SOVEREIGN WEALTH FUNDS 2024

RESILIENCE AND GROWTH IN A NEW GLOBAL LANDSCAPE

IE UNIVERSITY
CENTER FOR THE GOVERNANCE OF CHANGE

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SOVEREIGN WEALTH FUNDS 2024

RESILIENCE AND GROWTH IN A NEW GLOBAL LANDSCAPE

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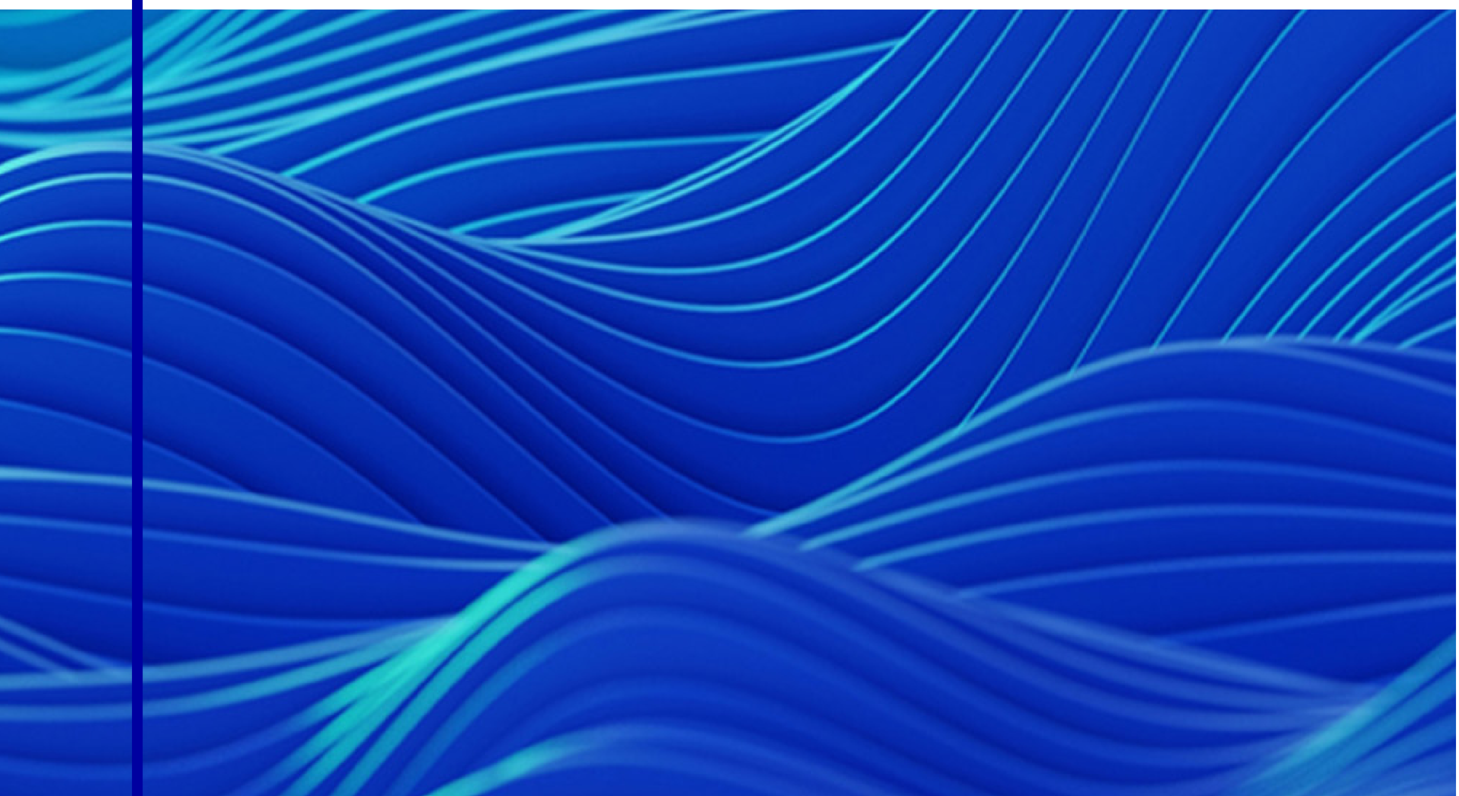

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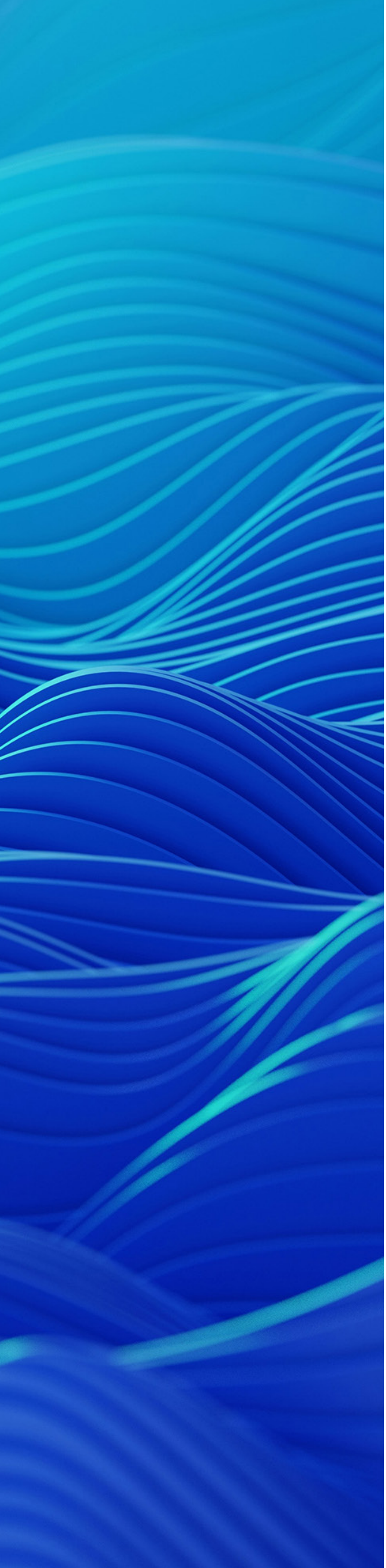

PREFACE

We are pleased to present the 2024 edition of the *Sovereign Wealth Funds Report*, a key reference for understanding the activity and trends of these important financial investors. This report is the result of a partnership between ICEX España Exportación e Inversiones and the Sovereign Wealth Research Center of the IE Center for the Governance of Change.

This edition is marked by the extraordinary circumstances arising from the war in Ukraine, which remains central to the global geopolitical landscape, and by the recent escalation of the conflict in Gaza and the Middle East, adding a new layer of uncertainty. The humanitarian crisis and international tensions associated with these conflicts have reshaped geopolitical relations and generated volatility in global markets. Political risks, combined with disruptions in supply chains, have forced countries to recalibrate their economic and trade strategies.

In this context, the International Monetary Fund (IMF) forecasts that global economic growth will only slightly decelerate from 3.3% in 2023 to 3.2% in 2024 due to better-than-expected landing of the high inflation and high interest rates period particularly in advanced economies. On this regard, advanced economies growth is projected at 1.8% in 2024 (+0.1pp than in 2023), while emerging economies, much more dynamic, will reduce velocity with an expansion of 4.2% in 2024, compared to 4.4% in 2023. Notably, China is facing a slowdown with growth projected at 4.8% (-0.4pp), affected by trade tensions and its fragile post-pandemic recovery, while the Indian economy, favored by global investors and less affected by geopolitical tensions, remains a key engine with an estimated growth of 7% (-1.2pp). Meanwhile, the Eurozone, which is still facing difficulties consolidating a growth trajectory, improves this year with an expansion of 0.8% in 2024 (+0.4pp). Headline inflation, while declining in advanced economies (from 4.6% in 2023 to 2.6% in 2024), remains a significant challenge for emerging market and developing economies (able to reduce it only 0.2pp to 7.9% in 2024), with global inflation projected to fall to 5.8% (-0.9pp) in 2024.

The foreign direct investment (FDI) landscape remains complex, influenced by geopolitical tensions, fragmentation and protectionist pressures. FDI weakened in 2023, with a 2% decline in global flows, reaching $1.3 trillion.

This was driven by geopolitical tensions, along with tighter global financial conditions. FDI into developing countries dropped by 7%, affecting particularly developing Asian economies and Africa, and less so to Latin America and the Caribbean, where commodities and critical minerals represented one of every four deals. Investments into sustainable sectors like renewable energy (-5%) or water and sanitation, critical for achieving Sustainable Development Goals (SDGs), saw a sharper decline of over 10%.

The FDI activity in 2023 and first half of 2024 was dominated by capital-intensive sectors. Renewable energy was the leading recipient, benefiting from $303 billion in pledged greenfield investments in 2023 and first half of 2024 (focused on emerging technologies like green hydrogen and in solar power). FDI in the first half of 2024 in renewables were five times larger than in coal, oil and gas. Reflecting a trend we analyze in this report, software and IT services fell out of the top 10 for the first time since 2013, just to return in 2024 aimed by Bytedance and Nvidia outlined capital expenditure plans. On its part, the semiconductor sector saw a surge, attracting $108 billion in FDI, particularly in the U.S. with announcements made by TSMC, Samsung and GlobalFoundries, catalyzed through the $52bn Chips and Science Act. Other key sectors included communications, with data centers attracting multi-billion investment, development and management partnerships across Asia-Pacific, Europe, Latin America and North America. A continued worldwide power shortage is inhibiting the global data center market's growth, implying imminent new investment needs (including small modular reactors) will appear to power the data and energy-intensive AI revolution.

THE ROLE OF SWFS IN THIS FRAGILE MULTIPOLAR WORLD

Sovereign wealth funds are not immune to these global dynamics, although their evolution is not always predictable.

> **For example, SWFs continued to accumulate more wealth in these months and their assets under management surpassed the $13 trillion barrier for the first time.**

This impressive 14% growth in assets compared to our 2023 Report had its greatest impetus in funds from the Middle East and East Asia.

The 2024 Sovereign Wealth Funds Report analyzes direct investments by SWFs from January 2023 to June 2024. The study witnesses a substantial growth of SWF activity with 473 investments (almost 50 deals more than in the 2023 Report) and shows a remarkable growth in the total transaction value reaching $211 billion (almost doubling the $118 billion value of the previous report). SWFs changed their industry preferences too. Sovereign investors focused on finance, with led the rankings, dethroning technology (in total deal count and total deal value) for the first time in 9 years. Energy came third in deal count and fifth by value. Communications went up the rankings with relevant transactions both in the infrastructure and services. Consumer sectors remain strong across SWFs, with defensive sectors (healthcare and agriculture) growing in number and value. The industrial sector remains attractive this year, reflective of the broader context of fragile geopolitics, disrupted global value chains and the rise of populism that incites domestic production.

> **The first five sectors (finance, technology, energy, industrial and health care) accounted for around 57% of all deals, with finance representing $37 billion.**

The finance and real estate sectors witnessed large transactions in payments, malls, hotels and asset management companies. On its part, the technology sector saw significant transactions in artificial intelligence and software.

A longer-term comparison of data from the current and previous reports provides insight into SWF activity since the pandemic period up to June 2024. Since then, top funds such as Temasek, GIC, Mubadala, QIA and ADIA have maintained their leading positions as the most active dealmakers. The PIF from Saudi Arabia is the only new challenger this year, appearing fourth. GIC recovers its position as the second most active SWF to Temasek, surpassing Mubadala.

The geographical distribution of SWF direct investment continues to favour the largest economies, but the 2024 Report reveals diverse outcomes on the two incipient trends identified in 2023: the United States dominance in deal volume and the battle of China vs India. First, the U.S. accounted for 31% of global transactions volume (almost halving its dominance from last year, 59%), and coming back to the pandemic period levels, 22%), thus evaporating the incipient trajectory, due to the strong performance of the resilient United Kingdom, Italy (due to the single largest deal of the year) and India. Secondly, China, whose economy suffered from long healthcare-based restrictions and technology export controls and tariffs, has been unable to surpass India for the second report in a row, thus consolidating the trend. China's deal count gap with respect to India almost doubles compared to the previous report, but it is able to reduce it when deal volume is considered.

The Report focuses on three other themes this year: the role of SWFs in the growing impact investing industry, the role played by funds in infrastructure investing and the new exposure of SWFs to technology, with a focus on artificial intelligence and water and food solutions. We invite our readers to explore by themselves how SWFs are framing these critical issues.

RESILIENCE AND GROWTH IN A NEW GLOBAL LANDSCAPE: SOVEREIGN WEALTH FUNDS IN 2024

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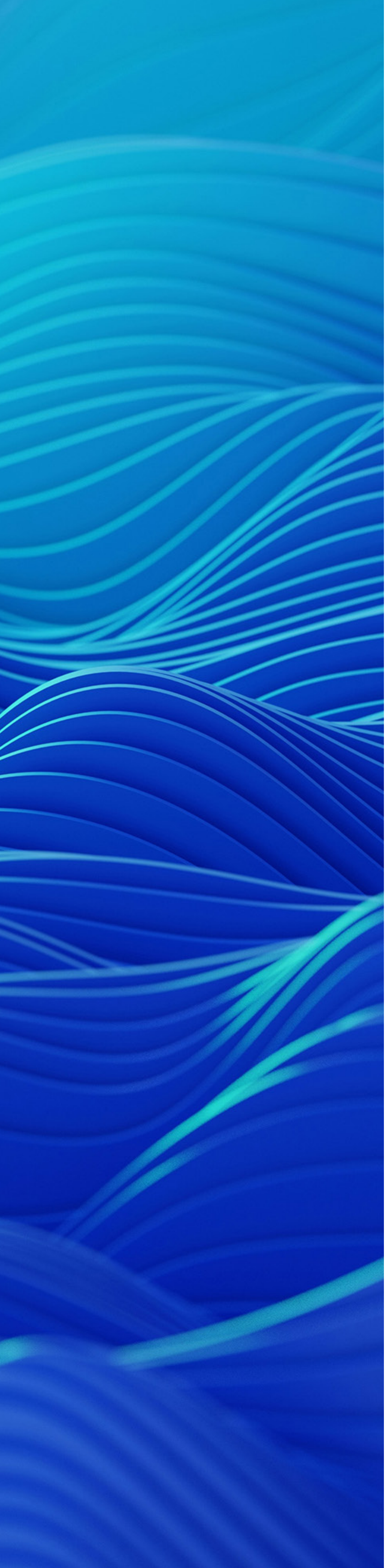


1-RESILIENCE AND GROWTH IN A NEW GLOBAL LANDSCAPE: SOVEREIGN WEALTH FUNDS IN 2024

1.
SWFS 2024: GROWTH AND INVESTMENT LANDSCAPE

The strength and assets of sovereign wealth funds (SWFs) continues to reach newer heights, as the SWF 2024 Report reveals that these investments giants have reached $13.2 trillion assets under management (AuM), up from $11.6 trillion since last years' report (a 14% increase). Growth again was led by the world's largest SWF, Government Pension Fund Global (GPFG) of Norway. GPFG's AuM rose $342 billion to $1.8 trillion (as of October 2024), from $1.4 trillion (a strong 24% increase). To put this into perspective, only 19 of the 195 countries in the world are above the $1 trillion threshold (in nominal GDP terms), and if GPFG were a country, it would be the 12th largest economy in the world, ahead of Mexico and just behind Russia. To see their current AuM, everyone can find it updated by the second on their website to track in real time, a hallmark of their transparent approach. Two powerful Chinese organizations, China Investment Corporation (CIC) and the quasi-SWF State Administration of Foreign Exchange (SAFE) —remained in second and third place for back-to-back years, with CIC holding $1.3 trillion, and SAFE with $1.1 trillion AuM. The 4th, 5th, and 6th positions are currently held by Middle Eastern funds: Abu Dhabi Investment Authority (ADIA), Saudi Arabia's Public Investment Fund (PIF) and the Kuwait Investment Authority. ADIA is now estimated at $993 billion, although the official figure remains unknown. Saudi Arabia's Public Investment Fund (PIF), at $978 billion, is the fastest growing large fund, with a 34% growth year on year. On its part, the Kuwait Investment Authority remains not far behind, with an updated estimation at $969 billion AuM. The complete ranking of top 100+ SWFs can be found in Annex 1 of this report.

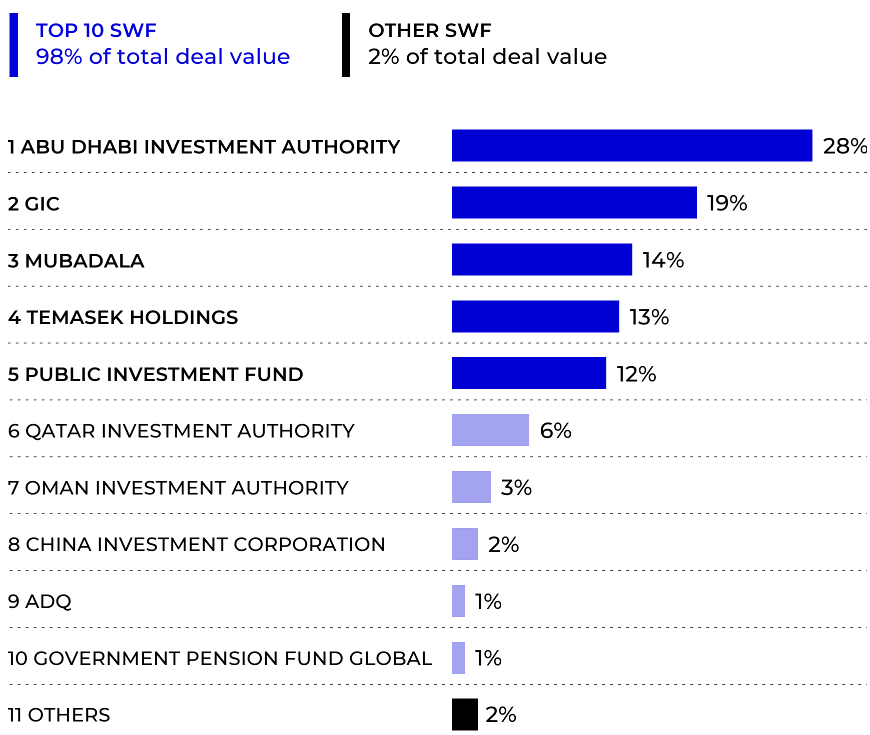
This SWF 2024 Report also witnessed growth of SWF activity with 473 investments (almost 50 deals more than in the 2023 Report) and shows remarkable scale of total transaction value participated by sovereign entities, reaching $234 billion (nearly doubling the $118 billion value of the previous report).

It is crucial to take notice that the SWF industry remains concentrated at the top with the 5 most active SWFs covering 86% of the total deal value with SWF participation from January 2023 to June 2024. Middle Eastern SWFs are growing not only their AuM but putting this weight behind mega-deals. PIF and Mubadala (UAE) are making splashes in this regard and have scaled the total deal value of the deals joined up 254% and 175%, respectively. ADIA and Qatar Investment Authority (QIA) are also doing more of the same, whose total deal value also jumped 93% and 84%, respectively. On the contrary, the value of the deals joined by GIC reduced 30% although the deal count activity grew 24% with respect to the 2023 Report.

FIGURE 1

The most active SWF by total deal value in 2024

Percentage of total value.

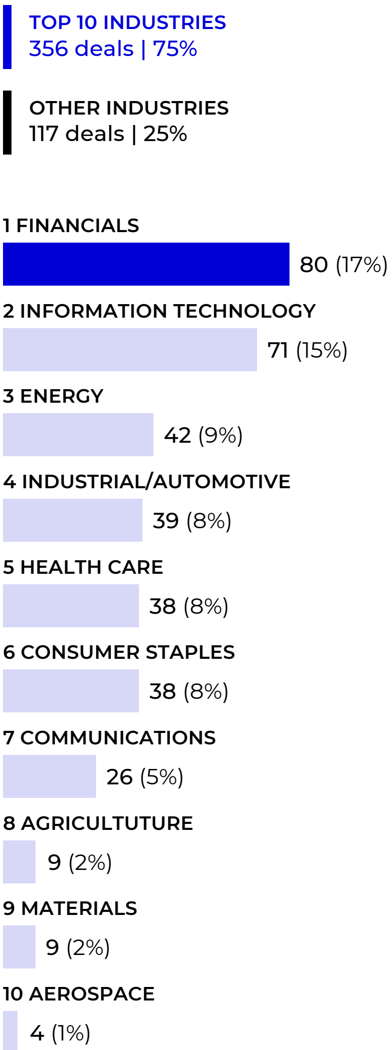


Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

FIGURE 2

Top 10 industries in 2024

Deal count, in brackets percentage of total deal count.



Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

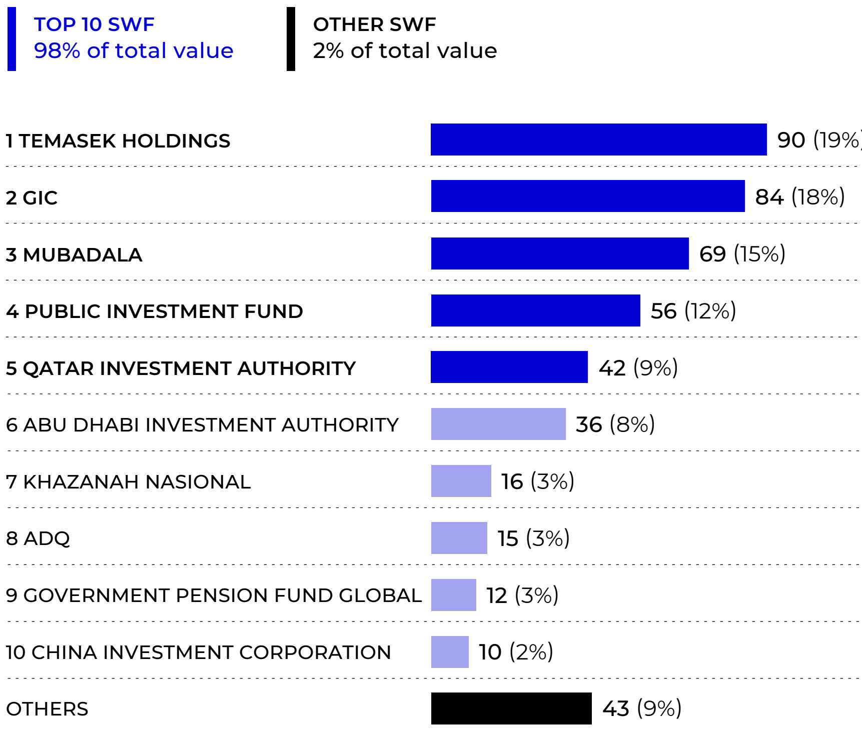
SWFs not only joined deals with much higher value but changed their industry preferences too. Sovereign investors focused on finance, dethroning technology (in total deal count and in total deal value) for the first time in 9 years. Energy came third in deal count and fifth by value. Communications went up the rankings with relevant transactions both in the infrastructure and services. The industrial & automotive sector remains attractive this year, reflective of the broader context of fragile geopolitics, disrupted global value chains and the rise of populism that incites domestic production. This may also reflect significant investment in electric vehicles (EVs), especially in India. Consumer sectors remain strong across SWFs, with defensive sectors (healthcare and agriculture) growing in number and value. The first five sectors (finance, technology, energy, industrial/automotive and health care) accounted for around 57% of all deals, with finance representing $37 billion. The finance and real estate sectors witnessed large transactions in payments, malls, hotels and asset management companies. On its part, the technology sector saw significant transactions in artificial intelligence and software.

Top SWFs have also been setting the pace on deal flow over the past year. Temasek (Singapore) topped the list when it came to total executed deals, participating in 90 deals, despite reducing the number of deals 26%, suggesting a more cautious approach towards tech deals in the Report period. As usual, Temasek is followed by GIC (84), which increased 24% the deal activity on the year, showing how different funds from within the same country can be used for different goals and investment strategies. Mubadala Investment Company (Abu Dhabi), with 69 deals consolidates its third position. PIF, on its part, saw a 155% jump in activity (the highest in this years' report) to occupy the fourth rank for the first time. All the above four funds almost executed one deal per week, at average values ranging from $300 to $520 million. On this metric, the average value of the deals joined by ADIA is worth highlighting, as it reached $1.8 billion, participating in 36 deals in the Report period. Again, concentration at the top remains a central feature of the SWF industry. In terms of deal activity, the first 5 concentrated 72% of all deals, while the top ten were involved in 91% of the SWF deals.

FIGURE 3

Top 10 SWF by deal count in 2024

Deal count, in brackets percentage of total deal count.



Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

2.
EMBEDDING SUSTAINABILITY, GOOD FOR PEOPLE, PLANET, AND BUSINESS

The balance of speed and scale (90 deals worth over $30 billion) by Temasek showcases their agility in investment identification and organizational alignment to make investment decisions consistently year after year, doing so with an embedded approach to sustainability. Their sustainability strategy is one of the best-in-class, not just amongst SWFs but in the financial sector more broadly. Temasek has established a net-zero 2050 plan, including targets to reduce portfolio greenhouse gas emissions by 50% by 2030 compared to 2010 levels.

These commitments are the basis and north star for their investment team decision-making across the investment cycle, from due diligence to exit. They are incorporating different sectoral approaches to decarbonization, which is crucial to address high greenhouse-gas (GHG) emitting and hard to decarbonize (hard to abate) sectors like heavy industry (cement, steel, chemicals) and heavy-duty transport (trucking, shipping, and aviation). A targeted approach to these high-emitting sectors will ultimately be the x-factor in reducing financed emissions in portfolios and reaching net-zero.

Temasek has also adopted the emerging "gold standard" of international reporting and risk management in sustainable investments. Specifically, this includes the IFRS sustainability standards created

by the International Sustainability Standards Board (ISSB). Temasek has also been participating in active partnerships with globally known impact investors like Leapfrog Investments, to diversify across geographies and sectors with measurable positive impact in emerging markets. There is much more to their approach if one dives deeper, and SWFs are following the lead (from Australia to Norway, through Abu Dhabi or France), as it does not appear that it is any accident that strong policies on sustainability are correlated with good business.

3.
SWFS SHIFTING CAPITAL TO THE GLOBAL SOUTH, REFLECTIVE OF A SHIFTING WORLD ORDER?

The geographic spread of SWF investments has balanced in a stark way, likely in response to slowing economic recoveries, high-interest rate environments, the rise of Global South powers, and a geopolitical fragmentation that justifies inward shifts to domestic priority needs (especially in the Middle East). In last years' report, the U.S. received 58% of all direct investments globally – now this has more than halved to 24%, though it still tops the charts of SWF investment destinations by total deal flow and value. Also, important to note the total investment in the U.S. has maintained the highest value by a significantly wide margin, totaling $66.5 billion, with the next closest being the U.K. at $26.1 billion. The U.S., despite its monetary tightening and high inflation, still remains a top spot to raise capital with its leading technology companies, especially in artificial intelligence (AI), a trend analyzed in-depth later in this report. Though the top 2 destinations (U.S. and U.K.) have maintained their ranks by deal value, SWF investment destinations may be encountering a global balancing.

This may be attuned to the rise of the so-called Global South, which is prominently taking a foothold in the mainstage, both geopolitically and economically. India is a prime example of this, and this will be analyzed more in-depth in Chapter 2. SWFs are investing in India's rise, fueling its strong economic growth over the past few years, which is averaging nearly 7% per annum from 2022-2024. They have overtaken China to retain the world's largest population, now standing at over 1.44 billion. India's entrepreneurial growth and strong policies on the green transition have attracted SWF investments, enabling 72 of the 473 deals (15%), valued at $17.4 billion, the 2nd and 4th spots, respectively. In terms of scale the Global South is just catching up, but the activity is notable. In Figure 4 you see that 4 of the Top 10 destinations in terms of deal activity are from emerging and developing economies: India, Brazil, Saudi Arabia, and the United Arab Emirates.

FIGURE 4

Top 10 destination countries by deal count

Deal count, in brackets % of total deal count, 2024.

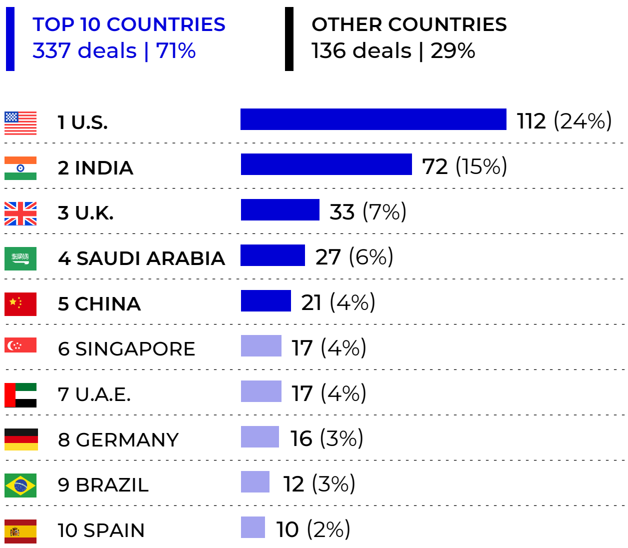
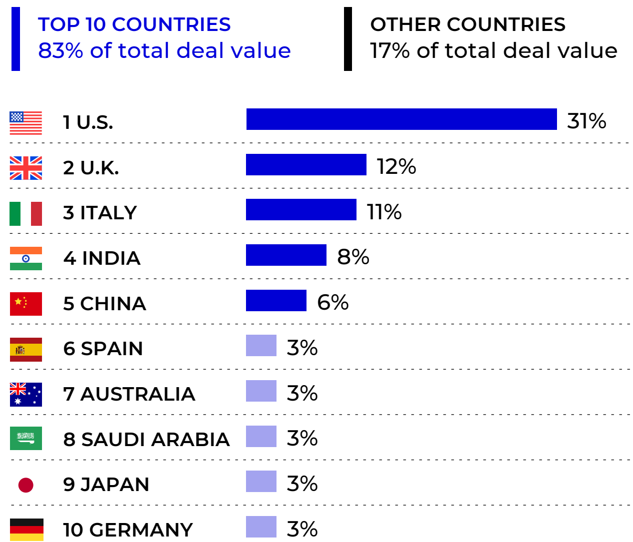


FIGURE 5

Top 10 destination countries by deal volume

Percentage of total deal volume, 2024.



Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

4. SWF INVESTMENTS WITHIN THE FDI CONTEXT: 4 KEY MEGA-TRENDS

SWF investments generally follow foreign direct investment (FDI) activity at a high level. In 2023 and first half of 2024, FDI was dominated by capital-intensive sectors like infrastructure, telecommunications, and renewable energy. Renewable energy was the leading recipient, benefiting from $303 billion in pledged greenfield[1] investments in 2023 and first half of 2024 (focused on emerging technologies like green hydrogen and in solar power). FDI in the first half of 2024 in renewables were five times larger than in coal, oil and gas. Reflecting a trend analyzed in the Report, global sof-

1 Greenfield refers to investments where a parent company establishes a subsidiary in a foreign country. Specifically, Greenfield FDI is when companies set up or expand their business operations abroad, creating brand new jobs and/or facilities from the ground up—as opposed to mergers and acquisitions, which occur when one company buys another. The term greenfield comes from the action of the company launching a venture from the ground up, essentially plowing and prepping a green field. An investment in a greenfield project gives the parent company the greatest control over its investment (ResearchFDI, 2022).

tware and IT services FDI fell out of the top 10 for the first time since 2013, just to return in 2024 based on new capital investments from major tech companies. On its part, the semiconductor sector saw a surge, attracting $108 billion in FDI, particularly in the U.S. with announcements made by TSMC, Samsung and GlobalFoundries, catalyzed through the $52bn Chips and Science Act. Other key sectors included communications, with data centers attracting multi-billion investment, development and management partnerships across Asia-Pacific, Europe, Latin America and North America. A continued worldwide power shortage is inhibiting the global data center market's growth, implying imminent new investment needs (including probably small modular reactors) will appear to power the data and energy-intensive AI revolution.

This Report focuses on 4 key trends driving SWF activity: investing in climate and sustainable development at home and in emerging markets, a focus on domestic and international infrastructure opportunities, artificial intelligence, water management and foodtech. Though not comprehensive of the entire universe of SWF activity, it is observed that these trends are powerfully shaping the global investment landscape. SWFs, with their $13 trillion AuM, are significant drivers of change. They have an ability to invest patient capital in long-term investments like infrastructure and frontier technologies, and mandates to invest in the prosperity of their nation's people - making them well placed to help solve global challenges. Some are already answering the call, and we expect this to continue for decades to come.

Mega-Trend 1:
Strategic Investment Funds and SWFs powering finance for the SDGs

Globally, the sustainable finance market reached $7 trillion in 2023, a 20% increase from 2022. Nearly three fourths of SWFs report using internationally recognized sustainability reporting standards like the TCFD (now ISSB) or One Planet Sovereign Wealth Fund

(OPSWF)[2] frameworks. Moreover, 77% of SWFs also require asset managers to outline their climate approaches. In 2023, SWFs allocated a record $9.7 billion across 40 deals in green sectors, including $5 billion in renewable energy and infrastructure. Today, more than two thirds (67%) of SWFs are considering or aligning holdings with the UN Sustainable Development Goals (SDGs), up from 48% in 2022. Yet achieving the SDGs and other climate goals set out by the Paris Agreement will require an unprecedented level of investment – especially in developing and emerging markets, where the SDG financing gaps are the highest.

In the face of the vast needs and challenges to attract foreign capital to achieve the SDGs, some developing countries have created specialized SWFs, known as strategic investment funds (SIFs) or national development funds (NDFs), to accelerate domestic economic development while attracting private capital. In Sub-Saharan Africa, one third of established SWFs are now considered SIFs, and about half of the International Forum of Sovereign Wealth Funds[3] (IFSWF) membership is now considered a SIF.

Internationally diversified SWFs, such as those in Singapore and the Middle East, have been increasing their investments in developing countries since 2015 only to drop in 2022, likely due to short-term factors like COVID-19 and geopolitical tensions. Despite this decline, long-term trends in developing markets remain strong, driven by factors like population growth and increasing consumer demand. India, with its booming middle class and renewable energy push, received 30% of SWF investments in developing markets in 2022, and as seen earlier has been the destination of 15% of SWF deals from January 2023 to June 2024.

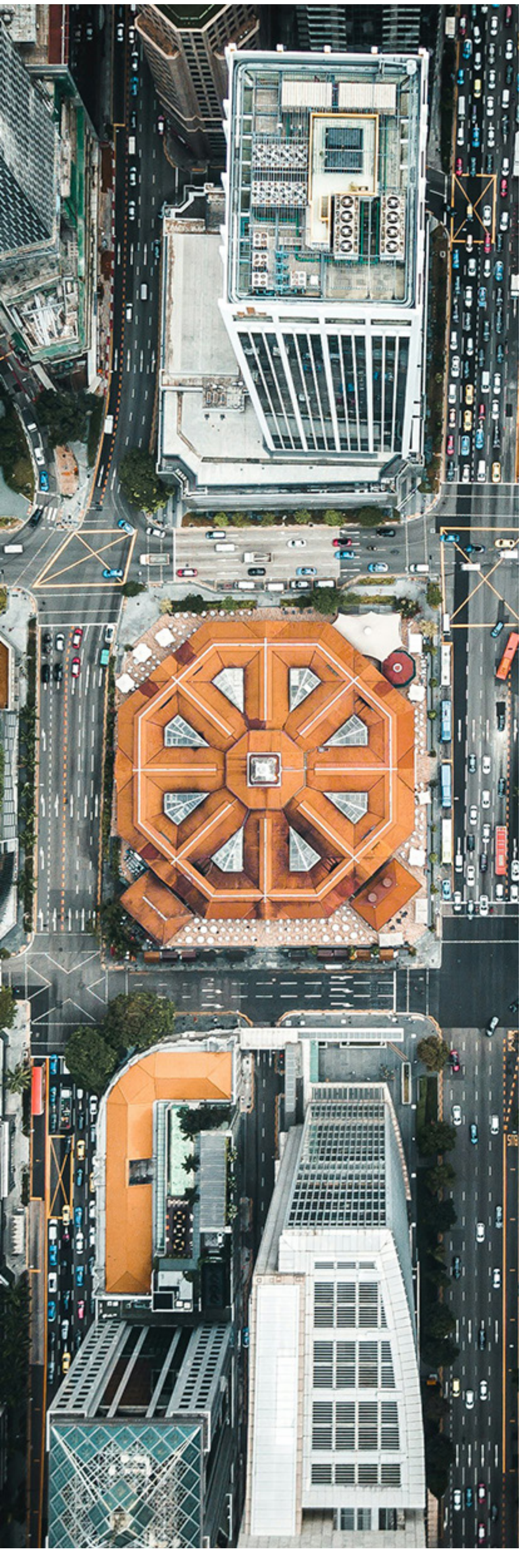
2 The One Planet Sovereign Wealth Funds (OPSWF) initiative, launched in 2017, brings together 33 major institutional investors to integrate climate change considerations into investment decisions, promoting sustainable, long-term portfolios and global climate action (OPSWF, 2024).

3 The International Forum of Sovereign Wealth Funds (IFSWF) is a voluntary organisation of global sovereign wealth funds committed to working together and strengthening the community through dialogue, research and self-assessment. It comprises about half of the world's SWFs (IFSWF, 2024).

Africa, with a population projected to grow from 1.4 billion to 2.5 billion by 2050, presents high growth potential, but faces significant investment gaps. Annual infrastructure financing needs range from $130-170 billion, yet total financial flows from 2016 to 2020 were only $130 billion. Meeting Africa's energy needs requires $22 billion annually to connect homes to electricity grids and $4 billion for clean cooking. Investments in electricity must rise from under $30 billion in 2022 to over $120 billion by 2030, with 50% going to renewables. Yet, despite the challenge, the prospects for African investment remain strong, as Africa holds 60% of the world's best solar resources, and geothermal potential across the Rift Valley is estimated at 15 GW. For example, analysis from the International Energy Agency (IEA) suggests that Kenya's geothermal energy may produce up to 50% of their energy needs by 2040. Moreover, Africa has a fast-growing population, which expects to make up 30% of the world's population by 2050. It also happens to be the youngest continent in the world, with a median age of about 19 years old.

As discovered earlier, India has emerged as a top destination for SWF investments. We observe that SWFs have focused on three key sectors in India: energy and climate, healthcare, and education. This trend aligns with India's rapid economic and demographic expansion, which has established the country as a global economic powerhouse. With 8.2% Real GDP growth in 2023 and a projected 7% in 2024, India is not only experiencing strong growth but also offers unparalleled investment opportunities. As the world's most populous country with 1.44 billion people, India boasts a burgeoning middle class projected to grow from 31% of the population today to 60% by 2047.

Energy and climate investments in India have soared as the country pursues ambitious targets to reduce carbon emissions and expand renewable energy. India, the third-largest emitter of carbon dioxide, has pledged to produce half of its electricity from renewable sources by 2030 and achieve net-zero emissions by 2070. Accordingly, clean energy investments reached $68 billion in 2023, a 40% increase from 2016-2020. SWFs have been key drivers of this transition. GIC, QIA or Mubadala have supported solo or in partnership with international players local companies' expansion in smart



metering technologies or the development of gigantic renewable energy projects. In the India's healthcare sector, there has been significant SWF investments too. With the public healthcare system under-resourced, private healthcare is expanding rapidly, driven by increased disposable incomes and a growing middle class. GIC and Temasek (Singapore) have played a pivotal role, acquiring strategic stakes in key hospital companies. Last, but not least is education, a cornerstone of sustainable development, that has also benefited from SWF interest. India's EdTech market, which grew at a compound annual rate of 16.8% between 2017 and 2022, has seen notable investments from Temasek and QIA, both focused on online education solutions and companies.

Mega-Trend 2: Infrastructure

Infrastructure projects are particularly appealing to SWFs due to their predictable cash flows and lower volatility compared to other asset classes, making them highly suitable for SWFs with long-term investment horizons. This is especially relevant as some SWFs, such as those in Australia, New Zealand, and Norway, anticipate substantial future liabilities tied to aging populations and pension obligations. Several key drivers are shaping the landscape of SWF infrastructure investments: decarbonization, urban development and digital infrastructure.

