation With GGFI Ratings

Instrumental Factors	R-squared
Urban Mobility Readiness Index	0.709
The Future Growth Report	0.596
IESE Cities In Motion Index	0.587
Quality of Living City Rankings	0.566
Sustainable Cities Index	0.562
Sustainable Economic Development	0.558
The Green Future Index	0.537
Energy Sustainability Index	0.483
The Global Green Economy Index	0.482
Energy Transition Index	0.469
Environmental Performance Index	0.439
Global Sustainable Competitiveness Index	0.377
Global Green Growth Index	0.339
Climate Finance Vulnerability Index	0.306
Proportion Of Population Using Safely-Managed Drinking-Water Services (%)	0.293
Quality of Life Index	0.250
Pollution Index	0.232
Share Of Wind And Solar In Electricity Production	0.214
Share Of Renewables In Electricity Production	0.151
Stock Exchanges With A Green Bond Segment (Y/N)	0.124
Buildings Energy Efficiency Policies Database (Y/N)	0.112
Sovereign Green Bond (Y/N)	0.085
Energy Intensity Of GDP	0.080
City Commitment To Carbon Reduction (Individual Action)	0.040
Protected Land Area % Of Land Area	0.025
Forestry Area	0.007
Territorial Per Capita (tCO₂/Person)	0.006
Sustainable Stock Exchanges (Y/N)	0.003
City Commitment To Carbon Reduction (Cooperative Action)	0.001
Average Precipitation In Depth (mm Per Year)	0.000

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

Instrumental Factors	R-squared
Urban Mobility Readiness Index	0.709
Safe Cities Index	0.642
Global Cities Outlook ranking	0.602
The Future Growth Report	0.596
Legatum Prosperity Index	0.594
IESE Cities In Motion Index	0.587
Quality Of Living City Rankings	0.566
Sustainable Cities Index	0.562
Sustainable Economic Development	0.558
Blavatnik Index Of Public Administration	0.544
The Green Future Index	0.537
International IP Index	0.524
World Talent Rankings	0.519
The Global Financial Centres Index	0.507
Adjusted Net National Income Per Capita	0.507
Logistics Performance Index	0.493
Global Innovation Index	0.488
Energy Sustainability Index	0.483
The Global Green Economy Index	0.482
Cost of Living City Rankings	0.472
Energy Transition Index	0.469
Global Skills Index	0.447
Environmental Performance Index	0.439
Government Effectiveness	0.413
International Construction Cost Index	0.413
Corruption Perception Index	0.392
Good Country Index	0.387
GDP Per Person Employed (Constant 2017 PPP \$)	0.382
Agility Emerging Markets Logistics Index	0.380
Global Sustainable Competitiveness Index	0.377

## Table 31 | Sustainability Factors

Instrumental Factor	Source		Updated
Average Precipitation In Depth (mm Per Year)	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
City Commitment To Carbon Reduction (Cooperative Action)	UNFCCC	https://climateaction.unfccc.int/Actors	Y
City Commitment To Carbon Reduction (Individual Action)	UNFCCC	https://climateaction.unfccc.int/Actors	N
Territorial Per Capita (tCO₂/Person)	Global Carbon Project	https://globalcarbonatlas.org/emissions/carbon-emissions/	New
Energy Intensity Of GDP	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/	Υ
Energy Transition Index	World Economic Forum	https://www.weforum.org/publications/fostering-effective-energy-transition-2025/	Υ
Environmental Performance Index	Yale University	https://epi.yale.edu/	N
Forestry Area	World Bank	http://databank.worldbank.org/data/reports.aspx?source=2&series=A G.LND.FRST.ZS&country=	Υ
Global Green Growth Index	GGGI	https://ggindex-simtool.gggi.org/	Υ
Global Sustainable Competitiveness Index	Solability	https://solability.com/the-global-sustainable-competitiveness-index	Υ
IESE Cities In Motion Index	IESE	http://citiesinmotion.iese.edu/indicecim/?lang=en	Υ
Pollution Index	Numbeo	https://www.numbeo.com/pollution/rankings.jsp	Υ
Proportion Of Population Using Safely-Managed Drinking-Water Services (%)	WHO	https://www.who.int/data/gho/publications/world-health-statistics	N
Protected Land Area % Of Land Area	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	Υ
Quality Of Living City Rankings	Mercer	https://mobilityexchange.mercer.com/Insights/quality-of-living- rankings	N
Share Of Renewables In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/	Υ
Share Of Wind And Solar In Electricity Production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/	Υ
Sovereign Green Bond (Y/N)	Climate Bonds	https://www.climatebonds.net/2021/11/cop26-briefing-sovereign- green-bond-issuance-takes-start-long-boom	N
Stock Exchanges With A Green Bond Segment (Y/N)	СВІ	https://www.climatebonds.net/green-bond-segments-stock- exchanges	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/2021/prioritizing-societal- well-being-seda-report	N
Sustainable Stock Exchanges (Y/N)	UN Sustainable Stock Exchange Initiative	https://sseinitiative.org/exchanges-filter-search/	Υ
Energy Sustainability Index	World Energy Council	https://trilemma.worldenergy.org/	N
Urban Mobility Readiness Index	Oliver Wyman	https://www.oliverwymanforum.com/mobility/urban-mobility- readiness-index/ranking.html	N
The Green Future Index	MIT Technology Review	https://www.technologyreview.com/2023/04/05/1070581/the-green-future-index-2023/	N
The Global Green Economy Index	Dual Citizen	https://dualcitizeninc.com/global-green-economy-index/	N
The Future Growth Report	WEF	https://www3.weforum.org/docs/WEF_Future_of_Growth_Report_2 024.pdf	N
Climate Finance Vulnerability Index	Center on Global Energy Policy	https://clifvi.org/	New