First, he decarbonization transition, spurred by the energy crisis following the Ukraine conflict, and global commitments to align with the Paris Agreement and reach net-zero by 2050, reached a key milestone in 2023 as solar energy investments ($382 billion) surpassed oil production investments ($371 billion) for the first time, reflecting the extraordinary (but predictable) cost reductions in solar investments, which have fallen by 90% in the last decade, with onshore wind not far behind – with a 70% reduction. SWFs are already in-line with this trend, as in 2024 a survey found that one-third of SWFs had carbon-footprinted their portfolios, and 68% cited long-term returns as a motivation for considering climate change in their investments. Meanwhile, the number of SWFs with specific mandates to address climate change doubled from 14% in 2022 to 29% in 2023. Progress is notable, but there is still a long way to go.

Second, Urban development in emerging markets also has driven SWF investments. Strategic SWFs like Saudi's PIF and Abu Dhabi Developmental Holding Company (ADQ) are channeling capital into transformative mega-development projects like NEOM and Ras El-Hekma, designed to stimulate tourism, innovation, and economic diversification. The PIF, on its part, is pivoting toward domestic projects, aiming to invest at least $40 billion annually in megaprojects amid falling oil revenues.

Third, the rise of digital infrastructure is a long-term mega-trend, driven by post-COVID demand and enhanced by the AI revolution. In 2023, spending on digital transformation technologies and services reached $2.15 trillion and is projected to grow to $3.9 trillion annually within three years. Investments in AI-related infrastructure, such as data centers and computational capacity, are expected to reach $200 billion by 2025. SWFs like GIC are leading such global efforts. In October 2024, the Singaporean giant launched a $15 billion joint venture with Equinix to expand hyperscale data centers in the U.S., targeting tech giants like AWS, Google Cloud, and Microsoft Azure. Moreover, the largest deal from January 2023 to June 2024 was ADIA's acquisition of a 20% stake in Telecom Italia's NetCo as part of a €22 billion deal, reinforcing its role in Europe's digital transition.

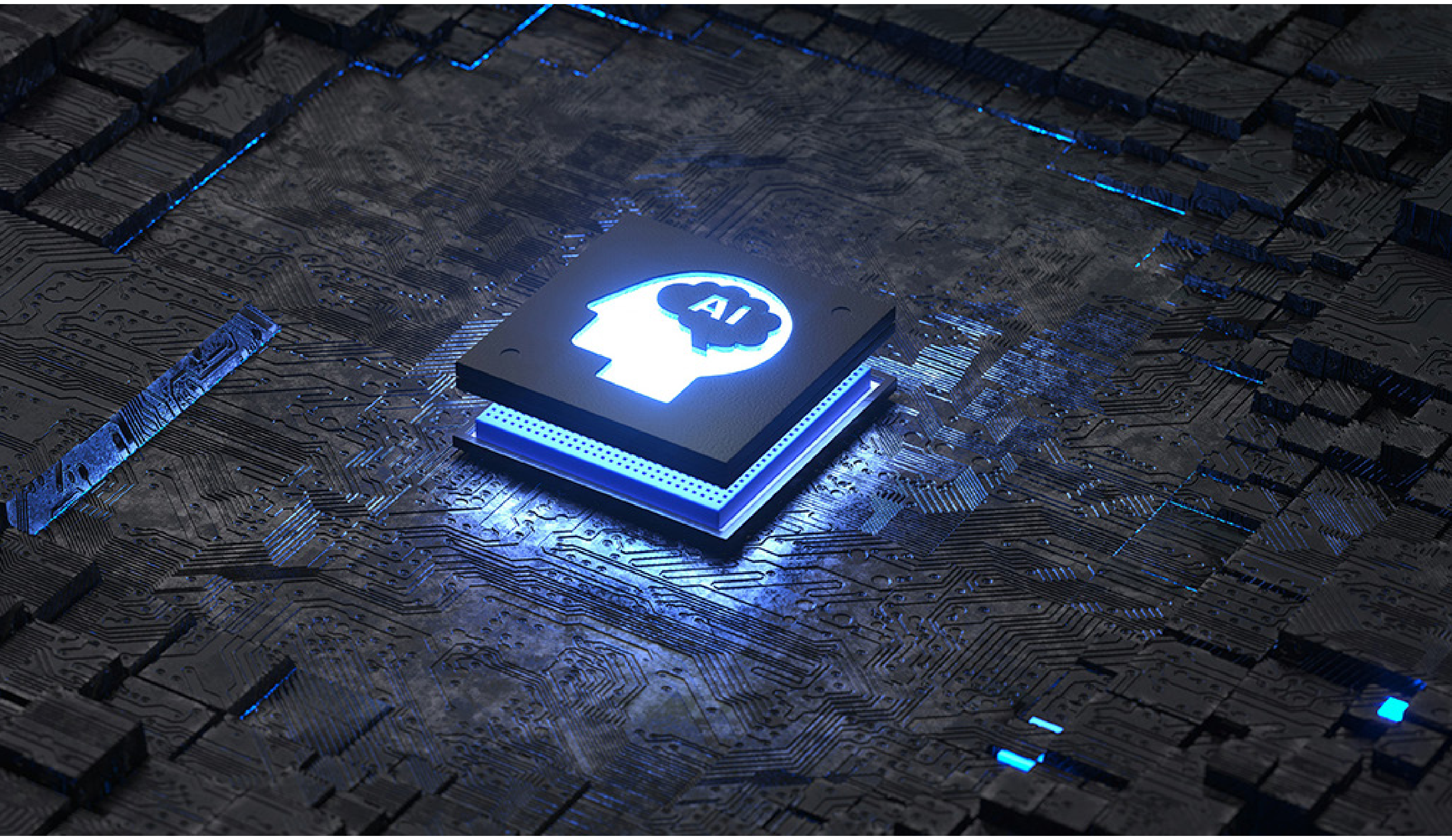
Mega-Trend 3: Artificial Intelligence

SWFs are increasingly focusing on artificial intelligence (AI) startups despite global economic challenges and a cooling tech investment landscape. AI remains a priority due to its alignment with SWFs' long-term investment horizons. AI technologies are reshaping industries like healthcare, finance, travel, and marketing, and the global AI market is projected to grow at a compound annual growth rate (CAGR) of 37.3% from 2023 to 2030. This immense potential has prompted SWFs to strategically position themselves in high-potential AI companies.

The prime example being SWF participation in the Series I funding round for Databricks which raised $500 million, led by NVIDIA and T. Rowe Price, with participation from SWFs like Qatar Investment

Authority (QIA) and GIC. This round valued Databricks at $43 billion, making it the second most valuable AI company after OpenAI. Today, more than 10,000 organizations worldwide, including 60% of the Fortune 500 companies use Databricks platforms to take control of their data and put it to work with AI.

SWFs are also diversifying their portfolios by supporting applied-AI unicorns in various specializations. Examples include CoreWeave for GPU infrastructure, Mistral AI for open-source models, and Figure AI for humanoid robots. Beyond startups, SWFs like Temasek are increasing stakes in U.S. technology giants driving the generative AI revolution, including Microsoft, Apple, Meta, and NVIDIA. Temasek has also led funding for AI-driven healthcare startups, such as Twin Health, which uses AI to address chronic metabolic diseases. This investment reflects the growing focus on health-tech and the societal impact of AI innovations.



Domestically, SWFs like Saudi Arabia's Public Investment Fund (PIF) are fostering local AI ecosystems. As part of Vision 2030, Saudi Arabia plans to invest $40 billion into AI and emerging technologies. Initiatives like the Saudi Company for Artificial Intelligence (SCAI) focus on nurturing local talent and attracting international firms. Collaborations, such as the partnership with Andreessen Horowitz, aim to establish a robust AI ecosystem within Saudi Arabia, balancing global investments with local economic development.

Mega-Trend 4: Water and Food(tech)

Water scarcity and inadequate sanitation represent some of the most pressing global challenges. Sounding the alarm in the 2024 World Water Development Report, the UN reports that more than 2 billion people lack access to clean and safe drinking water, while approximately 3.5 billion, or 44% of the global population, do not have adequate sanitation services. Compounding these issues, over 2.4 billion people live in regions experiencing high water stress, a figure equivalent to 30% of the world's population. Climate change is exacerbating these conditions, even in regions historically unaffected by water shortages, intensifying sustainability concerns and leading to temporary restrictions in supply.

Recognizing the critical nature of these challenges, SWFs, particularly those located in geographies where water and food scarcity are commonplace like the Middle East, are strategically channeling investments into investments designed to enhance resource management and sustainability – both at home and abroad. At home where water scarcity is a primary challenge, Saudi Arabia's PIF has emerged as a leader in addressing water challenges through large-scale projects under its Vision 2030 initiative. PIF's majority-owned subsidiary, ACWA Power is undertaking advanced desalination projects both domestically and internationally. These initiatives play a dual role in meeting immediate and long-term water needs while positioning Saudi Arabia as a leader in climate adaptation technologies. ACWA Power's work exemplifies how SWFs can harness cutting-edge innovation to address pressing resource challenges while advancing national development goals.

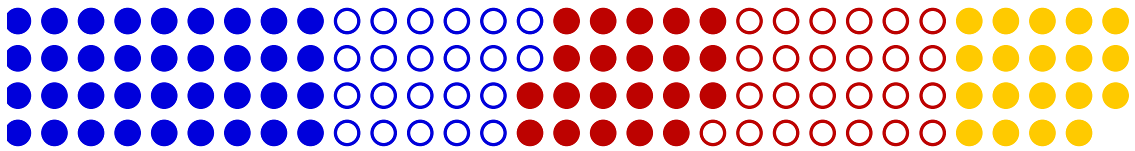
When looking abroad, Middle Eastern SWFs are also making moves to water management companies in developed markets like the U.K. For instance, QIA invested in Severn Trent, one of the UK's largest water utility companies, providing water and sewage services to approximately 8 million people across the Midlands and Wales. This move by QIA mirrors actions taken by other SWFs, such as ADIA or CIC which have invested in Thames Water – also out of the U.K.

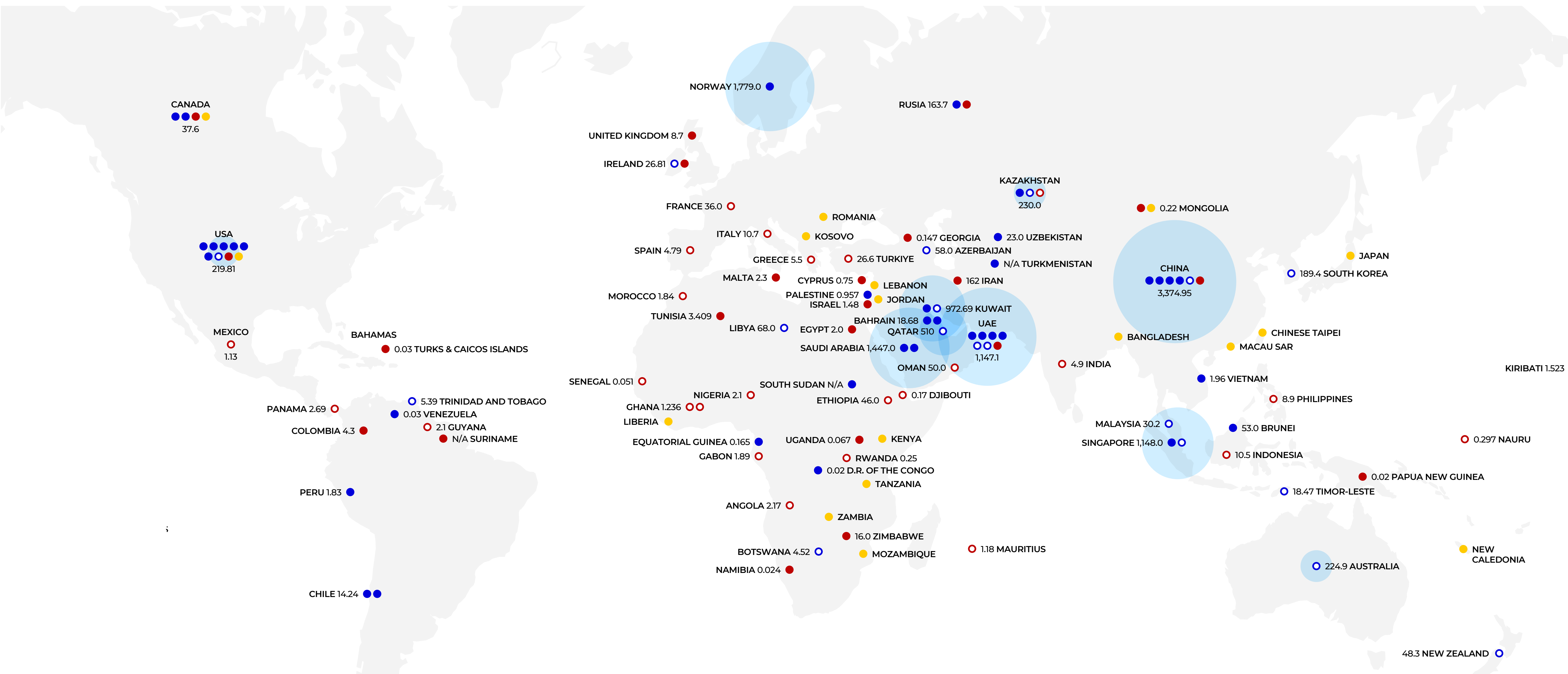
Temasek, the Singaporean SWF, has expanded its focus on sustainable technologies with a notable investment in Verdagy, a company specializing in green hydrogen. In August 2023, Temasek co-led Verdagy's Series B funding round alongside Shell Ventures. Verdagy's technology enables the production of green hydrogen through water electrolysis powered by renewable energy sources, such as solar and wind. By addressing the scale challenge of green hydrogen production, Verdagy aims to decarbonize previously mentioned hard-to-abate industrial sectors like steel and ammonia production.

Finally, the foodtech sector, particularly plant-based proteins, which experienced significant attention and SWF investment in the early 2020s as consumers and investors alike sought sustainable and healthier food alternatives is facing a tough correction. The sector has faced considerable challenges in recent years, including valuation declines and market corrections. SWFs have been active in this space, and the current downturn provides insight into the evolving dynamics of foodtech investments. Companies like Beyond Meat, Oatly or Impossible Foods received millions of dollars, including from SWFs since 2015. Yet, consumer adoption and operational hurdles, inflation pressures, and increased competition have reduced their valuations. This particular industry case offers interesting lessons to long-term investors like SWFs in their approach toward innovative solutions aiming to solve both social and economic challenges. No doubt that innovation in both the water and food industries will remain supported by SWFs, as detailed in the following chapters of this Report.

IE SOVEREIGN WEALTH RESEARCH RANKING 2024

PRE-2010 SWFs **(58)**
IFSWF MEMBERS **(22)**
NEW SWFs (2010-2024) **(46)**
IFSWF MEMBERS **(25)**
COUNTRIES CONSIDERING SWFS **(19)**
TOP 10 countries by AuM (US $ BILLION)





SOVEREIGN WEALTH FUNDS AND IMPACT INVESTING: A PROMISING RELATIONSHIP

2

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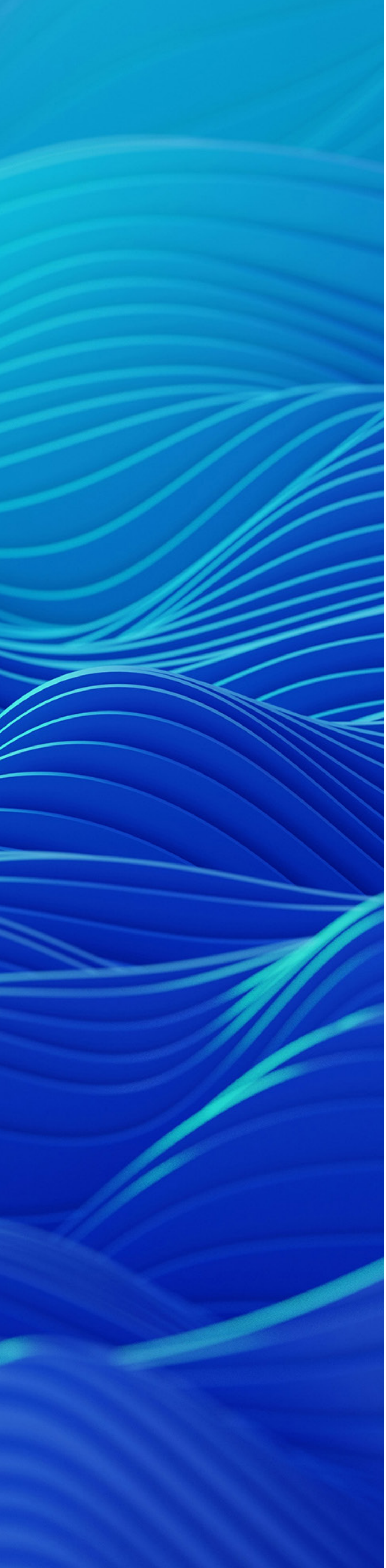


2-SOVEREIGN WEALTH FUNDS AND IMPACT INVESTING: A PROMISING RELATIONSHIP

1. ACHIEVING THE SDGS: GAPS IN PROGRESS AND FUNDING

According to *The Sustainable Development Goals Report 2024* issued annually by the UN, the world is only on track to achieve 3 of the 17 SDGs by 2030. Since the breakout of COVID-19, an additional 23 million people have been pushed into extreme poverty, 100 million more have suffered from hunger in 2022 compared to 2019, all while 2023 was the hottest year on record (UN, 2024). 2024 is already on pace to outdo 2023 in that regard, and likely mark the first time we reach the 1.5 degrees above pre-industrial level-threshold set as a key warming limit set by leading scientists at the UNFCCC.

A core measure of progress towards achievement of our high-level SDG goals is the finance gap assessment, where the UN's Department of Economic and Social Affairs (DESA)'s annual Financing for Sustainable Development Report makes this estimation. The 2024 report highlights that some urgent steps are needed to close the SDG financing gap, now estimated at $4.2 trillion annually, up from $2.5 trillion before COVID-19 (UN DESA, 2024). The gap is primarily concentrated in the energy, and water & sanitation sectors, which account for 85% of the investment gap increase and about 50% of the total gap as it stands now.

Slowing financial flows have disproportionately affected developing countries, in the least developed countries (LDCs) in particular. Foreign direct investment (FDI) flows to developing countries (considered a critical force for development), dropped 7% from 2022 to 2023, with a 10% reduction in SDG-aligned international project finance deals – primarily in agri-food, water, and sanitation. Most notably, there were fewer investments in these sectors in 2023 than in 2015 (the year when the SDGs were introduced) (UN Trade & Development, 2024). FDI into Africa in particular fell 3% to $53 billion, alongside a 26% decrease of international project finance deals. The overall level of FDI in Africa is critically low, and compared to other developing regions it is a tiny percentage of total FDI. The $53 billion going into Africa is fractional compared to $621 billion in Developing Asia, and $193 billion in Latin America and the Caribbean (UN trade & development, 2024).

> **A major barrier to achieve the SDGs are unsustainable debt levels in developing countries. Total public debt in developing countries has swelled from 35% of GDP in 2010 to 60% in 2021, with 29% owed to foreign creditors (UN trade and development, 2023).**

Debt levels have put many countries in default or at risk of doing so. In the past 3 years, there have been 18 sovereign defaults across 10 developing countries, which is the largest recorded number in the past 20 years. Currently, about 60% of low-income countries are at a high risk of debt distress or are already experiencing it (World Bank, 2023). In 2022 alone, developing countries spent $43.5 billion on their external and publicly guaranteed debt payments, and over the past decade interest payments have quadrupled to an all-time high of $23.6 billion in 2022, with a 5% jump year over year from 2021 to 2022 (World Bank, 2023). High debt repayments are hindering progress towards achieving the SDGs, diverting critical financial resources away from public investments in health, education, and climate change. This is already happening countries in Africa, Asia (excluding China), and Oceania, who are spending more on external debt interest payments than on health and education (UN Trade and Development, 2023).

2. SWFS TRENDS: INVESTMENTS IN GROWTH AND SUSTAINABILITY IN THE DEVELOPING WORLD

In the face of this challenge to attract foreign capital to achieve the SDGs, some developing countries have responded by creating specialised SWFs to accelerate domestic economic development alongside financial returns, with goals of bringing in private capital. These special purpose financial vehicles are considered SWFs but can be identified under an emerging class of SWFs called strategic investment funds (SIFs)– also known as national development funds (NDFs) (Divakaran et al., 2022). SIFs are becoming popular in Africa in particular. Overall, 1/3rd of Sub-Saharan SWFs can be considered "strategic" with 16.67% established as savings and stabilisation funds. In addition, research by the IFSWF found that at least 1/3rd of African SWFs have a core strategy of attracting foreign private capital to co-invest in local development projects, and around 16.67% have multiple mandates (Cleary Gottlieb, 2023).

Alongside the rise of SIFs domestically, internationally diversified SWFs such as those in Singapore and the Middle East are accelerating their presence in developing countries. Despite a slowdown in 2022, SWF investments in developing nations are on a steady rise since 2015 (see Figure 1 below). The reduction was significant, as global SWF investments in developing countries dropped from 44% in 2021 of the total share to just 14% in 2022 (IFSWF, 2023). The IFSWF attributes the drop to short-term factors like the economic after-effects of COVID-19 (especially due to China's zero-COVID policy) and geopolitical tensions. For example, China's COVID policies had ripple effects throughout Southeast Asia, where SWF investments fell from $9 billion to just $1 billion from 2021 to 2022 (IFSWF, 2023).

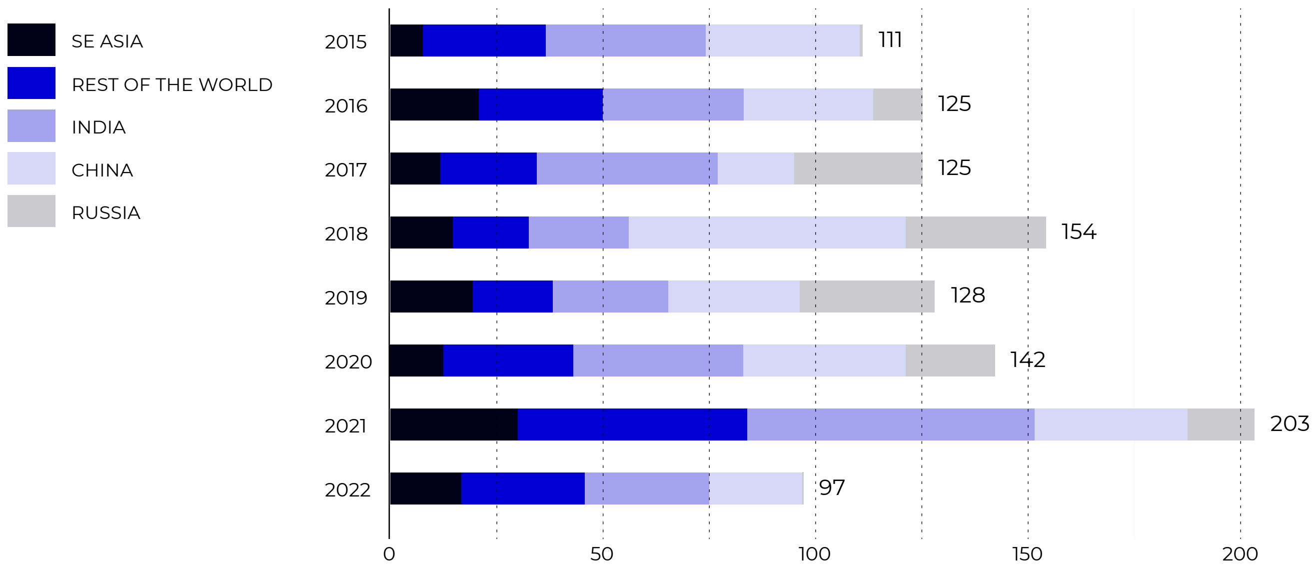
1 SIFs exist as special-purpose investment vehicles backed by governments or other public institutions that seek a double bottom line of financial and domestic Development returns. They invest in, and mobilize commercial capital to, sectors and regions where private investors would otherwise not invest or would invest to a limited extent (Divakaran et al., 2022). SIFs are also referred to as national development funds (NDFs), but simplification this paper will use SIFs as the primary definition.

Despite the drop, SWFs activities in recent years suggest that investment conditions in developing markets are reliable in the long-term due to strong underlying factors. Many developing nations are experiencing a booming population, and with it a growing middle class with higher consumer demand, healthcare, education, agricultural and infrastructure needs. These effects will play out in the long-term, but the shift is already underway. Take India, which has recently surpassed China as the largest population in the world, with more than 1.44 billion people as of July 2024. The middle class in India is expected to increase significantly in the coming years. It currently represents 31% of the population, but it is expected to make up 60% of the Indian population by 2047 (PRICE, 2023). Global investors, including SWFs have been investing considerably in India given a booming middle class and the country's push for renewable energy capacity, along with a more stable and friendly investment environment. In 2022, India received 30% of the total investments made by SWFs in developing markets (IFSWF, 2022).

FIGURE 1

SWF deals in developing economies

Deal count.



Source: IFSWF Database, 2022

Africa is another destination with high growth potential, but also large investment gaps, primarily in infrastructure and climate. There are some key social and demographic factors at play. Africa currently has around 1.4 billion people, which may swell to 2.5 billion by 2050 - which would represent over 25% of the world's population (IMF, 2023). Additionally, Africa is remarkably young, as the average age in Africa is 19.2 years old, making it the youngest continent in the world (Database Earth, 2024).

The case for more finance to flow from SWFs into key areas of development in Africa is clear, including, as it is estimated that the continent's infrastructure financing needs range from $130-170 billion a year (AfDB, 2023). Investments have not matched the needs in recent years, where in just over five years (2016 – 2020), financial

flows into infrastructure was only $130 billion in total. Additionally, solving Africa's housing backlog will require a total of $2 trillion over 10 years (World Bank, 2022). Another driver of growth is internet access. Achieving universal, affordable, and good quality broadband internet access in Africa by 2030 will require an investment of $100 billion to connect nearly over 1 billion new users. As a result, Africa's internet economy could contribute $180 billion to its GDP by 2025, and up to $712 billion by 2050 (IFC, 2020).

There are many opportunities, but also many challenges in Africa. As of today, 600 million Africans still lack access to electricity, with around $22 billion of investment needed from 2023 to 2030 per year to connect all African homes, and $4 billion for clean cooking. Around half of the energy needs in Africa are needed for electricity, and in the International Energy Agency (IEA)'s "Sustainable Africa Scenario", investments in electricity must scale up from under $30 billion in 2022 to more than $120 billion in 2030 (with 50% going to renewables). Despite this gap in spending, there is vast potential to achieve high levels of renewables adoption in Africa. Africa is home to 60% of the world's best solar resources, and has a high rate of commercial adoption (around 80% reaching investment decisions in the past 5 years) (IEA, 2024). In addition to solar potential, Africa's potential in geothermal energy production is enormous. The Rift Valley, stretching across 14 countries from Malawi to the Horn of Africa, has an estimated 15 gigawatt (GW) of potential power. Kenya is leading in geothermal adoption thus far, with nearly 1 GW installed in 2023, comprising 47% of its renewable energy power mix (Energynews Africa, 2024).

3. SWFS TRENDS: INVESTING IN SUSTAINABILITY AND IMPACT

According to *UN Trade & Development's World Investment Report 2024*, the value of the sustainable finance market globally (including bonds and funds) is climbing rapidly, reaching over $7 trillion in 2023 – a 20% increase from 2022 (UN Trade & Development, 2024). SWFs and other capital owners like public pension funds are joining this trend and embedding sustainability within their core strategies.

SWFs and the financial sector more broadly recognise the importance of embedding climate and sustainability considerations into investment decisions. Climate risk, for example, is no longer a distant and unmeasurable data point, though challenges of data quality and availability (especially in developing markets) persist. Understanding the potential negative effects of floods, wildfires, and market shifts away from oil and gas investments are clear data points that affect decision-making. Reporting these risks and opportunities is becoming mandatory in many countries across the globe, building off of voluntary initiatives like the Task Force on Climate-Related Financial Disclosures (TCFD) guidance, the Principles for Responsible Investment (PRI) standards, Global Reporting Initiative (GRI), and recently established International Sustainability Standards Board (ISSB). The ISSB aims to be to the global baseline of sustainability reporting, which has been already adopted by 20 countries up until May 2024 after just two years of establishment, including Nigeria and Morocco (IFRS, 2024).

Sustainability reporting and incorporation of ESG is consistently growing its adoption rate at SWFs, in line with global investor trends. Almost 75% of SWFs surveyed by the IFSWF indicate that they use a common reporting standard such as the TCFD, or a new framework created by the One Planet Sovereign Wealth Fund (OPSWF) Initiative. Besides their own sustainability reporting, SWFs are requiring it from the asset managers they work with. Up to 77% of SWFs required their asset managers to outline their approach to climate, with about 50% requiring the use of specific climate or ESG metrics (IFSWF, 2024). Climate is becoming mainstream criteria for investment decision-making at SWFs, not only for compliance or transparency reasons, but just a part of good business and risk management. 68% of SWFs reported that the motivation behind embedding climate into investment decisions was that it would improve long-term returns, with 62% believing it would reduce overall risk (IFSWF, 2024).

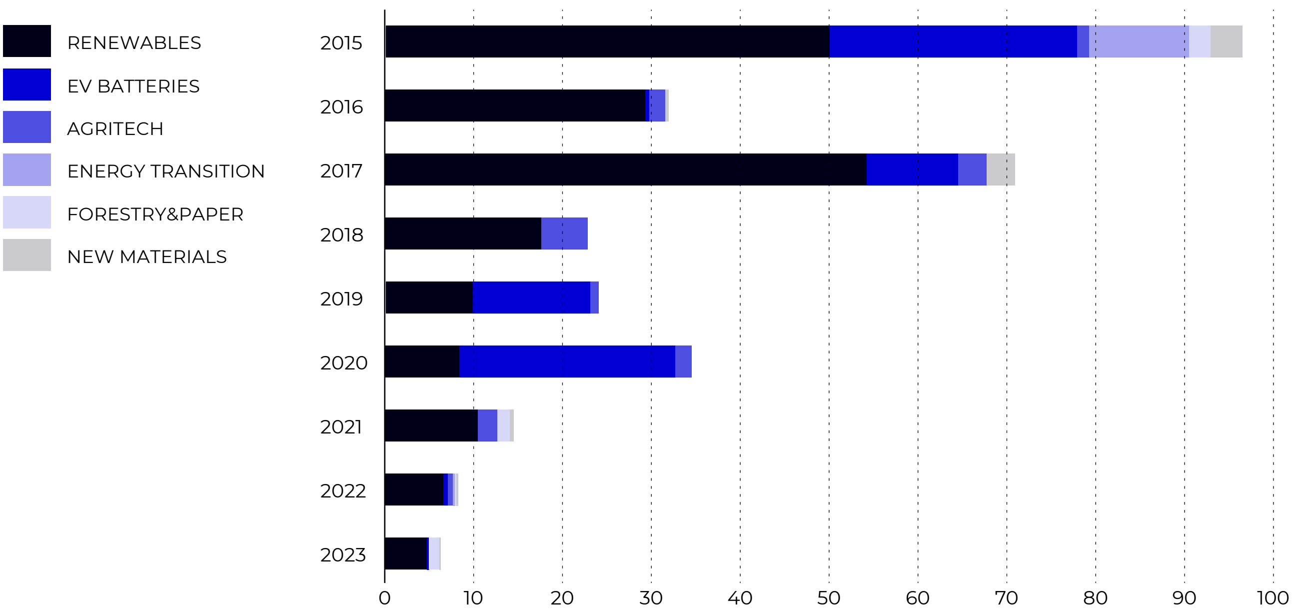
Beyond climate into areas of impact and development, SWFs are increasingly using the SDGs as a measure of success. SWFs use the SDGs as a preferred framework for targeting thematic sectors such as renewables, climate solutions, and the use of ESG-related financial instruments like green bonds. A recent UN analysis found in 2023 found that two-thirds (67%) of funds are considering one or more SDGs in their investment decision-making processes or aligning holdings with the SDGs, up from just 48% in 2022 (UN Trade & Development, 2023).

Behind the reporting and the strategic approaches are the deals and investments that are driving this step change in the investment cultures at SWFs. In 2023, the IFSWF found that SWFs allocated an all-time high of $9.7 billion of direct investments across 40 deals in green sectors. These sectors included renewable energy, agritech, energy efficiency and transition, new materials, and forestry. The most popular sector by far is renewable energy and infrastructure, representing $5 billion (over 50% of the total value) across 16 transactions (IFSWF, 2023).

FIGURE 2

SWF direct investments in climate opportunities by sector

Equity, $bn.



Source: IFSWF Database, 2024

SOVEREING WEALTH FUNDS SPOTLIGHT: FUELING INDIA'S ASCENT

Investors such as SWFs have been investing considerably in India in recent years, with investments growing bigger each year. In 2022 India received, according to the IFSWF, 30% of the total investments made by SWFs in emerging markets (IFSWF, 2022). SWFs have primarily allocated capital in three sectors: energy and climate, healthcare, and education.

When looking at the bigger picture, this trend runs in parallel with India's rise as a world economic power. India has been growing at a blistering pace, with 8.2% Real GDP growth in 2023, with expected growth in 2024 of 7% (IMF, 2024). Beyond economic growth, India is a fast-growing consumer market, as it overtook China as the world's most populous country in April 2023, with an estimated total population of 1.43 billion people (UN DESA, 2023). With more citizens than Europe, the United States, Russia, and Canada combined, India offers investors a massive single market, with exponential room for growth. The middle class in India is expected to increase significantly in the coming years. It currently represents 31% of the population, but it is expected to make up 60% of the Indian population by 2047 (PRICE, 2023).

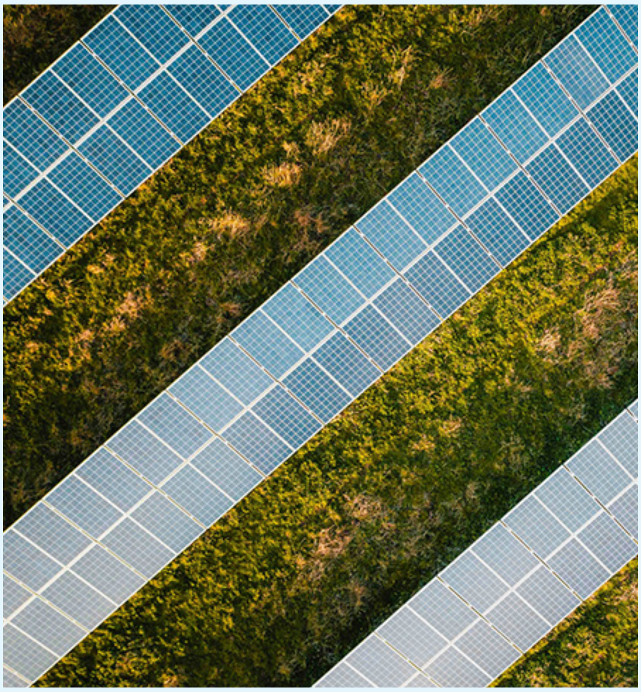


FIGURE 3

India's Economic Growth Tops the Charts Compared to Other Emerging Markets

Year-on-Year Change (in %) in Real GDP.

2024 data are estimates/forecasts.

-1.5 0 2.5 4.0 5.5 7.0 8.5

COUNTRY	2022	2023	2024*
INDIA	7.0	8.2	7.0
CHINA	3.0	5.2	4.8
RUSSIA	-1.2	3.6	3.6
TÜRKIYE	5.5	5.1	3.0
BRAZIL	3.0	2.9	3.0
MEXICO	3.7	3.2	1.5
SAUDI ARABIA	7.5	-0.8	1.5
EGYPT	6.7	3.8	2.7
MOROCCO	1.5	3.4	2.8
SENEGAL	4.0	4.6	6.0
NIGERIA	3.3	2.9	2.9

Source: IMF, 2024.

1. Energy and climate

Addressing climate change and scaling up investments in renewable energy is a top priority for India, which will put them on the path for achieving their climate goals and sustainable development. India is the third highest emitter of carbon dioxide (CO2) in the world, after China and the United States, with 7.3% of the world's CO2 emissions in 2023 (European Commission, 2023). India has responded to calls for carbon emissions reductions with a commitment to produce half of its electricity from renewable energy sources by 2030 (equivalent to reducing a billion tonnes of C02), and to reach net-zero emissions by 2070 (IEA, 2022). India has spent accordingly, with clean energy investments reaching $68 billion in 2023, a 40% increase from 2016-2020 (IEA, 2024). By 2030, India is expected to attain 500 GW of installed renewables capacity, from 150 GW today (IMF, 2023). Additionally, access to electricity has made astonishing progress since 2000, with over 700 million more gaining access since then (IEA, 2024).

Given the push to electrify and decarbonise, energy and climate have witnessed growing foreign direct investment in India, with SWFs being a key driver. The largest green SWF investment in India in 2023 was a partnership was formed by GIC in July 2023, where Chiswick Investment, an affiliate of GIC (Singapore's SWF), and Genus Power & Infrastructures formed a "Platform" to fund smart metering technology with an initial $2 billion pipeline, effectively supporting energy security and the green transition through grid optimisation and efficiency. Genus is the largest manufacturer of smart meters in India, and this transaction represents the largest in the space in the country. It is a key investment in the context of India's National Smart Metering Project, which plans to invest $30 billion to install 250 million smart meters across the country by 2025 (GIC, 2023).

Qatar Investment Authority (QIA) has recently made a splash in the Indian renewables market, taking a minority stake of 2.7% in Adani Green Energy Limited (AGEL), worth over $500 million in August 2023. AGEL has ambitious plans to build the world's large renewables park, Khavda Renewable Energy Park, in the state of Gujarat, India. It will cost $20 billion, and when completed in 5 years' time it will be 5 times the size of Paris, visible from space, and power up to 16 million homes in India (CNN, 2024). AGEL is looking to play a key role in the government's target to install 500[2] gigawatts (GW) of renewable energy by 2030, aiming to provide at least 9% of this target, with 30 GW coming from Khavda Park alone.

Green subsidiaries of India's largest business conglomerate, Tata Group, have also attracted much interest from SWFs in recent years. In 2022, Mubadala (UAE) invested, alongside BlackRock in Tata Power Renewables (Mubadala, 2022). Mubadala and BlackRock jointly invested $525 million in the company in 2022 for a 10.53% stake (Tata Power, 2022). This investment showcases Mubadala's commitment to investing in "renewable energy in multiple markets", per Mr. Khaled Abdulla Al Qubaisi, CEO of Mubadala (Times of India, 2022). Mubadala and BlackRock's joint investment in Tata Power Renewables established a new platform that encompasses all renewable energy activities carried out by Tata Power. This fits well into Tata Power renewables' 5-year growth plan, where they aim for a renewables targets to reach a portfolio of more than 20 GW of renewable assets, as well as achieving predominant market position in the rooftop and electric vehicle charging space across India (Times of India, 2022).

Tata Motors is another target of SWF investment. Tata Motors holds of 60% of India's EV market as of June 2024, selling 64,217 EVs in 2023, a 66% increase year over year. It also has ambitious plans to integrate rooftop solar (RTS) systems, with a goal of having 50% of the market utilising RTS by 2030 (Economic Times, 2024). Recently in February 2023 it was announced that Tata Motors began talks with SWFs to sell a significant minority stake (valued at about $1 billion), including a consortium of SWFs Abu Dhabi Investment Authority (ADIA), Mubadala, the Saudi Public Investment Fund, Temasek, and other major private equity players KKR and General Atlantic. But there has been no recent news indicating that the deal was completed.

GIC and the Abu Dhabi Investment Authority (ADIA) both have made significant investments in recent years into Greenko Energy Holdings, a leading renewable energy company in India. These two funds have contributed a combined $329 million and $495 million on separate renewables projects, while GIC is the main shareholder (Renewa-

2 For reference, one GW of power can power approximately 876,000 homes per year, meaning that 500 GW would power 438 million homes (Carbon Collective, 2024).