## **Table 32 | Human Capital Factors**

Average Wages Adjusted Net National Income Per Capita World Bank Intros/National Architecture International Numbeo Mercer International Numbeo	Instrumental Factor	Source	Website	Updated
Corruption Perception Index International https://www.transparency.org/en/cpi/2024 Y Cost Of Living City Rankings Mercer https://www.mrbee.com/cine/parkings.ptf Y Educational Attainment, At Least Bachelor's Or Comparisonal Comparisonal Liabour Organization Proficiency International Liabour Organization Proficiency English Proficiency En	Average Wages	OECD	https://data.oecd.org/earnwage/average-wages.htm	Υ
Corrigin Precipion Precipion (Index   International   Intern	Adjusted Net National Income Per Capita	World Bank	https://data.worldbank.org/indicator/NY.ADJ.NNTY.PC.CD	Υ
Crime Index	Corruption Perception Index		https://www.transparency.org/en/cpi/2024	Υ
Crime Index	Cost Of Living City Rankings		https://www.mercer.com/our-thinking/career/cost-of-living.html	N
Educational Attainment, At Least Bachelor's Or Equivalent, Population 25+, Total (%)  Working Hours  International Labour Organization				
International Labour   Organization   Organizatio	Educational Attainment, At Least Bachelor's Or			N
Norman   N		International Labour		
Morid Bank   Security   Morid Bank   Morid Bank   Security   Morid Bank   Mori	Working Hours		https://ilostat.ilo.org/topics/working-time/	New
World Bank	English Proficiency	Education First	https://www.ef.com/wwen/epi/	N
AT Kearney   https://www.kearnev.com/service/global-business-policy-council/ser   N   Nuclear Threat Initiative   Johns Hopkins Center for Health Security, and Economist Impact   Structure   N   N   N   N   N   N   N   N   N	GDP Per Person Employed (Constant 2017 PPP \$)	World Bank		Υ
Nuclear Threat Initiative,   Johns Hopkins Center for Health Security, and Economist Impact   Sconomist Impact	Global Cities Index	AT Kearney		N
Health Security, and   Economics   Economics   Economics   Institute for Economics   Institute for Economics   Peace Index   Institute for Economics   Institute for Economi				
Silobal Innovation Index	Global Health Security Index	Health Security, and	https://www.ghsindex.org/	N
Side   Peace   https://www.usionothumanity.org/maps/#/   Y	Global Innovation Index	<u> </u>	https://www.wipo.int/gii-ranking/en/rank	N
Coursera   https://www.coursera.org/skills-reports/global   Y	Global Peace Index		https://www.visionofhumanity.org/maps/#/	Υ
Good Country Index   Peace   https://www.visionflumanity.org/map5/8jobal-terforism-index/ff/   Vold Bank   https://index.goodcountry.org/   N   N	Global Skills Index		https://www.coursera.org/skills-reports/global	Υ
Government Effectiveness   World Bank   http://info.worldbank.org/governance/wgi/   N	Global Terrorism Index		https://www.visionofhumanity.org/maps/global-terrorism-index/#/	Υ
The World Bank Gender Data Portal 25 Render-total 25 Render-to	Good Country Index	Good Country Party	https://index.goodcountry.org/	N
Health Care Index Numbeo Numbeo Numbeo Nttps://www.numbeo.com/health-care/rankings.jsp Y Henley Passport Index Henley Pastport Index Henley Passport Index Henley Passport Index Numbeo Nttps://www.henleypassportindex.com/passport Y Household Net Financial Wealth OECD https://dataunodc.un.org/dp-intentional-homicide-victims Y Household Net Financial Wealth OECD https://dataunodc.un.org/dp-intentional-homicide-victims Y Household Net Financial Wealth OECD https://www.undp.org/arab-states/publications/human-development Index UNDP https://www.undp.org/arab-states/publications/human-development-report-2023-24 Human Freedom Index Cato Institute https://www.cato.org/human-freedom-index/2024 Y Individual Income Tax Rates PWC https://axsummaries.pwc.com/quick-charts/personal-income-tax-pit-rates pit-rates Innovation Cities Global Index ZThinkNow Innovation Cities  International IP Index  U.S. Chamber of Commerce https://www.uschamber.com/intellectual-property/2025-ip-index Y  Legatum Prosperity Index Legatum Institute https://www.uschamber.com/intellectual-property/2025-ip-index Y  Number Of High Net Worth Individuals Cagemini https://www.worldbank.org/indicator/SP.DYN.LEOO.IN Number Of High Net Worth Individuals Cagemini https://www.worldbank.org/indicator/SP.DYN.LEOO.IN Number Of Meetings ICCA https://www.worldbank.org/indicator/sp.Dity-sub-sub-sus-fication/cre-cre-current-english.pdf OECD Country Risk Classification OECD https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980 New People Near Services ITDP https://www.worldbank.org/en/publication/worldwide-governance-Number Development-Correct Courrent-Courre	·		http://info.worldbank.org/governance/wgi/	N
Health Care Index	Gross Tertiary Graduation Ratio			N
Henley Passport Index	Health Care Index			Y
Homicide Rates UNODC https://dataunodc.un.org/dp-intentional-homicide-victims Y Household Net Financial Wealth OECD https://stats.oecd.org/Index.aspx?DataSetCode=BLI N Human Development Index UNDP https://www.undp.org/arab-states/publications/human-development-report-2023-24 Human Freedom Index Cato Institute https://www.cato.org/human-freedom-index/2024 Y Individual Income Tax Rates PWC https://taxsummaries.pwc.com/quick-charts/personal-income-tax-pit-rates Innovation Cities Global Index U.S. Chamber of Commerce https://innovation-cities.com/world-city-rankings/ International IP Index U.S. Chamber of Commerce https://innovation-cities.com/world-city-rankings/ Life Expectancy At Birth, Total World Bank https://index.prosperity.com/ N Number Of High Net Worth Individuals Capgemini https://cicaworld.aflip.in/652217d068.html Y Number Of Meetings ICCA https://www.worldwealthreport.com/, v OECD Country Risk Classification OECD https://www.wecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-cre-current-english.pdf N Patent Applications, Residents World Bank https://www.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980 People Near Services ITDP https://cdata.worldbank.org/indication/P.PAT.RESD?end=2020&start=1980 People Near Services ITDP https://www.woed.org/en/publications/revenue-statistics-New-political Stability And Absence Of Violence/Terrorism Norld Bank https://www.worldbank.org/polpublication/worldwide-governance-New political Stability And Absence Of Violence/Terrorism Norld Bank https://www.worldbank.org/popublication/worldwide-governance-New political Stability And Absence Of Violence/Terrorism Norld Bank https://www.worldbank.org/popublication/worldwide-governance-New political Stability And Absence Of Violence/Terrorism Norld Bank https://www.worldbank.org/popublication/worldwide-governance-New political Stability And Absence Of Violence/Terrorism				Y
Household Net Financial Wealth  DECD  https://stats.oecd.org/Index.aspx?DataSetCode=BLI  N  https://www.undp.org/arab-states/publications/human-development Index  UNDP  https://www.undp.org/arab-states/publications/human-development-report-2023-24  N  Human Freedom Index  Cato Institute  https://www.cato.org/human-freedom-index/2024  Y  Individual Income Tax Rates  PWC  https://www.cato.org/human-freedom-index/2024  Y  Individual Income Tax Rates  PWC  https://www.cato.org/human-freedom-index/2024  Y  International IP Index  U.S. Chamber of Commerce  https://innovation-cities.com/world-city-rankings/  N  International IP Index  Legatum Prosperity Index  Legatum Institute  https://www.uschamber.com/intellectual-property/2025-ip-index  Y  Life Expectancy At Birth, Total  World Bank  https://www.worldbank.org/indicator/SP.DYN.LEOO.IN  N  Number Of Meetings  ICCA  https://www.worldwealthreport.com/  Number Of Meetings  ICCA  https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf  OPECD Country Risk Classification  OECD  https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf  Open Government  World Bank  https://pedestriansfirst.itdp.org/  N  Patent Applications, Residents  World Bank  https://pedestriansfirst.itdp.org/  N  https://www.oecd.org/en/publications/revenue-statistics- 2024 c87a3da5-en.html  https://www.orldbank.org/plublication/worldwide-governance-  N  New  Political Stability And Absence Of Violence/Terrorism  World Bank  https://www.orldbank.org/plublication/worldwide-governance-  N  New  Political Stability And Absence Of Violence/Terrorism  World Bank  https://www.worldbank.org/plublication/worldwide-governance-  N  New		•		Υ
Human Development Index    Cato Institute   https://www.cato.org/human-freedom-index/2024   Y	Household Net Financial Wealth	OECD		N
Human Freedom Index	Human Development Index	UNDP	<u>-</u>	N