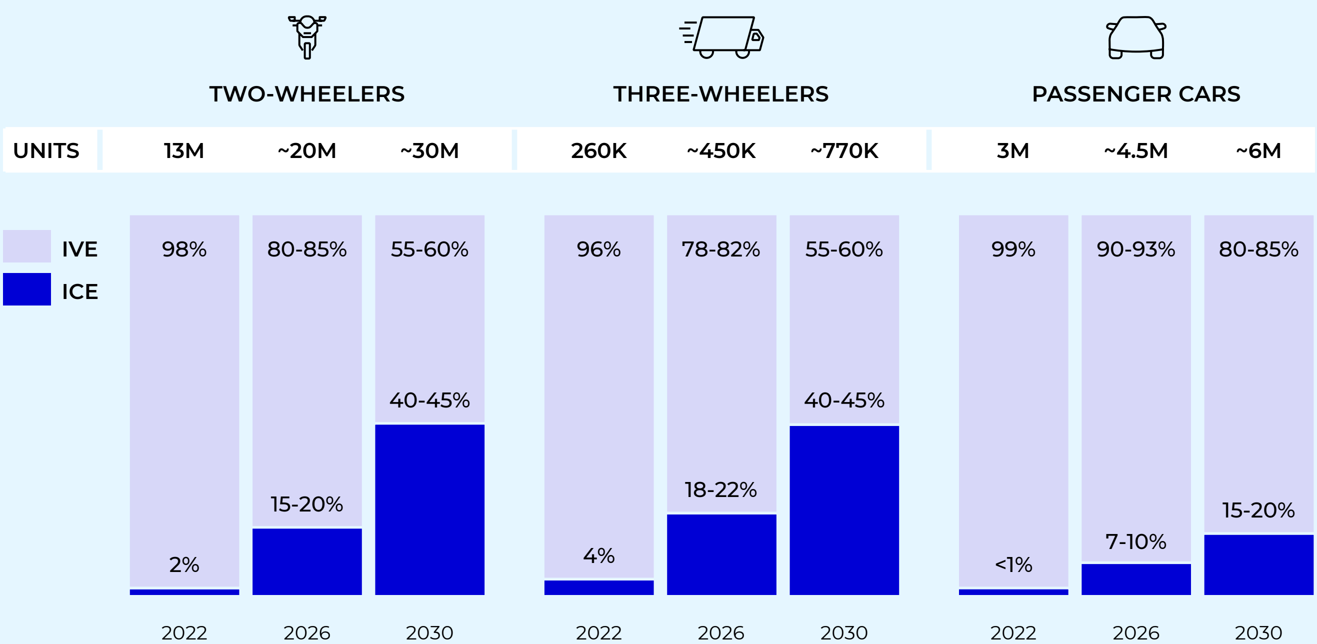
bles Now, 2019). The company has been active in 15 states in India and has installed a capacity base of 7.3 GW, representing roughly 2% of India's energy needs (Greenko, n.d.). In March 2023, GIC and ADIA reaffirmed their commitment to Greenko and the energy transition in India, providing a further $700 million in equity funding, alongside Orix Corporation and the company's founders (Greenko, 2023). This additional contribution from GIC and ADIA will be used by Greenko to accelerate the energy transition and decarbonization efforts through the supply of free carbon energy. Greenko will invest $700 million in capital expenditures for storage pump projects, which will have a storage capacity of more than 25 GW hours (GWh) (Greenko, 2023).

Climate change and the energy transition have also prompted the surge of electric vehicle (EV) production and consumption worldwide. India is a leader in EV production, and the government is betting big on electric vehicles through a $1.3 billion subsidy plan to encourage manufacturing and discounts to customers (AP News, 2023). India has millions of EV owners, with over half of India's three-wheeler vehicle registrations being electric in 2022 (IEA, 2023). Three-wheelers are one of the most popular vehicles in India, alongside the two-wheelers like motorbikes and rickshaws. GIC was the first SWF that has decided to invest in India's electric vehicle market. In October 2022, GIC invested in Euler Motors, founded in 2018, which designs and builds electric vehicles. In this instance they led a Series C financing where Euler Motors raised $60 million (Economic Times, 2022). Temasek also recently led a $140 million funding round in Ola Electric in September 2023, valuing

FIGURE 4

India's EV expected market growth by 2030

Projected BEV penetration rates for passenger vehicles in India, by vehicle class in percentage.



Source: Bain&Company, 2022.

the company at approximately $5.4 billion. Temasek contributed about $90 million to the deal (Business Today, 2023). Ola Electric is an Indian e-scooter maker, and since it began selling in late 2021 it has become India's market leader, with a 32% market share (Reuters, 2023). It is clear that SWFs are paying close attention to the potential of India's EV market, given India's net-zero ambitions and a rapidly growing consumer base. The EV market and green economy market is set for a boom for decades to come, with SWFs at the forefront.

3 GOOD HEALTH AND WELL-BEING

2. Healthcare

Investments in quality, accessible, and affordable healthcare for all is another key component of sustainable development. There have been strides in India's healthcare, with a booming healthcare market to take care of over 1 million people. But this growth has not come without challenges for the public. India has a publicly funded healthcare system, but private healthcare is expanding due a variety of reasons: overburdened public hospitals, government mistrust in public healthcare after a high COVID-19 death toll, and the increase in disposable income of a rising middle class. This can be problematic for inequality and accessibility, as high healthcare costs may leave the poor behind and reduce the abundance of affordable healthcare. Despite public healthcare being about four times less expensive than private, there is a general mistrust of the public healthcare system. A recent survey of Indians found that 72% of rural residents and 79% or urban residents would not trust a public healthcare facility (Niva Bupa, 2023). Therefore a part of India's economic growth prospects play into the hands of private healthcare providers, with the private healthcare market expected to expand at a 12-14% annual growth rate, which already stands at $48 billion (Reuters, 2023). India's private healthcare sector offers unparalleled opportunities for SWFs and other global investors to invest in a booming sector in India.

Take GIC for example, who has been very active in the healthcare industry in India recently. In February 2022, GIC and impact-oriented private equity firm TPG signed an agreement where GIC invested $170 million in Asia Healthcare Holdings, a specialty healthcare delivery platform. In a statement GIC's Africa and India Head of Investments mentioned that it "fits well with our strategy of investing in secular growth businesses in India and making quality healthcare more available and affordable" (VC Circle, 2022). GIC also bought, alongside U.S. firm Capital Group, private equity firm KKR's entire 26.8% stake of hospital chains from Indian healthcare firm Max Healthcare. Max Healthcare operates 19 hospital facilities (4,000+ beds) throughout India and a homecare and pathology business (Max Healthcare, 2024).

However, GIC is not the only SWF to be present in India's private healthcare sector. Temasek and ADIA have recently agreed to a deal where ADIA acquired 3% of the Temasek's shares of Intas Pharmaceuticals (Mint, 2022). In addition to its 7% equity stake in Intas Pharmaceuticals, Temasek has been an investor in eye care specialist Dr. Agarwal's, with a $38 million investment in 2019. This investment was followed up with and an additional $136 million, alongside TPG, in May 2022. The company was founded in 1957 and operates 125 hospitals in India and 14 hospitals in Africa. (HealthCare MEA, 2022).

Temasek has been active in other angles of the healthcare industry, owning a majority stake in Manipal Hospitals. In February 2024 it sold an 8% in Manipal Hospitals to an investor consortium including Mubadala, Novo Holdings, and the California Public Employees' Retirement System (CalPERS). This deal comes only 9 months after Temasek completed a $2 billion deal to up its stake in Manipal, which increased 41% to over 59% in total. Manipal Hospitals contributes the affordable healthcare industry in India through its multispecialty and tertiary care network, serving over 6 million people a year across 30 hospitals in India (VC Circle, 2024).

3. Education

Beyond energy, climate, and healthcare, the education sector in India has also received considerable interest from international SWFs. As a cornerstone of development, India's future economic growth and development depends on a well-educated youth and highly skilled working population. COVID-19 has boosted online education worldwide, and as a result the Indian EdTech market has grown at a compound annual growth rate of 16.8% between 2017 and 2022, reaching total revenues of $4.3 billion (Global Data, 2023).

Temasek and the Qatar Investment Authority (QIA) have recently invested in the Indian EdTech market. Temasek has invested twice in UpGrad Education, an EdTech company founded in 2015 and based in Mumbai. UpGrad Education offers job-linked online degrees, diplomas, and certificate courses in collaboration with top Indian and global universities. Temasek invested in UpGrad for the first time in April 2021, when it invested $120 million in the first external round that UpGrad had carried out since its foundation (Econo-

mic Times, 2021). Recently, in March 2023, Temasek injected additional capital into the company. This further investment has taken place in the context of a $36.4 million round in partnership with its co-founder, Ronnie Screwvala (VC Circle, 2023).

Similar to Temasek, QIA has invested twice (in 2019 and 2022) in the EdTech Indian giant Byju's. QIA's commitment to Byju's goes beyond a mere injection of capital. Both parties agreed on a memorandum of understanding (MoU) in May 2022, which established a subsidiary, as well as a research and development (R&D) centre in Doha (Byju's, 2022). There was also interest in early 2023 by ADQ to invest in Byju's, where it was speculated that there would be a $1 billion investment, but from research there is no news of its finalisation (Magzter, 2023). Overall, SWFs have become a major player in India's growing market and fuelling key areas of sustainable development, including climate, healthcare, and education.

FIGURE 5
Overview of recent Sovereign Wealth Funds investments in India

INVESTOR	TARGET AND SECTOR	ACQUISITION/FINANCING	CO-INVESTORS / AMOUNT
Temasek and Mubadala	**Manipal Hospitals** HEALTHCARE 2022 | 2023	Temasek sold 8% of 59% stake to Mubadala	USD 2 billion stake originally taken by Temasek in 2023, 8% sold to Mubadala, Novo Holdings, CalPERS in 2024
GIC and ADIA	**Greenko** ENERGY 2023	GIC owns 52% of the shares, and ADIA 14%	Orix and Greenko's founders also participated in the financing round / USD 700 million
Mubadala (with Blackrock)	**Tata Power Renewables** ENERGY 2022	Acquisition of 10.53% of the shares	No co-investors / USD 525 million
Temasek *Temasek via Rivulis	**Jain Irrigation System*** CLIMATE 2022	Owns 78% of the merged entity	No co-investors / Amount not disclosed
	Dr. Agarwal's HEALTHCARE 2022 | 2023	Financing	TPG / USD 216 million
	UpGrad education EDUCATION 2021 | 2023	Equity raising	Founder / USD 120 million
	Ola Electric ELECTRIC VEHICLES 2023	Pre-IPO financing	Co-investors included undisclosed family offices. / USD 140 million, with USD 90 million contributed by Temasek.
QIA	**Byju's** EDUCATION 2022	Equity raising	No co-investors / USD 250 million
	Adani Green Energy Limited ENERGY 2023	Acquisition of a 2.7% minority stake	No co-investors / USD 500 million initial pipeline
Asia Healthcare Holdings (GIC and TPG)	**Asian Institute of Nephrology and Urology** HEALTHCARE 2023	Acquisition of majority stake	No co-investors / USD 72.1 million
GIC	**Euler Motors** ELECTRIC VEHICLES 2022	Series C financing	Blume Ventures, Athera Venture Partners, QGR Holdings, ADB Ventures and Moglix / USD 60 million
	Max Healthcare HEALTHCARE 2022	Acquisition of 27.54% equity stake	Capital Group / USD 1.1 million
	Genus Power & Infrastructures ENERGY 2023	Capital financing for a "Platform", where GIC will hold a 74% stake	No co-investors / USD 2 billion initial pipeline
ADIA	**Intas Pharmaceuticals** HEALTHCARE 2022	Acquisition of 3% equity stake	No co-investors / Amount not disclosed

4.
SOVEREIGN WEALTH FUNDS FINANCING THE SDGS: POWERING CHANGE THROUGH PARTNERSHIPS

A trend that can't be ignored is that SWFs and other global investors are becoming more collaborative. SWFs are taking part in a more coordinated and strategic partnerships to achieve sustainability and climate goals, but also to facilitate deals and co-invest. SWFs are forging relationships both within and outside the traditionally tight-knit SWF community. For example, the IFSWF has partnered with another emerging SWF industry organisation, the One Planet Sovereign Wealth Fund (OPSWF) initiative in promoting the integration of climate-related financial risks and opportunities among SWFs and other institutional investors. Other key partnerships between SWFs in developing nations are being established in parallel, such as the African Sovereign Investors Forum (ASIF). ASIF was founded by 12 African SWFs in June 2022, and is a multilateral platform that has gathered leading African SWFs to foster collaboration and knowledge-sharing in order to accelerate capital mobilization for the benefit of inclusive and sustainable development in the continent. ASIF has also been endorsed by UN Trade & Development (formerly UNCTAD) to promote collaboration through co-investments with other in the energy transition, infrastructure, and the SDGs (UN Trade & Development, 2024).

Partnerships such as these can be beneficial in many ways, one being its purpose as a support network. SWFs, especially newly established ones in developing countries, must have strong governance mechanisms to maintain effectiveness and credibility - both domestically and abroad. In an assessment of their own capacities, SWFs in developing countries see themselves lacking in a few areas: investment strategy, risk management, governance and operational capabilities (Invesco, 2023). At the same time, SWFs believe that an effective way to build internal capacity is to learn from more established peers in fora like the long-established IFSWF. The ability to discuss privately, engage in constructive workshops, and learn from best practices from SWFs with similar and comparable characteristics and contexts are of great importance and use for SWFs.

The power of partnerships lies not only in the creation of a safe platform for knowledge sharing and capacity building, but also in the identification of investment opportunities. Some younger SWFs have indicated that they "partnered with the IFSWF to develop an investment framework and understand best practices in the industry. We also collaborate with sovereign funds on investments in areas such as infrastructure, technology, and healthcare. These partnerships help us access new opportunities and gain knowledge from other organisations" (Invesco, 2023).

Partnerships are critical, especially between different types of financiers, both public and private. "Blending" public and private capital, both domestically and internationally are an essential formula to produce more attractive and successful projects in developing contexts. A critical factor in achieving sustainable development is blending concessional capital such as grants and guarantees from various sources like development finance institutions, philanthropy and other public funds with commercial capital like private investors to produce a highly de-risked investment facility. Blended finance is growing faster and larger by the year, reaching a total value of $213 billion in 2023, with six deals worth over $1 billion – more than the past 5 years combined (Convergence, 2024). Blended finance provides more confidence in the possibility of market returns for private investors, while also potentially providing affordable financing for both large scale energy and infrastructure projects, and small and medium-sized enterprises (SMEs).

Blended finance mechanisms can be especially key in "last-mile" funding for SMEs, who are critical for economic growth in developing markets. According to the International Growth Centre, SME's make up 70% of jobs in developing economies and contribute nearly 35% to GDP (IGC, 2024). Yet, these businesses face two critical barriers. The first is limited access to financing, where it is difficult for them to access traditional forms of credit and working capital to growing their businesses. SMEs in Africa, for example, are frequently operating informally and therefore are potentially excluded from the traditional financial system. Analysis suggests that in Africa only between 20-33% of SMEs in Sub-Saharan Africa have a bank loan or line of credit. Second is the affordability of SME financing. Local bank interest rates in Africa are commonly in the double digits, with some reaching between 20-25%. Alternative providers like micro-finance institutions can charge even higher rates, charging up to 40-50% (CSIS, 2021).

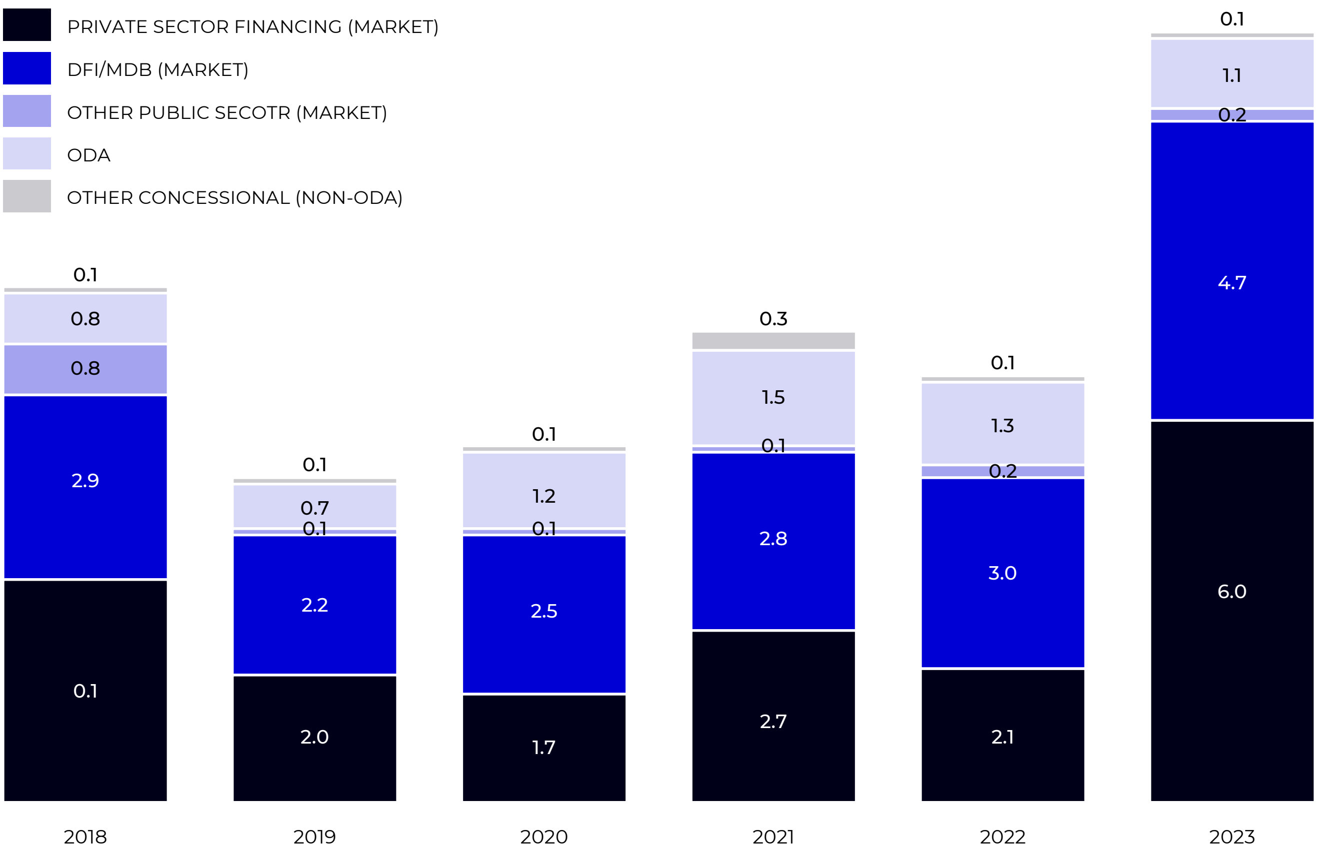
These factors together mean that SMEs, the backbone of many developing economies, are operating well below their potential and without critical financial resources. It is key that SMEs must be adequately provided with risk capital to attain financial viability, produce jobs, contribute to sustainability goals, and grow local economies. Blended finance has now become a necessary solution to scale-up SME financing, and this approach is extending beyond traditional forms of overseas development assistance (ODA). Development aid agencies and DFIs have traditionally been providers of concessional capital like low interest loans, grants, guarantees, equity, and technical assistance. But ODA alone in these forms is inadequate to achieve the SDGs. Other forms of finance will be critical to scale up blended finance, especially private finance alongside concessional capital from MDBs, philanthropy, and DFIs. This trend is already underway, where private sector contributions to blended finance tripled from 2022 to 2023, from $2.1 billion to $6 billion (see figure 6). Collectively together, the private sector and development banks (MDBs/DFIs) provided approximately 90% of blended finance capital in 2023 (Convergence, 2024).

Despite this upward trajectory of development banks and private capital driving blended finance deals, there are still untapped resources to unlock domestic resources into climate and SDG aligned projects. Convergence, the leading organisation analysing blended finance investments, suggests that domestic sources of capital (like SWFs and local commercial banks) should develop partnerships with other concessional capital sources (philanthropy, UN Climate Funds like the Green Climate Fund, MDBs) to explicitly target private sector mobilisation (Convergence, 2024). This need matches the

FIGURE 6

Sources of Financing for Climate Blended Finance Deals

Excluding guarantees and insurance instruments. 2018-2023, $bn.



Source: Convergence, 2024.