Individual Income Tax Rates  PWC  https://taxsummaries.pwc.com/quick-charts/personal-income-tax-pit-rates  Innovation Cities Global Index  Cities  LUS. Chamber of Commerce  Legatum Prosperity Index  Legatum Institute  Legatum Institute  Legatum Institute  https://index.prosperity.com/  Number Of High Net Worth Individuals  Capgemini  Number of Meetings  ICCA  https://www.worldwealthreport.com/  Number Of Meetings  ICCA  https://iccaworld.aflip.in/652217d068.html  OECD Country Risk Classification  OECD  Patent Applications, Residents  World Bank  https://www.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980  Number Of Goden Political Stability And Absence Of Violence/Terrorism  World Bank  New Orld Bank  Populitical Stability And Absence Of Violence/Terrorism  Norld Bank  Norld Bank  Norld Bank  https://www.oecd.org/en/publication/worldwide-governance-Norld Bank org/inplication/worldwide-governance-Norld Bank org/inplication/worldwide-governance-Norld Bank org/inplication/worldwide-governance-Norld Bank org/inplication/worldwide-governance-Norld Bank Stability And Absence Of Violence/Terrorism  Norld Bank  Norld	Human Freedom Index	Cato Institute		Υ
Innovation Cities Global Index			https://taxsummaries.pwc.com/quick-charts/personal-income-tax-	Υ
International IP Index  U.S. Chamber of Commerce  Legatum Prosperity Index  Legatum Institute  https://index.prosperity.com/  N  Life Expectancy At Birth, Total  World Bank  https://data.worldbank.org/indicator/SP.DYN.LE00.IN  Y  Number Of High Net Worth Individuals  Capgemini  Number Of Meetings  ICCA  https://www.worldwealthreport.com/  Number Of Meetings  ICCA  https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf  OPECD  OPECD  OPECD  World Justice Project  https://worldjusticeproject.org/rule-of-law-index/global  N  Patent Applications, Residents  World Bank  People Near Services  ITDP  https://pedestriansfirst.itdp.org/  https://pedestriansfirst.itdp.org/  https://www.oecd.org/en/publications/revenue-statistics- 2024 c87a3da5-en.html  https://www.worldbank.org/npublication/worldwide-governance-  N  N  N  N  N  N  N  N  New  Political Stability And Absence Of Violence/Terrorism  World Bank  N  N  N  N  N  N  N  N  N  N  N  N  N	Innovation Cities Global Index			N
Legatum Prosperity IndexLegatum Institutehttps://index.prosperity.com/NLife Expectancy At Birth, TotalWorld Bankhttps://data.worldbank.org/indicator/SP.DYN.LEOO.INYNumber Of High Net Worth IndividualsCapgeminihttps://www.worldwealthreport.com/NNumber Of MeetingsICCAhttps://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdfYOECD Country Risk ClassificationOECDhttps://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdfYOpen GovernmentWorld Justice Projecthttps://worldjusticeproject.org/rule-of-law-index/globalNPatent Applications, ResidentsWorld Bankhttps://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980NPeople Near ServicesITDPhttps://pedestriansfirst.itdp.org/NTaxes On Earnings And Gains (% Of GDP)OECDhttps://www.oecd.org/en/publications/revenue-statistics-2024 c87a3da5-en.htmlNewPolitical Stability And Absence Of Violence/TerrorismWorld Bankhttps://www.worldbank.org/en/publication/worldwide-governance-N	International IP Index	U.S. Chamber of	https://www.uschamber.com/intellectual-property/2025-ip-index	Υ
Life Expectancy At Birth, Total World Bank https://data.worldbank.org/indicator/SP.DYN.LEOO.IN Y Number Of High Net Worth Individuals Capgemini https://www.worldwealthreport.com/ N Number Of Meetings ICCA https://www.worldwealthreport.com/ N Number Of Meetings ICCA https://iccaworld.aflip.in/652217d068.html Y  OECD Country Risk Classification OECD https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf Y  Open Government World Justice Project https://worldjusticeproject.org/rule-of-law-index/global N  Patent Applications, Residents World Bank https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980  People Near Services ITDP https://pedestriansfirst.itdp.org/ N  Taxes On Earnings And Gains (% Of GDP) OECD https://www.oecd.org/en/publications/revenue-statistics-2024 c87a3da5-en.html  Political Stability And Absence Of Violence/Terrorism World Bank	Legatum Procherity Index		https://index.prosperity.com/	N
Number Of High Net Worth Individuals         Capgemini         https://www.worldwealthreport.com/         N           Number Of Meetings         ICCA         https://iccaworld.aflip.in/652217d068.html         Y           OECD Country Risk Classification         OECD         https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf         Y           Open Government         World Justice Project         https://worldjusticeproject.org/rule-of-law-index/global         N           Patent Applications, Residents         World Bank         https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980         N           People Near Services         ITDP         https://pedestriansfirst.itdp.org/         N           Taxes On Earnings And Gains (% Of GDP)         OECD         https://www.oecd.org/en/publications/revenue-statistics-2024 c87a3da5-en.html         New           Political Stability And Absence Of Violence/Terrorism         World Bank         https://www.worldbank.org/en/publication/worldwide-governance-         N				
Number Of Meetings         ICCA         https://iccaworld.aflip.in/652217d068.html         Y           OECD Country Risk Classification         OECD         https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf         Y           Open Government         World Justice Project         https://worldjusticeproject.org/rule-of-law-index/global         N           Patent Applications, Residents         World Bank         https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=1980         N           People Near Services         ITDP         https://pedestriansfirst.itdp.org/         N           Taxes On Earnings And Gains (% Of GDP)         OECD         https://www.oecd.org/en/publications/revenue-statistics-2024_c87a3da5-en.html         New           Political Stability And Absence Of Violence/Terrorism         World Bank         https://www.worldbank.org/en/publication/worldwide-governance-N				
OECD Country Risk Classification OECD https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-issues/country-risk-classification/cre-crc-current-english.pdf Open Government World Justice Project https://worldjusticeproject.org/rule-of-law-index/global N Patent Applications, Residents World Bank https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start= 1980 People Near Services ITDP https://pedestriansfirst.itdp.org/ N Taxes On Earnings And Gains (% Of GDP) OECD https://www.oecd.org/en/publications/revenue-statistics-2024_c87a3da5-en.html Political Stability And Absence Of Violence/Terrorism World Bank https://www.worldbank.org/en/publication/worldwide-governance-N				
Open Government         World Justice Project         https://worldjusticeproject.org/rule-of-law-index/global         N           Patent Applications, Residents         World Bank         https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start= 1980         N           People Near Services         ITDP         https://pedestriansfirst.itdp.org/         N           Taxes On Earnings And Gains (% Of GDP)         OECD         https://www.oecd.org/en/publications/revenue-statistics-2024 c87a3da5-en.html         New           Political Stability And Absence Of Violence/Terrorism         World Bank         https://www.worldbank.org/en/publication/worldwide-governance-         N			https://www.oecd.org/content/dam/oecd/en/topics/policy-sub-	Υ
Patent Applications, Residents  World Bank  People Near Services  ITDP  https://pedestriansfirst.itdp.org/ https://pedestriansfirst.itdp.org/  Taxes On Earnings And Gains (% Of GDP)  OECD  https://www.oecd.org/en/publications/revenue-statistics- 2024 c87a3da5-en.html  https://www.worldbank.org/en/publication/worldwide-governance- N  https://www.worldbank.org/en/publication/worldwide-governance- N	Open Government	World Justice Project		N
People Near Services ITDP <a href="https://pedestriansfirst.itdp.org/">https://pedestriansfirst.itdp.org/</a> N  Taxes On Earnings And Gains (% Of GDP)  OECD   https://www.oecd.org/en/publications/revenue-statistics-2024_c87a3da5-en.html  Political Stability And Absence Of Violence/Terrorism World Bank  https://www.worldbank.org/en/publication/worldwide-governance-N	·	•	https://data.worldbank.org/indicator/IP.PAT.RESD?end=2020&start=	
Taxes On Earnings And Gains (% Of GDP)  OECD  https://www.oecd.org/en/publications/revenue-statistics- 2024 c87a3da5-en.html  Political Stability And Absence Of Violence/Terrorism  World Bank  https://www.worldbank.org/en/publication/worldwide-governance- N	People Near Services	ITDP		N
Political Stability And Absence Of Violence/Terrorism World Bank https://www.worldbank.org/en/publication/worldwide-governance-	· ·		https://www.oecd.org/en/publications/revenue-statistics-	
	Political Stability And Absence Of Violence/Terrorism	World Bank	https://www.worldbank.org/en/publication/worldwide-governance-	N