[2] In the developing economy context, rent-to-own schemes combines the flexibility of a rental contract with the commitment of a mortgage loan – by allowing equity to build up but also providing a way out of the deal, if the client decides not to buy or move on. Rents can also be adjusted in inflationary periods, while maintaining the growth in equity (World Bank, 2022).

models of many African SWFs or SIFs, who are the ones with mandates to invest in their home country's sustainable development, crowd-in private sector capital, and produce financial returns.

Accordingly, Africa has been setting an example for the rest of the world. Recently there have been new and impactful Pan-African financial mechanisms to scale up private sector financing in the SDGs through blended finance, with SWFs at the core. A powerful example of this in the African context is the Africa50 initiative, which, in itself, resembles a sort of "Pan-African" SWF (as it's not benefitting only one country, but many). Africa50 was created as an infrastructure investment platform by African governments and the African Development Bank to help bridge Africa's infrastructure funding gap. They do so by facilitating project development, mobilising public and private sector finance, and investing in infrastructure on the continent. Africa50 will catalyse further investment flows to the development of critical infrastructure across the African continent, including energy, transportation, and telecommunications, while also expanding into other critical sectors liked education, healthcare, and fintech (Africa50, 2024).

Africa50 finances sustainable development projects through equity funding and project preparation for bankable infrastructure projects, equity and quasi-equity through project finance. SWFs have become a key developer in this initiative, as the Nigerian Sovereign Investment Authority (NSIA) (Nigeria's SWF), alongside the African Development Bank (AfDB), the International Financial Corporation (IFC) at the World Bank, and CDG Invest, established a $500 million Africa50 Infrastructure Acceleration Fund in 2023. This is a landmark agreement, as it is the first private infrastructure investment platform that has been launched by Africa50 (This Day, 2024). So far, Africa50 has funded over $6.6 billion worth of projects in since its establishment (Africa50, 2024). This model signals that aligning domestic and international sources of concessional capital can provide the needed risk-capital for Africa's development to crowd-in private finance, but this idea extends to other developing economies.

Another recent successful collaboration connected IFC and FONSIS, Senegal's SWF. In this partnership, IFC and FONSIS will acquire 20,000 homes over 8-10 years from developers and make them available to lower-income earners through a rent-to-own scheme[3]. This innovative mechanism facilitates affordable home ownership in a country facing rapid population growth and housing shortages, but also encourages Senegalese people to save for retirement and plan for their children's education through investment opportunities like insurance (IFC, 2022).

An innovative partnership has also taken shape between Temasek (Singapore), and powerhouse impact investing firm LeapFrog Investments. Temasek recently entered into a $500 million strategic partnership in March 2021. LeapFrog Investments is an impact investing firm with estimated assets under management over $1 billion. They invest in financial services, healthcare, and energy & climate businesses in Asia and Africa. Since its inception in 2007, it has now reached over 537 million people through its companies as of December 2023, and 359 million in emerging markets living on less than $11.20 a day (LeapFrog, 2024). The two parties have established a multi-fund investment, where Temasek will anchor LeapFrog's future funds. Temasek will also take a minority stake in LeapFrog and provide growth capital to support LeapFrog's expansion and investment capabilities across Asia and Africa. LeapFrog and its investment process will continue to be managed and controlled by its team of partners, with Temasek taking one non-executive seat on LeapFrog's management board (Temasek, 2021).

Though as these examples suggest, many partnerships and blended finance mechanisms that include SWFs, development finance, and the private sector have focused on large-scale projects in renewable energy and infrastructure. This makes much sense, given that SWFs are long-term investors who have the patient capital to invest in these 20+ year development projects. Yet as mentioned earlier, there is still a need for investments in SMEs in SDG-aligned

3 In the developing economy context, rent-to-own schemes combines the flexibility of a rental contract with the commitment of a mortgage loan – by allowing equity to build up but also providing a way out of the deal, if the client decides not to buy or move on. Rents can also be adjusted in inflationary periods, while maintaining the growth in equity (World Bank, 2022).

sectors, presenting a massive opportunity for domestic SWFs to work with other local sources of commercial capital (like local asset managers, commercial banks) alongside other forms of domestic and international concessional capital sources. These actors working together to de-risk projects and bring in private investments will be the key to unlock SDG-aligned financing in developing nations, especially powering SMEs who may lack access to traditional forms of financing.

5.
POWERING PARTNERSHIPS: THE SOVEREIGN IMPACT INITIATIVE (SII)

Acknowledging the power and the need for innovative partnerships to finance the SDGs in developing countries, a recent initiative at IE University between African SWFs has been launched. This partnership, known as the Sovereign Impact Initiative (SII) is a project between the Center for the Governance of Change (CGC) at IE University, the International Forum of Sovereign Wealth Funds (IFSWF), and the UN Joint SDG Fund & UN Development Programme (UNDP) (UN Joint SDG Fund, 2023). The SII's goal is to transform the investment culture of global SWFs, strategic investment funds (SIFs) in developing economies, and other global investors to channel financial resources to impactful projects aligned with the UN SDGs, with the aim of country ownership over domestic development. The SII is doing so through four key action areas:

1. Financial vehicle creation to mobilise capital into SDG-aligned projects through blended finance.

2. Research and analysis of impact investing trends at SWFs and other development financiers.

3. Education and training on impact investing, measurement, reporting.

4. Outreach to build a community to align on best practices.

The SII aims to solve a classical market failure introduced by asymmetric information between investors across different contexts. On one side, commercial investors (such as private investors and DFIs, are seeking attractive and consistent projects in developing markets (that require stronger project preparation in many cases), but they may lack the local knowledge, capacity, and investor protections to do so. On the other side, SIFs with local knowledge and expertise must de-risk and crowd-in commercial capital to build markets and finance critical development needs. This long-term project aims to bring these parties together to scale up financing for development, and consequently reduce the perceived and real investment risks of SDG-aligned projects in developing countries. The SII will start with a first cohort of African SWFs, but has ambitious plans to reach other countries in Africa and beyond, aiming for Latin America and Southeast Asia. The SII will align itself with the goals of existing global investor partnerships, promoting collaboration and coordination to achieve global climate and sustainable development goals laid out by the UN.

Advancing progress towards financing the SDGs calls for investors like global SWFs and domestic SIFs to respond to these global needs and challenges. Such voluntary partnerships and communities have successfully advanced co-investments among SWFs, as seen in Africa and elsewhere. A multi stakeholder approach is needed to enable co-investment opportunities necessary to provide the essential risk capital through blended finance mechanisms. The convening power of the UN will continue spreading to reach relevant financial actors such as SWFs, with aims to facilitate innovative financial mechanisms critical for closing the SDG funding gap. The timing is pivotal, as we are quickly approaching the 4th International Conference on Financing for Development (FfD4) in 2025. This conference will set the enabling conditions and framework for global action on financing for development aligned with the UN SDGs and Agenda 2030. Innovation and systemic change requires strong leadership and a multistakeholder approach, similar to that of the Paris Agreement in 2015. Partnerships for the goals, (SDG 17), proves more needed than ever.

SOVEREIGN WEALTH FUNDS IN INFRASTRUCTURE: DRIVING LOCAL AND GLOBAL DEVELOPMENT

3

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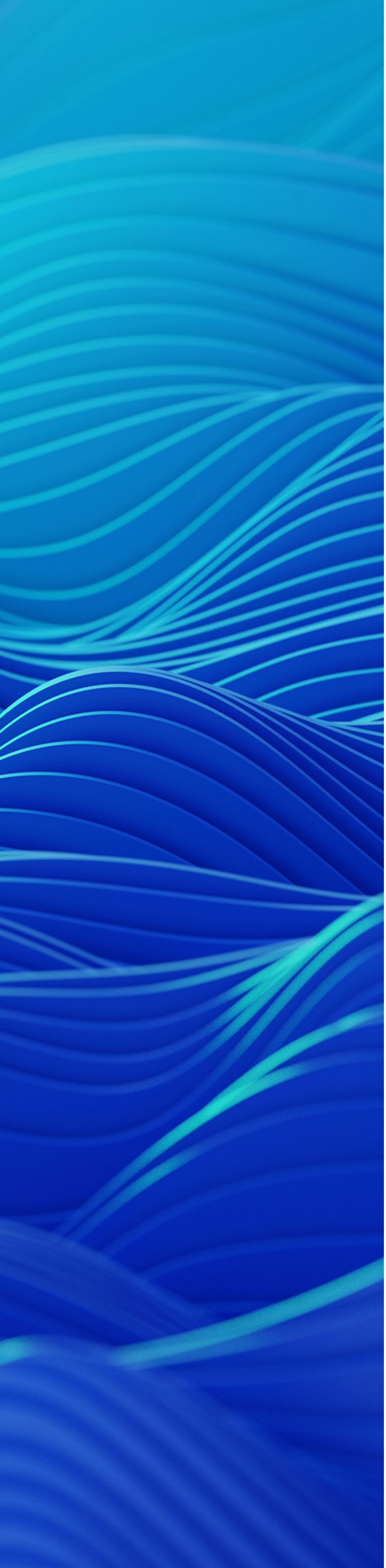


3-SOVEREIGN WEALTH FUNDS IN INFRASTRUCTURE: DRIVING LOCAL AND GLOBAL DEVELOPMENT

1. INTRODUCTION

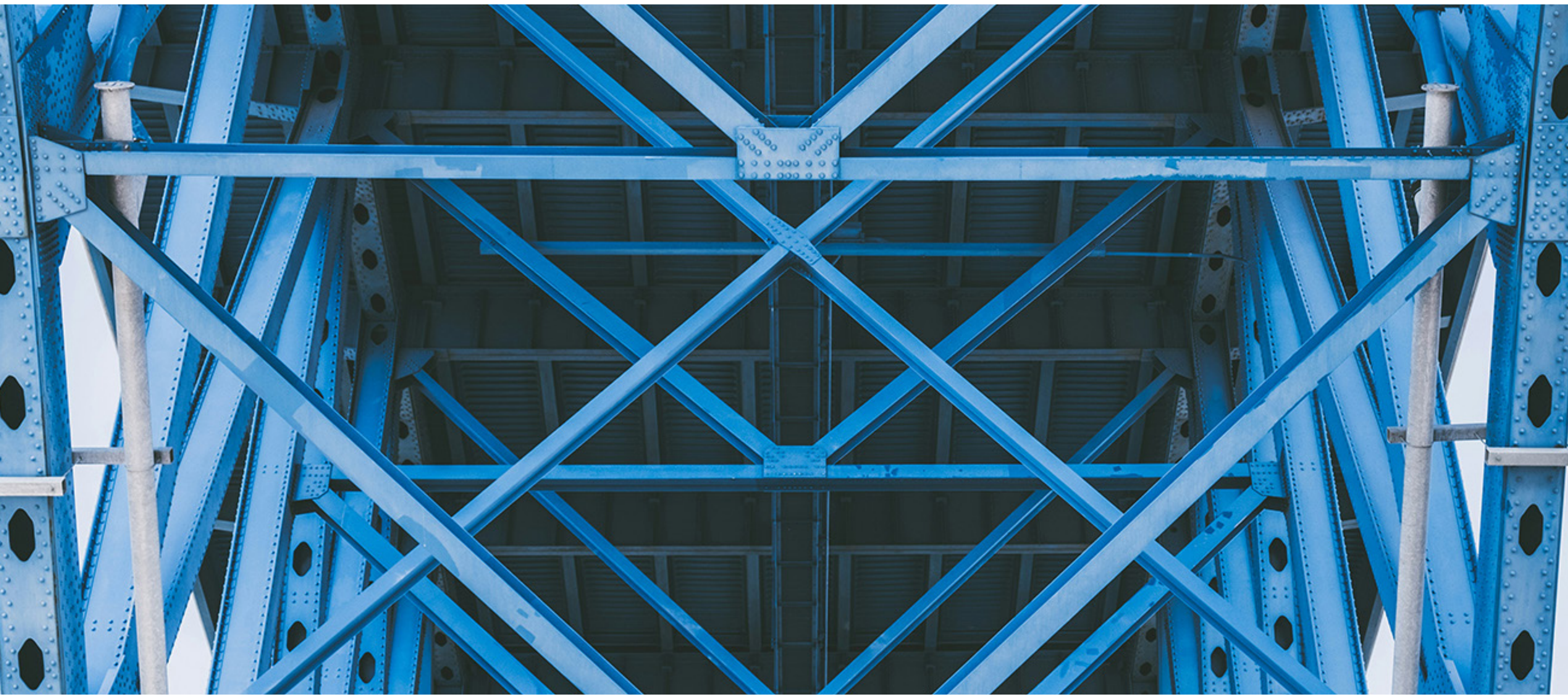
Sovereign Wealth Funds (SWFs) have become increasingly influential in global markets, managing a combined total of over $13 trillion in assets. As of December 2023, SWFs control approximately 12% of global infrastructure investment, highlighting their pivotal role in this sector. These state-owned investment vehicles manage excess revenues from natural resource exports or trade surpluses. Most of them invest abroad. Sometimes, SWFs make use of fiscal surpluses to get established. But in recent times, even highly indebted countries running fiscal deficits like the United Kingdom and, particularly, the United States, have either proposed or planned the idea of establishing a SWF. In the case of the latter, one of the goals of the new fund will be to foster domestic infrastructure investments. Yet, as we will see in this chapter, infrastructure investment is not reduced to the domain of strategic domestic SWFs, but instead has been used as a risk and asset diversification tool by international SWFs over the last 40 years.

2. THE STRATEGIC IMPORTANCE OF INFRASTRUCTURE IN GLOBAL PORTFOLIOS

Infrastructure investment is a cornerstone of global portfolios, providing stable, long-term returns and serving as an effective hedge against inflation to institutional investors. According to McKinsey, the global infrastructure market has seen a significant influx of private capital, surpassing $1 trillion over the past decade (McKinsey, 2024). This asset class encompasses a broad range of sectors, including transportation, energy, utilities, and digital infrastructure, all of which are crucial for economic development and transformation.

> **The appeal of infrastructure investments for institutional investors lies in their ability to offer predictable cash flows and lower volatility compared to other asset classes.**

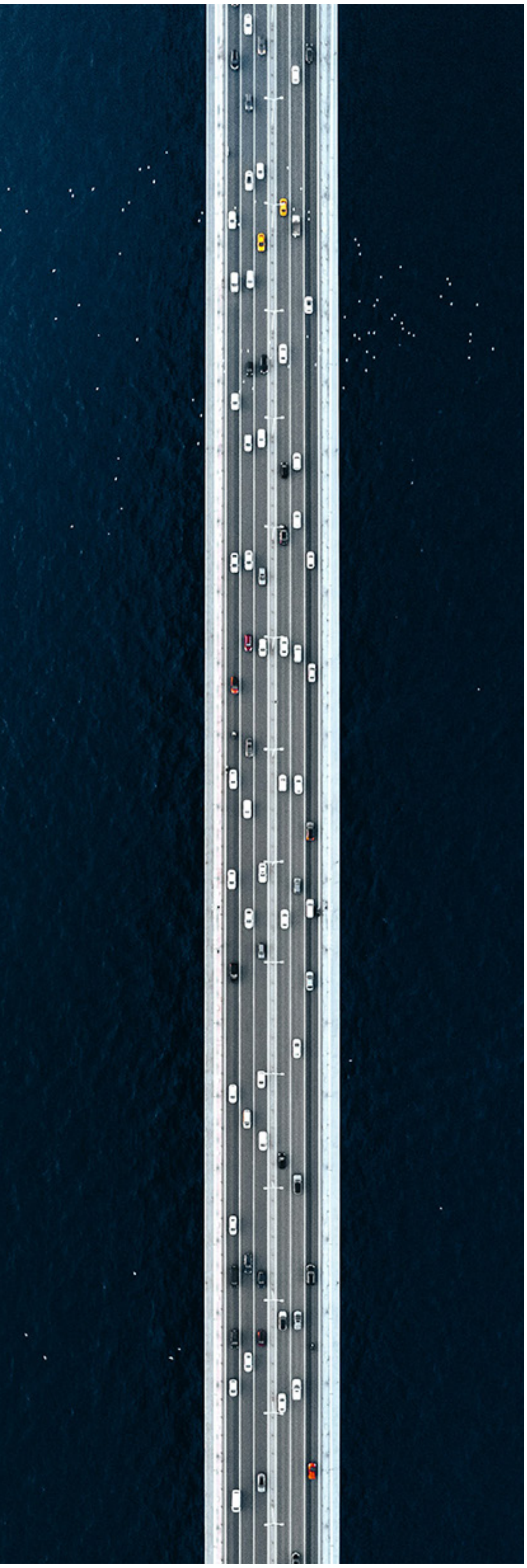
This is particularly advantageous for SWFs, which often have long-term investment horizons and, in the future, will probably face (at least some) substantial liabilities with an aging population. With it will come substantial pension obligations (e.g., Australia, New Zealand, Norway). Additionally, many infrastructure projects are underpinned by inflation-linked contracts, providing a natural hedge against inflation. This characteristic is especially pertinent in the current economic environment, where inflation will remain higher for longer. Infrastructure investments also align well with the growing emphasis on addressing climate change and achieving sustainable development, digitalization, and automation, allowing SWFs to support environmentally and socially responsible projects.



In fact, strategic SWFs (SIFs), mentioned in Chapter 2, tend to focus on national critical infrastructure investment to serve their mission of bringing economic development. This includes anything from utilities, to electric grids, and transportation infrastructure like roads, railroads, ports and airports. Nowadays, infrastructure as an asset class has expanded, spanning from large renewable energy projects to modern urban transport and data centers. The boundaries of the sector are blurring as the economy embarks on the digital and green transitions. The budgetary efforts made by governments across the world to support this infrastructure investment gap are clear tailwinds for the sector.

Yet, there are headwinds too. Interest rates in the United States have increased faster than ever, from 0.25 in May 2022 to 5.5% in August 2024. The accumulated effects of post-pandemic "revenge savings", price disruptions introduced by the war in Ukraine, and the trade effects of the war in the Middle East, have characterized a period of high inflation and rising interest rates in central banks' efforts to curb inflation. This has significant implications for infrastructure investments, which are often capital-intensive and heavily reliant on debt financing. Indeed, 2023 was an exceptionally challenging year for infrastructure fundraising. Aggregate capital raised declined more than 50% year over year to $82 billion, marking the lowest annual total since 2013. It is true that timing played a key role here, as nine of the ten largest infrastructure GPs did not close a flagship fund in 2023. Previously, the asset class had set fundraising records in four of the previous five years. Infrastructure funds returned a net internal rate of return (IRR) of 3.4 percent in 2023; this was below historical averages but still the second-best return among private asset classes (McKinsey, 2024).

SWFs are better positioned than other infrastructure players to exploit infrastructure deal opportunities both at home and abroad. SWFs are less dependent on leverage compared to other institutional investors (like private equity firms). This lower reliance on debt provides SWFs with a relative advantage in the current high-interest-rate environment. SWFs typically favor equity investments or long-term partnership models with infrastructure global players, reducing their exposure to debt-related risks. This approach allows



them to pursue large-scale infrastructure projects, even as borrowing costs rise (with the relevant fact check that SWFs typically co-invest along other investors that do seriously care about higher interest rates). The ample liquidity and sovereign backing of SWFs further strengthen their position, enabling them to invest in ambitious projects that may be less attractive to other investors under tighter financial conditions. This is clearly manifested this year with two multi-billion infrastructure projects supported by SWFs, as we will describe below.

3.
KEY DRIVERS AND TRENDS IN SWF INFRASTRUCTURE INVESTMENT

Several key drivers are shaping the current landscape of SWF infrastructure investments. We will focus on three: decarbonization strategies, urban and transportation developments, and the digital infrastructure gap.

Indeed, one major trend is the decarbonization transition towards renewable energy, accelerated by the energy crisis brought by the conflict in Ukraine and the sanctions imposed by Western economies on Russian crude oil, other oil products, and coal. Shaped by geopolitical events and supported by ambitious decarbonization agendas, the energy transition marked a key milestone in 2023, when solar energy investment ($382 billion) surpassed oil production investment ($371bn) for the first time (IEA, 2023). Moreover, the recovery from the Covid-19 pandemic and the response to the global energy crisis have provided a major boost to global clean energy investment, with global investment in clean energy reaching a maximum of $1.75 trillion in 2023. Yet, the gaps, as seen in Chapter 2 remain even larger (counted in the trillions, compared to the investments, which are counted still in the billions), thus opportunities and rationale remain strong for years to come.

SWFs are far from indifferent to such global moves. More SWFs are getting "sophisticated" when exposed to climate financing. For instance, in 2024, a third of SWFs, according to an IFSWF-OPSWF survey have carbon-footprinted their portfolios. Likewise, more than two thirds (68%) of surveyed SWFs stated that their motivation for considering climate change in their investment decisions was about long-term returns (up from 60% in 2022), indicating the "opportunity" component of climate financing. Moreover, around 62% of respondents said that it was to reduce risk (up from 60% the previous year), and the number of SWFs with a specific mandate to address climate change had increased from 14% in 2022 to 29% in 2023 (IFSWF-OPSWF, 2024).

Norway's GPFG exemplifies this trend. The fund is still reluctant to deploy capital in non-listed deals. This ban still holds, according to the recent April 2024 decision of the Ministry of Finance to a request made by NBIM (the powerful asset management unit within Norges Bank, the central bank of Norway) to invest 5% of its assets (around $90 billion as of October 2024) in private equity deals. There are three reasons for this: higher management fees, lower transparency of information, and the need for a broad political consensus that is not yet met. Despite this general prohibition on private equities, NBIM was allowed to initiate a strategy of renewable energy infrastructure, investing in privately held projects along with global partners, both operators and investors. These investments are not only aligned with global ESG standards but also offer long-term growth potential as countries strive to meet climate goals. Again, the green agenda seems to imply opportunities for long-term global investors.

> **Another important trend is the focus on urban development and infrastructure in emerging markets.**

Strategic SWFs like the Public Investment Fund (PIF) of Saudi Arabia and Abu Dhabi Developmental Holding Company (ADQ) are heavily investing in projects aimed at urban transformation and economic diversification, both at home and abroad. These include mega-projects like Saudi Arabia's NEOM or the or the development of entirely new cities (like Ras El-Hekma in Egypt), aiming to drive tourism, innovation, and economic growth.

Saudi Arabia, on its part, is a notable case to follow, analyzed in detail at the end of this chapter, and a prime example of how SWFs in emerging economies can be influenced by shifting national priorities. Since Crown Prince Mohammed bin Salman took over as fund chair in 2015, PIF has diversified and increased its foreign exposure to reach 24% of its current portfolio from nearly zero, becoming one of the most active SWFs with $978bn under management. Yet recently, they have pivoted inwards to focus on domestic economic development amid falling oil revenues, with a goal of investing at least $40 billion per year on domestic megaprojects requiring large infrastructure investments to support goals of economic diversification in sectors like tourism, entertainment, and sports (Financial Times, 2024).

India has also been able to attract global investors to support their ambitious agenda of infrastructure investments. Its National Investment and Infrastructure Fund (NIIF), established by the Government of India in 2015, is India's largest infrastructure and private equity fund manager, with over $4.9 billion assets under management. Investors in NIIF include Abu Dhabi Investment Authority (ADIA) and Singapore's Temasek, along with other public pension funds. NIIF invests at scale in transportation (including airports, ports, logistics and roads), power and green energy, telecom infrastructure, with the objective to generate attractive risk-adjusted returns for its investors and support the economic growth agenda.

Beyond renewable energy and urban development in emerging markets, the rise of digital infrastructure, accelerated by the COVID-19 pandemic and the artificial intelligence (AI) revolution, represents another significant area of focus. The increasing demand for the needs of our modern economy, including data centers, broadband networks, cloud computing, satellites, submarine cables and other assets has naturally led SWFs to allocate more capital to this sector. In 2023 alone, spending on digital transformation technologies and services worldwide reached $2.15 trillion, and it is expected to grow to $3.9 trillion per year in less than three years (Statista, 2024). AI, with its potential to increase productivity, requires massive energy and computational capacity investments, expected to reach $200 billion by next year (Goldman Sachs, 2023). Investment needs stretch all over the value chain, from minerals to chip foundries, data centers to software, and corporate applications. Energy efficiency and sustainable consumption are now increasingly seen as the foundation for sustainable long-term adoption of this technology. This is an especially sensitive topic, when you have many of the world's rare minerals necessary for advanced technology production in emerging markets and conflict-affected areas.

Overall, SWFs are poised to play an increasingly strategic role in global infrastructure development. Their substantial capital reserves, long-term investment horizon, and sovereign backing provide them with a unique ability to undertake and sustain large-scale infrastructure projects, even amidst economic uncertainties in periods of high interest rates. As the global economy continues to evolve, SWF investment strategies in infrastructure—particularly in renewable energy and digital assets—will not seek only to generate financial returns but could also contribute to broader socio-economic and environmental objectives. This Chapter will further explore specific case studies, regional trends, and future projections for SWF infrastructure investments.

4. THE STRATEGIC ROLE OF INFRASTRUCTURE IN SOVEREIGN WEALTH FUND PORTFOLIOS

Infrastructure investments have become a strategic cornerstone for SWFs due to their inherent characteristics of large ticket sizes, low cyclicality, inflation-protection, regulated operational environment, high barriers to entry, commitment to stability, and predictable returns. As of 2023, infrastructure fundraising accounted for approximately 18% of the global private equity deal market (BCG, 2024 and S&P 2024), with SWFs representing a substantial portion of this allocation as limited partners (LPs). Infrastructure is becoming more attractive to SWFs, a trend consolidated in 2023 with 7 consecutive years of growing share within alternative investment allocations. On its part, private equity allocations decreased to 7.0% in 2023 from 7.4% in 2022, and real estate allocations fell to 7.6% from 8.0%. Conversely, infrastructure allocations rose to 7.7% in 2023 from 7.1% in 2022, becoming the most preferred alternative asset class for the first time in the dataset. As a result, this put infrastructure ahead of private equity funds and real estate. SWF portfolios have benefited from the stability of returns (with low volatility), inflation protection, diversification, as well as the opportunities of green infrastructure.

Stability of returns remains fundamental for long-term investors like SWFs. This long-term stability in performance aligns well with the investment horizons of SWFs, which reach 13 years on average (Invesco, 2024). Yet, stability of returns requires low volatility, so when volatility is considered, the average return of private infrastructure becomes the most attractive option across alternative asset classes. It doubles risk-adjusted returns of both private equity and real estate options (KKR, 2024). The average annual return for infrastructure investments was 11% over the past decade (2012-2022), while volatility was lowest in this period than any other alternative asset class, except private credit (KKR, 2024). Moreover, infrastructure would benefit from the cross-fertilization of other alternative tools, like private credit. Indeed, according to a global survey, SWFs are most interested in infrastructure debt (51% selected it as "very attractive"), real estate debt (50%), and corporate lending (29%) (Invesco, 2024).

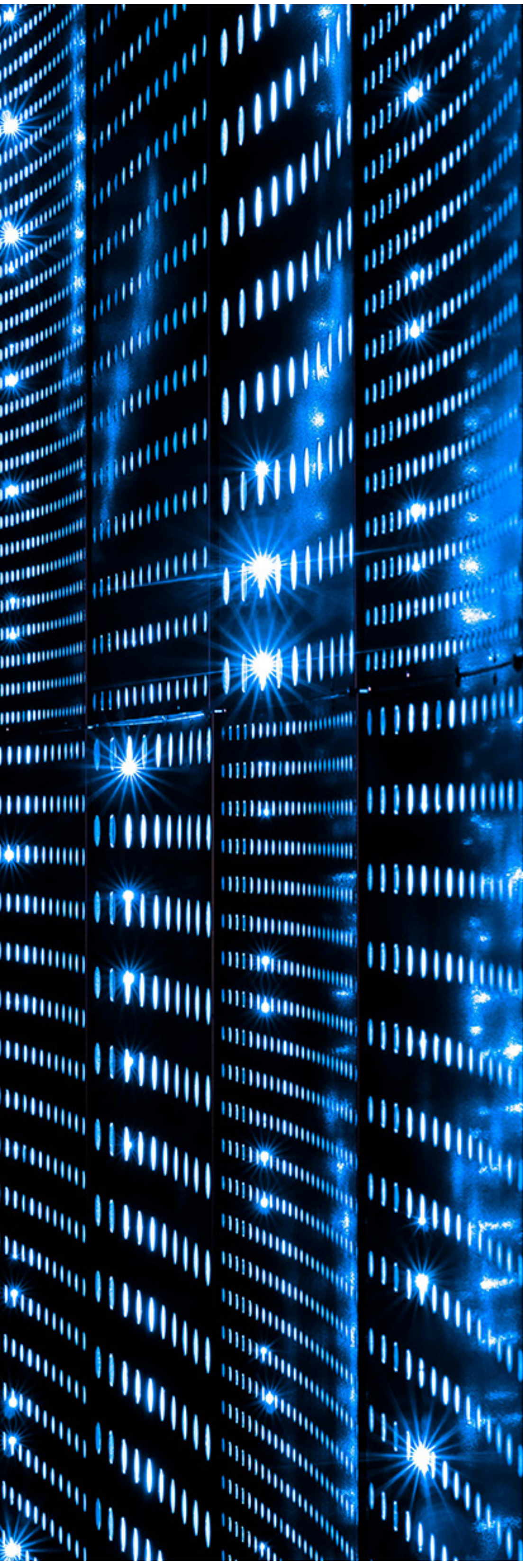
> **Inflation protection is a critical consideration for SWFs, particularly in an environment where inflation rates have been on the rise.**

Infrastructure assets, especially those with revenue streams tied to inflation, offer a natural hedge against inflationary pressures. For instance, infrastructure projects that involve essential services such as utilities or transportation are typically structured with inflation-adjusted pricing mechanisms. The infrastructure transaction appeal lies in its ability to generate consistent cash flows and provide a hedge against economic volatility. For example, transportation infrastructure projects such as toll roads or airports often come with long-term, inflation-linked contracts, ensuring that revenue streams remain resilient in fluctuating economic conditions. This hedge becomes particularly valuable in times of economic uncertainty.

In the case of GIC, a Singaporean SWF giant, their strategy in times of economic uncertainty relies on two columns: partnerships and climate infrastructure bridge funding. GIC relies on its extensive and mature global partnership network to identify opportunities. GIC's New York office is celebrating its 40th anniversary in 2024, while its Sao Paulo office is turning 10. GIC now has a claim to be one of the most dynamic institutional investors in Latin America. GIC, like other SWFs, are asset owners with greater discretion than regular asset managers, and thus saw an opportunity in leveraging their long-term but flexible capital to bridge a funding gap for climate technologies. Green steel and battery storage companies often find themselves caught between traditional buckets of capital. These companies are caught in a difficult stage, as they require long-term capital to grow, but they are too mature for venture and growth equity, and lack the track record to attract infrastructure funding (GIC, 2024).

> Diversification is another key advantage of incorporating infrastructure into SWF portfolios, especially given the uncertainty brought by a higher inflation and interest rate environment.

Infrastructure investments span various sectors, including transportation, energy, water, and digital infrastructure, each with distinct risk profiles and economic drivers. By diversifying across these sectors, SWFs can mitigate sector-specific risks and reduce overall portfolio volatility. Over the last decade, KKR data shows that private infrastructure has experienced lower volatility compared to other asset classes, with risk measured as annualized standard deviations being four, three, and two-times lower than global equities, private equity and real estate, respectively (KKR, 2024). For instance, the Abu Dhabi Investment Authority (ADIA) has a dedicated infrastructure team, responsible for the minority positions (10-40%) that the fund takes of infra-assets. This is based on one key component, diversification of the capital mandate, where they take positions in both unlisted and on listed infra companies too (ADIA, n.d.). ADIA invests not only in mature markets (75% of 2023 global deals in infrastructure took place in Europe or North America) but on emerging market opportunities - from India's toll roads to Asia-Pacific renewable energy projects.



SWF investments in infrastructure also play a crucial role in driving economic development, particularly in emerging markets.

Infrastructure projects funded by SWFs can stimulate local economies through physical and digital connection, create jobs, and improve overall quality of life through basic access to electricity (still a pressing need in emerging markets). Data from the World Bank suggests that the impact of infrastructure on economic growth is positive and is becoming more impactful in developing economies (World Bank, 2021). In developed economies, the renewed push on strategic autonomy plans has emphasized infrastructure investments (along with industrial projects). For instance, U.S. bipartisan projects proposed $1 trillion infrastructure efforts estimating the creation of 11-15 million jobs over 10 years (Georgetown University, 2017). On its part, ADQ has made substantial investments in Egypt's infrastructure sector, focusing on projects in healthcare, logistics, and energy. These investments, analyzed in detail in the coming section, are expected to generate significant economic benefits for the region, enhancing local infrastructure and contributing to broader economic growth.

5. RECENT KEY INVESTMENTS AND TRENDS

SWFs are increasingly leveraging their significant financial clout to influence global infrastructure development, with a notable focus on sustainable and transformative digital and urbanization projects. In recent years, these funds have actively invested in renewable energy, mega projects, and emerging markets. These strategies with global trends towards sustainability, economic diversification, and technological innovation. This section explores some of the most impactful investments made by leading SWFs, highlighting their roles as key players in shaping the future of global infrastructure.

As previously noted, SWFs have increasingly recognised the potential of renewable energy infrastructure, aligning their investment strategies with global sustainability goals. In 2023 Norway's GPFG invested in two unlisted renewable energy infrastructure projects valued at €1.3 billion. In January 2023, NBIM acquired a 49% interest in a portfolio of solar and onshore wind assets in Spain worth €600 million, through a partnership with Spanish energy firm Iberdrola. That exclusive investment agreement has reached, by April 2024, 2,500 MW, representing a joint investment of more than €2 billion, of which 49% can be attributed to NBIM (€980 million)[1].

In March 2023, GPFG also purchased a 16.6% stake (worth €430 million) in He Dreiht, an offshore wind project in Germany (NBIM, 2024). He Dreiht is expected to be operational by the end of 2025 and will then be the largest offshore wind project in Germany, producing clean energy equivalent to the electricity demand of 1.1 million German households. As of the fund's official records by June 2024, NBIM had exposure to five different projects with six different partners in four European countries (United Kingdom, the Netherlands, Germany and Spain). Partnering with experienced developers like Orsted, Iberdrola, AIP or Allianz, NBIM leveraged their expertise to enter a sector relatively new to the fund, underscoring a broader trend of SWFs diversifying into green energy assets.

GIC (Singapore) also made headlines with its substantial investment supporting H2 Green Steel, a Swedish company committed to decarbonize top polluting industries. GIC led a group of investors, that included Temasek and raised €1.5 billion equity for the innovative green company (GIC, 2023). Today, 75% of the world's steel is produced using coal as the energy feedstock. Steel is one of the most difficult industries to decarbonize, known as a "hard to abate" sector. Technological advances will play a critical role in enabling steel manufacturers to produce steel with less emissions-intensive methods at a greater scale. H2 Green Steel aims to provide $7 billion in financing to build a fully integrated, digitalized, and circular manufacturing plant to produce green steel, as well as integrated green hydrogen and green iron. The company aims to produce steel with up to 95% less CO2 emissions compared to traditional blast furnace technology. This is one of GIC's largest investments in the renewable energy sector, highlighting a commitment to expanding its footprint in sustainable infrastructure globally.

1 Please refer to Annex II for a detailed description of the *Iberdrola*'s strategic alliances with various SWFs on green energy.

Meanwhile, GIC's involvement in India's renewable energy sector is another prime but more mature example. In March 2023, GIC participated in an equity funding round of $700 million, alongside ADIA and Japanese-based Orix Corporation into Indian green power champion Greenko Energy Holdings. This investment will support energy storage capacity of more than 25GWh which will enable 45 billion units of Carbon Free Energy (CFE) in India (Greenko, 2023). This project, including solar, wind, and pumped hydro storage, is significant as it supports India's goals to enhance grid stability and reduce fossil fuel dependency. GIC is the single largest shareholder (52%) in Greenko. The support of Greenko dates to October 2015, and the current ownership stake is valued at $5 billion. Greenko was one of GIC's major investments in India's renewable sector, reflecting a broader strategy to tap into high-growth markets while supporting global energy transition efforts. Now GIC is considering selling this symbolic position.

Finally, GIC continues to emphasize digital infrastructure investments, particularly in data centers. Recent notable deals include a new $15 billion joint venture with Equinix, announced in October 2024, aimed at expanding hyperscale[2] data centers in the U.S. to support AI and cloud innovation. This project involves collaboration with CPP Investments and will target large cloud service providers like Amazon Web Services, Google Cloud, and Microsoft Azure. GIC has previously committed significant capital to Equinix's xScale program. In 2021, GIC invested $3.9 billion to expand this program to 32 data centers across various regions, including Europe, Asia-Pacific, and Latin America. This initiative aimed to meet the growing demand from hyperscales by providing over 600 megawatts of power capacity across facilities in major markets like Frankfurt, Tokyo, and São Paulo. These deals underscore GIC's strategy of partnering with established operators to scale data center capacity worldwide, emphasizing markets with robust digital transformation needs and rising data demands.

2 A hyperscale data center is a massive data center that provides extreme scalability capabilities and is engineered for large-scale workloads with an optimized network infrastructure, streamlined network connectivity and minimized latency (IBM, 2024).

The Abu Dhabi Investment Authority (ADIA), another giant in the SWF infrastructure landscape, was present in the largest deal of the year, across all sectors and geographies. It was a substantial bet of the Emirati investor on the European digital infrastructure. On October 2023, ADIA joined a consortium led by KKR to acquire a major stake in Telecom Italia's (TIM) network unit, NetCo. TIM transferred more than half of its domestic workforce to the network company, leaving it with around 16,000 employees in Italy, reducing its leverage by €14 billion to 1.6-1 times its core earnings including leasing costs. TIM faced a net debt of €27 billion and resorted to spinning off its main asset after years of efforts to restructure its domestic business. KKR will hold a majority stake of the resulting NetCo, rebranded as Optics Bidco, while ADIA (20%), CPP Investments (17.5%), f2i, a local infrastructure fund manager (10%), and the Italian government via the Ministry of the Economy and Finance (15-20%), will hold key minority stakes, supporting critical upgrades to Italy's telecom infrastructure. TIM's extensive network includes copper and fiber cables covering approximately 89% of Italian households, with fiber extending across 23 million kilometers, making it the country's backbone for communications.

Beyond the digital transition, ADIA has been actively investing in renewable energy projects in India too. As commented, ADIA has supported the growth of Greenko, along with GIC, participating in the last $700 million financing round in March 2023. Greenko is today one of the world's leading energy transition solutions companies, with an installed capacity of 7.5GW and presence in 15 states in India. ADIA also holds a significant minority stake (14.5%) in another global Indian energy company, ReNew Power. Today is a Nasdaq-listed business which recently surpassed the 10GW installed capacity threshold and aims to double it by fiscal year 2028.

Coming back to Europe, one of the flagships deals of the year was again Heathrow Airport in London. One of the world's busiest airports (1st in Europe and 2nd worldwide by international passenger traffic), Heathrow has been managed by Ferrovial, the Spanish infrastructure company, over the last 17 years, with the support of large institutional investors who co-owned it, including SWFs like Qatar Investment Authority, Singapore's GIC, and China Invest-

ment Corporation. After almost 8 months of public negotiations, the deal was finally closed in June 2024. Saudi Arabia's Public Investment Fund (PIF) partnered with Ardian to acquire a combined 37.6% stake in Heathrow Airport Holdings, for $4.2 billion, marking a top 15 deal in the report and the second largest SWF investment in infrastructure. Following this acquisition, Heathrow's top shareholders are Ardian (22.6%), the French buyout group, Qatar Investment Authority (20%), and PIF (15%), with Ferrovial retaining just 5% share, and other SWFs reducing their exposure. This move aligns with PIF's strategy of expanding its global infrastructure portfolio, aiming to support essential hubs in global transit and logistics while diversifying investment sources for Saudi Arabia's economic future. The deal highlights again how critical infrastructure in the United Kingdom (water management being the other) is in hands of international and sovereign investors.

SWFs are increasingly investing in mega projects and urban development, particularly in regions undergoing significant economic transformation.

PIF is a leading example, driving the Saudi Arabian Kingdom's Vision 2030 initiative and host of five ongoing "giga-projects". One flagship project under this initiative is NEOM, a $500 billion smart city project designed to foster innovation, sustainability, and economic diversification. NEOM's development involves cutting-edge technologies in renewable energy, digital infrastructure, and sustainable urban planning. PIF's deep financial commitment to NEOM, including substantial funding in 2023, highlights its role as a catalyst for the Kingdom's ambitious transformation (PIF, 2024). This project is notable not only for its scale but also for its innovative approach to urban development, aiming to attract global talent and investment.