## Table 32 | (Continued) Human Capital Factors

Instrumental Factor	Source	Website	<b>Updated</b>
Press Freedom Index	Reporters Without Borders (RSF)	https://rsf.org/en/index?year=2025	Υ
Prime International Residential Index	Knight Frank	https://www.knightfrank.com/wealthreport	Υ
Proportion of Seats Held by Women in National Parliament	World Bank	https://data.worldbank.org/indicator/SG.GEN.PARL.ZS	Υ
Purchasing Power Index	Numbeo	https://www.numbeo.com/quality-of-life/rankings.jsp	Υ
Ratio of Female to Male Labor Force Participation Rate	World Bank	https://data.worldbank.org/indicator/SL.TLF.CACT.FM.ZS	Υ
Regulatory Quality	World Bank	https://www.worldbank.org/en/publication/worldwide- governance-indicators	N
Tax Revenue as Percentage of GDP	World Bank	https://databank.worldbank.org/reports.aspx?source=2&series=GC _TAX.TOTL.GD.ZS&country=#	<u> </u>
Travel & Tourism Development Index	World Economic Forum	https://www.weforum.org/publications/travel-tourism- development-index-2024/	N
World Talent Rankings	IMD	https://www.imd.org/centers/wcc/world-competitiveness- center/rankings/world-talent-ranking/	N

### **Table 33 | Business Factors**

Instrumental Factor	Source	Website	<b>Updated</b>
Broad Stock Index Levels	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2025/market-statistics	Υ
Capitalisation Of Stock Exchanges	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2025/market-statistics	Υ
Common Law Countries	CIA	https://www.cia.gov/the-world-factbook/field/legal-system/	Υ
Corporate Tax Rates	PWC	https://taxsummaries.pwc.com/quick-charts/corporate-income-tax- cit-rates	Υ
Country Brand Ranking	Bloom Consulting	https://www.bloom-consulting.com/en/country-brand-ranking	N
Democracy Index	The Economist	https://www.eiu.com/n/campaigns/democracy-index-2024/	Υ
Domestic Credit To Private Sector (% Of GDP)	World Bank	https://data.worldbank.org/indicator/FS.AST.PRVT.GD.ZS?most_recent_value_desc=false	Υ
Economic Freedom	The Heritage Foundation	https://www.heritage.org/index/ranking	Υ
External Positions Of Central Banks As A Share Of GDP	The Bank for International Settlements	https://data.bis.org/topics/LBS/tables-and-dashboards/BIS,LBS A2,1.0	Y
FATF AML Effectiveness	FATF	http://www.fatf- gafi.org/publications/mutualevaluations/documents/assessment- ratings.html	Υ
FDI Inward Stock (In Million Dollars)	UNCTAD	https://unctad.org/publication/world-investment-report-2024	N
Financial Secrecy Index	Tax Justice Network	http://www.financialsecrecyindex.com/	Υ
Foreign Direct Investment Inflows	UNCTAD	https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock	N
GINI Index	World Bank	https://data.worldbank.org/indicator/SI.POV.GINI	N
Global Business Complexity Index	TMF Group	https://www.tmf-group.com/en/news-insights/publications/global-business-complexity/	Υ
Global Connectedness Index	DHL	https://www.dhl.com/global-en/microsites/core/global- connectedness/report.html	N
Global Services Location	AT Kearney	https://www.kearney.com/service/digital/gsli	N
Government Debt As % Of GDP	IMF	https://www.imf.org/external/datamapper/GGXWDG NGDP@WEO/OEMDC/ADVEC/WEOWORLD	New
Jurisdictions Participating In The Convention On Mutual Administrative Assistance In Tax Matters	OECD	https://www.oecd.org/ctp/exchange-of-tax- information/Status of convention.pdf	Υ
Level of Internet Freedom	Freedom House	https://freedomhouse.org/countries/freedom-net/scores	N
Net External Positions Of Banks	The Bank for International Settlements	https://data.bis.org/topics/LBS/tables-and-dashboards/BIS,LBS A3,1.0	
Number of Tax Treaties	ICTD	https://www.treaties.tax/en	Υ
Open Budget Survey	International Budget Partnership	https://internationalbudget.org/open-budget-survey/rankings	N

## Table 33 | (Continued) Business Factors

Instrumental Factor	Source	Website	Updated
Percentage Of Firms Using Banks To Finance Investment	t World Bank	http://databank.worldbank.org/data/reports.aspx?source=world- development-indicators&series=IC.FRM.BNKS.ZS	Υ
Real Interest Rate	World Bank	https://databank.worldbank.org/reports.aspx?source=world- development-indicators&series=FR.INR.RINR	Υ
Safe Cities Index	The Economist	https://impact.economist.com/projects/safe-cities/	N
The Global Financial Centres Index	Z/Yen	https://www.longfinance.net/programmes/financial-centre- futures/global-financial-centres-index/	Υ
The Global Fintech Index	Findexable	https://findexable.com/	N
Total Net Assets Of Regulated Open-End Funds	Investment Company Institute	http://www.icifactbook.org/	Υ
TRACE Bribery Risk Matrix	Trace International	https://matrixbrowser.traceinternational.org/	N
Value Of Bond Trading	The World Federation of Stock Exchanges	$\underline{ https://statistics.world-exchanges.org/ReportGenerator/Generator\#}$	Υ
Value Of Share Trading	The World Federation of Stock Exchanges	https://focus.world-exchanges.org/issue/july-2025/market-statistics	Υ
Volume Of Share Trading	The World Federation of Stock Exchanges	https://statistics.world-exchanges.org/ReportGenerator/Generator#	Υ
World Competitiveness Scoreboard	IMD	https://www.imd.org/centers/wcc/world-competitiveness- center/rankings/world-competitiveness-ranking/rankings/wcr- rankings/# tab List	Υ
Blavatnik Index Of Public Administration	University of Oxford	https://index.bsg.ox.ac.uk/posts/overall_results/	N
Liner Shipping Connectivity Index	World Bank	http://databank.worldbank.org/data/reports.aspx?source=2&series=I S.SHP.GCNW.XQ	Y
Global Cities Outlook ranking	Kearney	https://www.kearney.com/service/global-business-policy- council/gcr/2024-full-report	N

### **Table 34 | Infrastructure Factors**

Instrumental Factor	Source	Website	Updated
Agility Emerging Markets Logistics Index	Agility	https://emli.agility.com/overall-rankings/	Υ
INRIX Traffic Scorecard	INRIX	http://inrix.com/scorecard/	Υ
International Construction Cost Index	Arcadis	https://www.arcadis.com/en/knowledge-	Υ
	Aicauis	hub/perspectives/global/international-construction-costs	
III. Pool Estato Transparoney Indov	Jones Lang LaSalle	https://www.jll.co.uk/en/trends-and-insights/research/global-real-	N
JLL Real Estate Transparency Index	Jones Lang Labane	<u>estate-transparency-index</u>	
Logistics Performance Index	World Bank	http://lpi.worldbank.org/international/global	N
Metro Network Length	Metro Bits	http://mic-ro.com/metro/table.html	N
Railways Per Land Area	CIA	https://www.cia.gov/the-world-factbook/field/railways/	N
Refined oil products production	Enerdata Statistical Yearbook	https://yearbook.enerdata.net/download/	Υ
Roadways Per Land Area	CIA	https://www.cia.gov/the-world- factbook/about/archives/2024/field/roadways/country-comparison/	N
Smart City Index	IMD	https://www.imd.org/smart-city-observatory/smart-city-index/	Υ
Telecommunication Infrastructure Index	UN	https://publicadministration.un.org/egovkb/en-us/Data-Center	N
TomTom Traffic Index	TomTom	https://www.tomtom.com/en_gb/traffic-index/ranking/	Υ

Vantage Financial Centres

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.

# 

<u>Dubai International Financial Centre</u> (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.

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The Astana International Financial Centre (AIFC) is a leading financial hub in the Central Asian and Eastern European region, integrating advanced capabilities and best practices from prominent financial centres around the world. It is the first in the region to establish a comprehensive legal framework designed to attract, protect, and facilitate investment, grounded in business-friendly laws that reflect the principles, norms, and precedents of the law of England and Wales, as well as the standards of the world's leading financial centres.

The AIFC offers its participants and investors exceptional conditions and opportunities, including an independent judiciary, an IOSCO-recognised regulatory framework, a diverse range of financial services and instruments, streamlined visa and employment procedures, and tax benefits for licensed companies. More than 4,500 companies from 88 countries, including the United States, the United Kingdom, the EU, China, Türkiye, Singapore and more, are registered within the AIFC. Since its inception, investments facilitated through the AIFC platform have exceeded \$18 billion, highlighting its key role in driving economic growth and development in Kazakhstan

www.aifc.kz



Casablanca Finance City is an African financial and business hub located at the crossroads of continents. Recognized as the leading financial center in Africa, and partner of the largest financial centers in the world, CFC has built a strong and thriving community of members across four major categories: financial companies, regional headquarters of multinationals, service providers and holdings.

CFC offers its members an attractive value proposition and a premium "Doing Business" support that fosters the deployment of their activities in Africa. Driven by the ambition to cater to its community, CFC is committed to promoting its members expertise across the continent, while enabling fruitful business and partnership synergies through its networking platform.

Selma Bennis at Selma.Bennis@cfca.ma

www.casablancafinancecity.com



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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Kigali International Financial Centre, KIFC, is Rwanda's financial centre facilitating international investment and cross-border transactions in Africa. KIFC was established in 2020 and positions Rwanda as a preferred financial jurisdiction for investments into Africa by providing an attractive destination for investors, with a robust legal and regulatory framework fully compliant with international standards and competitive tax structures, including a network of double tax treaties.

KIFC attracts regional and international investors such as Pan-African based investment funds, asset managers and administrators, regional holding structures, foundations, and global trading firms.

In addition, with its niche focus on Fintech, KIFC offers FinTechs a framework to pilot their business models in a controlled environment before expanding into the wider African market.

https://www.rfl.rw/ info@rfl.rw



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 <u>carolf@cdi.org.cn</u> www.cdi.org.cn



The Taiwan Stock Exchange (the TWSE) started operations on February 9, 1962. The TWSE is responsible for operating and advancing the domestic securities market. TWSE primary business operations include listing, trading, settlement and surveillance. These comprise listing promotion and review, post-listing supervision and corporate governance, maintaining market trading and order, plus securities firms' services, investor protection, clearing and settlement operations, as well as safeguarding against market defaults and monitoring of illegal transactions. The TWSE provides comprehensive services to the securities market.

In line with the policy of the Financial Supervisory Commission (FSC) to promote Taiwan into the premier Asian Asset Management Center and advance the diversity and prosperity of the capital market, the TWSE will collaborate with its stakeholders to pursue four major goals aimed at building a world-class capital market and supporting industrial transformation: Establishing the Preferred Fundraising Platform for Enterprises; Leading the Path to Net-Zero Sustainability; Driving Product Internationalization; and Technology-Driven Innovation for Inclusive Finance.



The <u>Taiwan Academy of Banking and Finance</u> (TABF) is the foremost non-profit institution serving Taiwan's banking industry, and a trusted platform promoting the development and advancement of Taiwan's financial services. Advised by the Financial Supervisory Commission (FSC), it was established in 2000 through the merger of the Banking Institute of the Republic of China (BIROC) and the Banking and Finance Institute (BFI), and remains committed to fostering a modern, resilient, and inclusive financial system for a changing world.

TABF brings together stakeholders across the industry to provide opportunities for talent development, knowledge sharing, and networking. Working closely with both domestic and international partners, TABF provides customized and innovative financial training and certification solutions for the banking sector. Furthermore, it has also been working to improve the financial wellness of the public through financial literacy education, aiming to shape a banking sector that serves all of society.

In a nutshell, TABF is a unique and comprehensive platform committed to fostering a sustainable and inclusive banking industry, making it an essential organization in Taiwan and a valuable partner for the global financial community.

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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.

Youkyung Cho at <u>youkyung cho@seoul.go.kr</u> www.seoul.go.kr/main/index.jsp



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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Scottish Financial Enterprise (SFE) is the representative body for Scotland's financial services industry.

Our member companies range in size from global organisations headquartered in Scotland, to international companies with substantial operations in Scotland through to small, locally-based fintechs and support companies drawn from all areas of financial and related professional services.

SFE's vision is to promote a stronger, more inclusive and sustainable financial and related professional services industry that can play its part in solving the big challenges of our time, both locally and globally.

https://www.sfe.org.uk/



Established in 2001, the Financial Services Commission, Mauritius ('FSC') is the integrated regulator for the non-bank financial services sector and global business and is mandated to license, regulate, and supervise the conduct of business activities in the non-bank financial services sector and global business.

Our vision is to be an internationally recognised financial supervisor committed to the sustained development of Mauritius as a sound and competitive financial services centre. The FSC aims to:

- promote the development, fairness, efficiency and transparency of financial institutions and capital markets;
- suppress crime and malpractices so as to provide protection to members of the public investing in nonbanking financial products; and
- ensure the soundness and stability of the financial system in Mauritius.

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### 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.