PIF is also using portfolio companies to achieve ambitious green infrastructure goals at home and influence abroad. Saudi Arabia seeks to generate and consume 50% of its demand with clean energy by 2030 and to reach a zero-emission system by 2060. On this, ACWA Power is central to achieve water security too. ACWA is developing large-scale desalination projects, utilizing advanced technology (reverse osmosis) to ensure the Kingdom meets its increasing water demand as population growth and climate change exacerbate water scarcity. ACWA Power's role in the $821 million Shuaibah 3 desalination project, which will be one of the largest facilities of its kind globally with potable water capacity in excess of 600,000 m3/day, exemplifies the company's efforts to secure water supply for key urban and industrial areas in the Kingdom. A stake of 32% of the awarded consortium led by ACWA is directly owned by PIF. Internationally, ACWA Power has also expanded its reach, reflecting Saudi Arabia's ambition to export its expertise in water management.

One notable example is the company's recent investment in Senegal, where ACWA Power signed an $800 million water purchase agreement. This deal involves the development of the largest seawater desalination project in Sub-Saharan Africa. The plant, which will be in Dakar, is expected to produce 100 million liters of water per day, significantly improving access to potable water for Senegal's rapidly growing population. This project not only underscores ACWA Power's commitment to addressing water scarcity in regions beyond Saudi Arabia but also highlights the company's role in contributing to sustainable development in Africa. Similarly, ACWA is exporting expertise within the region with the company's involvement in the construction and operation of the Hassyan desalination plant in Dubai, which is part of the larger Hassyan Energy Complex. The plant is designed to provide 682 million liters of water per day and to ensure water security for the rapidly growing population of Dubai, a critical need given the region's arid climate and limited natural water resources.

A large-scale project was also completed by PIF in the Brazilian state of Parana, where they secured a toll-road project as part of a $1.2 billion capital expenditure investment. PIF, alongside Patria Investments, partnered to secure a 30-year concession of this major brownfield[3] toll road, representing 473km of existing highways in Parana. Parana also happens to be one of top 5 economically

3 A brownfield is a property, the expansion, redevelopment, or reuse of a previously established development, one which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. (EPA, 2017) performing states in Brazil, home to 11.5 million people and a yearly GDP of $130 billion. This was the first major infrastructure auction launched under current Brazilian President Luiz Ignacio Lula da Silva, which represents growing ties and appetite for Gulf Cooperation Countries (GCC) to invest in Latin America (Gulfnews, 2023).

PIF has also made substantial strides in advancing global electric vehicle (EV) markets through strategic investments. The logic is clear: partnering with international manufacturing brands in high-technology sectors to promote economic diversification in the Kingdom and offer high-quality jobs to its young population reducing the oil industry dependance. A similar story we have already seen (and covered in this Report series) in the United Arab Emirates with Mubadala. In February 2023, PIF bolstered its stake in Lucid Motors, the US-based and Nasdaq-listed electric car maker, by investing an additional $1 billion, increasing its total investment to over $2.5 billion (Lucid Motors, 2024). *L*ucid Motors, known for its luxury electric sedans, competes directly with Tesla's high-end models, positioning itself as a strong player in the EV market. PIF's investment is more than just a financial commitment; it also involves the establishment of the first ever car manufacturing facility in the country. This facility, located in King Abdullah Economic City (KAEC) is expected to have an annual production capacity of up to 150,000 vehicles by the end of the decade. The plant will serve as a cornerstone for Saudi Arabia's strategy to become a hub for electric vehicle production, integrating advanced manufacturing technologies and securing high-value jobs. Through the development of electric transportation, this partnership will support the Vision 2030 plans to ensure that 30 percent of new car sales in the Kingdom are electric by 2030. (Arabnews, 2023).

> **Emerging and frontier markets are increasingly attractive to SWFs infrastructure strategies due to their growth potential and the opportunity to diversify portfolios.**

This year a renewed strategy of Abu Dhabi's ADQ highlighted how big the bet on urban infrastructure in developing economies can get. With growing populations and urbanization rates, ADQ has concentrated its strategy in Egypt. Notably, ADQ acquired the development rights to Ras El-Hekma, a promising coastal region about 350 km northwest of Cairo for an impressive total of $24 billion. Ras El-Hekma has aspirations to become a premier holiday destination, financial center, and investment area to strengthen Egypt's economic and tourism growth. The city will include over 170 million square meters of residential, recreational, and commercial spaces, where ADQ will provide fully integrated infrastructure across services like energy, water, transportation, and real estate (ADQ, 2024).

ADQ has also been an ally in its portfolio companies' path to becoming both financially and environmentally sustainable. In 2019, Abu Dhabi Power Corporation (ADPower) joined ADQ's portfolio, along with a wave of other asset transfers by the Abu Dhabi Government. At the time ADPower owned 74% of publicly listed energy company TAQA, which became a part of a reverse merger initiated by ADQ. Since then, TAQA has become a powerhouse utility in the Middle East and Europe with a strong clean energy track record, and a national champion of the UAE's commitment to the energy transition. TAQA has contributed to an 8% reduction of carbon emissions in the UAE in 2022, owns one of the world's largest solar plants in Noor Abu Dhabi, and in 2023 launched its Green Finance Framework and issued its first green bond (ADQ, 2024).

Another Emirati SWF powerhouse Mubadala Investment Company has continued its global investment footprint. In July 2023, Mubadala announced a significant investment in Perdaman's $4.4 billion Western Australia Urea Fertilizer Project. This strategic move highlights Mubadala's commitment to enhancing its presence in global infrastructure and sustainable agriculture. The project is set to develop one of the largest urea fertilizer facilities worldwide, with

INFOGRAPHIC 1

Major infrastructure deals

DEVELOPED MARKET | EMERGING MARKET

SWF	TARGET	VALUE ($bn)	INDUSTRY
ADQ (EAU)	**Ras El-Hekma** (EGYPT) URBAN DEVELOPMENT	24.0	City
ADIA (EAU)	**TIM** (ITALY) DIGITAL INFRASTRUCTURE	22.0	Fixed Network
GIC (SINGAPORE)	**Equinix** (GLOBAL) DIGITAL INFRASTRUCTURE	15.0	Data Centers
	Neoenergia (BRAZIL) RENEWABLE ENERGY	0.48	Energy Distribution
Masdar (EAU)	**Iberdrola** (GERMANY, UK, US) RENEWABLE ENERGY	15.0	Offshore Wind & Green Hydrogen
PIF (SAUDI ARABIA)	**Heathrow** (UK) TRANSPORTATION	4.2	Airport
	Highway (BRAZIL) TRANSPORTATION	1.2	Roads
Mubadala (EAU)	**Permadan** (AUSTRALIA) RENEWABLE ENERGY	4.4	Green Fertilizers
	Cube Highways (INDIA) TRANSPORTATION	0.63	Roads
NBIM (NORWAY)	**Iberdrola** (SPAIN, PORTUGAL) RENEWABLE ENERGY	2.16	Wind & Solar
GIC and ADIA (SINGAPORE AND EAU)	**Greenko Energy** (INDIA) RENEWABLE ENERGY	0.7	Renewable Energy

Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

an annual production capacity of around 2 million tons, replacing coal-based urea by incorporating solar energy and green hydrogen. This investment aligns with Mubadala's broader strategy of focusing on high-impact and sustainable infrastructure projects that contribute to global food security (Mubadala, 2023). Mubadala is leading the investment, but the project also includes key contributions from Global Infrastructure Partners (GIP). GIP, a prominent global investment firm, brings valuable expertise and substantial capital to the project. In October 2024 it was acquired by investor behemoth BlackRock, which will take over around $170bn assets under management at GIP (GIP, 2024).

GIP's involvement with Mubadala was crucial for the successful execution of the Perdaman project, leveraging their extensive experience in managing and operating large-scale infrastructure assets (Mubadala, 2023). Perdaman Industries, the developer, will oversee the construction and operational aspects of the plant, ensuring that the facility meets its ambitious production and efficiency goals. The investment in Perdaman's urea fertilizer (a nitrogen-based fertilizer used for agriculture) reflects a broader trend of collaborative investments in critical sectors. Fertilizers are essential for modern agriculture, enhancing crop yields and supporting global food supply chains.

GIP has been actively involved in several high-profile investments, often partnering with SWFs to fund major infrastructure projects. GIP has teamed up with the Abu Dhabi Investment Authority (ADIA) on various infrastructure projects, including investments in European transportation companies. In late 2022, GIP joined ADIA to acquire VTG. ADIA acquired with GIP an equity control interest (73%) sold by Morgan Stanley Infrastructure Partners, for an estimated $5.4 billion. Headquartered in Hamburg, VTG is a leading international wagon hire and rail logistics company whose more than 88,500 railcars comprise the largest privately owned fleet in Europe. The company leases rail freight cars to companies in the chemicals, oil and agriculture sectors.

SWFs are playing an increasingly pivotal role in global infrastructure investments, with a marked emphasis on renewable energy, urban mega projects, transport infrastructure with an increased focus on emerging markets. These investments not only offer financial returns but also align with strategic objectives such as economic diversification and sustainable development. As SWFs continue to evolve their strategies, their influence on the global economic landscape will undoubtedly grow. Let's dig deeper into some of the trends mentioned with the help of the one of the newest and most active SWFs in an emerging market economy.

CASE STUDY: INDONESIA INVESTMENT AUTHORITY (INA)

The Indonesia Investment Authority (known as INA in Indonesian) is the country's young and vibrant strategic sovereign wealth fund, established in 2020. INA is an associate member of the International Forum of SWFs (IFSWF). INA is playing a critical role in supporting local infrastructure development and investment. In 2021, the INA was seeded with $5 billion in state capital. This included about $1.7 billion in cash, most of which went into interest-earning bank deposits and government bonds. The government also transferred $3.3 billion worth of shares from two state-owned banks: Bank Mandiri and Bank Rakyat Indonesia (The Diplomat, 2024). By 2024, INA's total assets had grown to around $10.5 billion.

Following this innovative seeding, INA's main source of income and operating cash flow right now is not from its investment portfolio, but rather interest income it earns on bonds and bank deposits, as well as the dividends paid out by *Bank Mandiri* and *Bank Rakyat Indonesia*. Indonesia's banking sector is seeing strong growth, and the value of the shares the INA holds in these banks has increased from $3.3 to $4.8 billion over the last two years. This was an innovative way to structure the fund, minimizing the direct cash outlay required by the government. As long as the banking sector performs well, the INA's shares in *Bank Mandiri* and *Bank Rakyat Indonesia* will generate cash flow while the fund continues to build its portfolio.

The portfolio will seek alignment with the overall vision of INA: unleashing the potential of the country. Indonesia is the world's fourth country by population and the second most biologically diverse country in the world. INA's missions are multiple, reflective of those of a strategic SWF. INA focuses first on "delivering optimal returns" prioritizing key growth sectors such as transportation and logistics, healthcare, green energy, and the digital economy. INA also aims to collaborate with credibility, building up a reputation as a trustful world-class investment institution, with the intention to play a critical de-risking goal.

Like its innovative strategy to establish the seed capital of the fund was, so is the strategy to attract global co-investors. So far, INA has secured commitments totaling $27 billion from top glo-

INDONESIA

By population

284.4

million people

4th worlwide

Biodiversity

2nd

wordlwide

Resources

Nickel

1st worlwide in reserves and production

The SWF

INA
INDONESIA INVESTMENT AUTHORITY

Seeding

5.0

USD Billion

Cash

1.7 USD BILLION

Shares of two state-owned banks

3.3 USD BILLION

Assets as of today

10.5

USD Billion

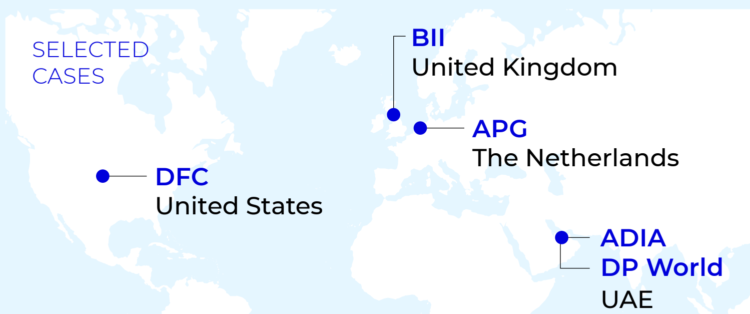
Investments

Toll roads

represent 70% of the portfolio value

Commitments

27



Partners

Masdar	DP World	Pollination	ESR	GDS
Renewable Energy	Ports	Climate change	Real estate	Data centers

Source: Sovereign Wealth Research - IE Center for the Governance of Change (2024)

bal investors, operators and development finance institutions like ADIA, APG, DP World, and from development finance institutions like DFC (from the US) and British International Investment (BII). Another mission is to support local companies to grow into regional or global champions, with the help of those international partners. In previous years INA created sub-holding companies that invested in telecom tower operator Mitratel, and state-owned pharmaceutical company Kimia Farma. INA continues to hold these investments (The Diplomat, 2024). The fourth mission of INA is to advance the country's competitiveness leveraging the country's advantages (human and natural resources). In this regard, Indonesia is a leading host of critical mineral resources, including nickel (1.5 billion tons), copper (640 million tons), bauxite (927 million tons), and tin (1.2 billion tons). Indonesia is one of the largest nickel producers in the world. To manage effectively and sustainably such resources will be key to ensuring long-term success of a country well-equipped for the 21st century. Last, but not least, strategic SWFs, and INA particularly, is to develop its vibrant and growing people, attracting and retaining talent and developing future leaders.

So far, the main industry supported by INA has been the toll road sector, a part of INA's transport and logistics investments – representing 47.7% of total investments and 70% of total portfolio value (INA, 2024). Through sub-holding companies, the fund has acquired ownership stakes in several toll roads in Java and Sumatra. The example of the Pejagan–Pemalang toll road is illustrative of the financing bridge gap played by INA. That toll road is a stretch of highway in Java operated by the state-owned construction company *Waskita Karya*. As a construction company, it faces financial struggles in large part because it incurred much short-term debt while building them. INA intervened at the right time and fully acquired the Pejagan–Pemalang toll road from *Waskita*, helping relieve some of the financial pressure on the state-owned construction firm. Operating like a private equity firm, INA turned it around and sold 53% of the toll road to investors from Europe, the Middle East, and the United States investments (The Diplomat, 2024). This trend is likely to continue, as Indonesia's toll roads have significant long-term economic value, and operators like Waskita can use injections of fresh capital from foreign investors.

These kinds of co-investment partnerships are starting to develop in other areas as well. In 2023, INA created another sub-holding company called *PT INA DP World* in which it owns a 51% stake. The other 49% is held by DP World, a huge logistics firm based in Dubai. As it stands, this co-venture is small in terms of its book value, but they are clearly setting it up to be a major conduit for Middle Eastern investment into Indonesia's port infrastructure. A similar co-investment deal has been signed with another strategic investor, China's GDS, to develop data centers, as well as with ESR, the Hong Kong-based real estate giant (third in the world) to develop housing projects in the country. There are big plans for green energy too, with the partnerships signed with *Masdar*, UAE global renewable energy leader (co-owned by ADQ and Mubadala) and with *Pollination*, a UK-based specialist in climate change investing.

INA is fulfilling each of the strategic SWF's mandates: to be a de-risking tool, a foreign capital catalyzer, a supporter of local players and industries, local talent developer and country competitiveness enhancer. Yet INA isn't funded, nor does it operate today like a traditional savings SWF. Instead, the INA is a strategic SWF designed to attract foreign capital into key parts of the Indonesian economy. Historically, a big barrier to foreign investment in Indonesia has been investor uncertainty. Regulatory hurdles can be significant, and breaking into a market that is heavily dominated by state-owned companies can be complicated. One of the INA's main functions is to help allay those concerns by partnering with foreign investors in priority sectors. Only the future will tell if these goals will be achieved in the world's fastest growing and second most biologically diverse country.

SOVEREIGN WEALTH FUNDS IN TECHNOLOGY: ARTIFICIAL INTELLIGENCE AND THE NEED FOR FOOD AND WATER

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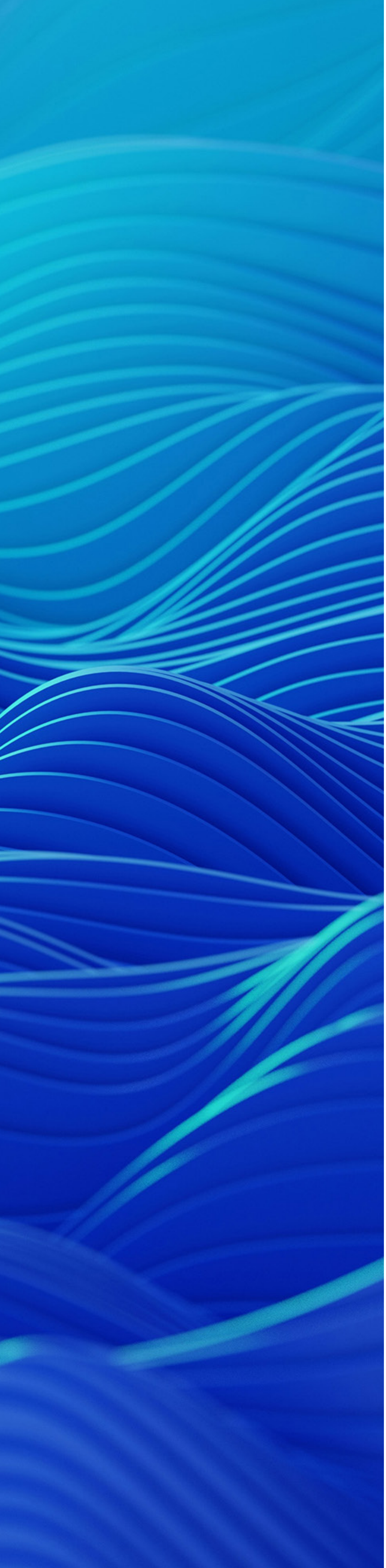


4-SOVEREIGN WEALTH FUNDS IN TECHNOLOGY: ARTIFICIAL INTELLIGENCE AND THE NEED FOR FOOD AND WATER

1. SWFS LOOK FOR SHELTER DURING THE VENTURE CAPITAL WINTER

The global economic landscape has undergone a profound transformation over the past few years, largely due to significant interest rate hikes by central banks. In response to inflationary pressures, the U.S. Federal Reserve increased its benchmark interest rate to over 5.25% by the end of 2023, while the European Central Bank (ECB) raised its rates to 4.25%. These hikes have significantly impacted financial markets, particularly the venture capital (VC) sector, where a previously favorable low-interest environment had fueled a surge in tech investments.

For SWFs, which have been significant players in the technology investment space, these economic shifts have necessitated a strategic reassessment. During the era of low interest rates, SWFs were able to allocate substantial capital to high-growth tech startups, often tolerating inflated valuations and low profitability in anticipation of future gains. However, the new high-interest-rate environment has led to a marked decline in venture capital activity.

According to the International Forum of Sovereign Wealth Funds (IFSWF), SWFs reduced their participation in venture capital rounds by almost 68% in 2023 compared to 2022, and almost 77% compared to 2021, a record year, reflecting the broader trend of capital retrenchment in response to tighter monetary conditions.

According to a recent IFSWF survey (IFSWF, 2024), almost two thirds of SWFs are not actively pursuing VC investments and 53% of respondents plan to be more selective going forward. As per our data, only two software companies made it to the top 10 deals this year, in clear contrast with the last three years when the largest deals were mainly tech deals.

How are SWFs reacting to the current environment? Technology has been the most favored sector for SWFs over the last 10 years. Is this trend coming to an end? In this chapter we uncover how SWFs are reassessing their exposure toward tech with special emphasis on the new bets on artificial intelligence and on the technologies trying to solve the water and food crisis the world is increasingly facing these days.

The VC winter of 2023 marked the lowest for venture funding since 2018. Global startup investment in 2023 reached $285 billion — marking a 38% decline year over year, down from the $462 billion invested in 2022. Cutbacks were deep across all funding stages globally. Early-stage funding in 2023 was down more than 40% year over year, late stage by 37%, and seed just over 30%.

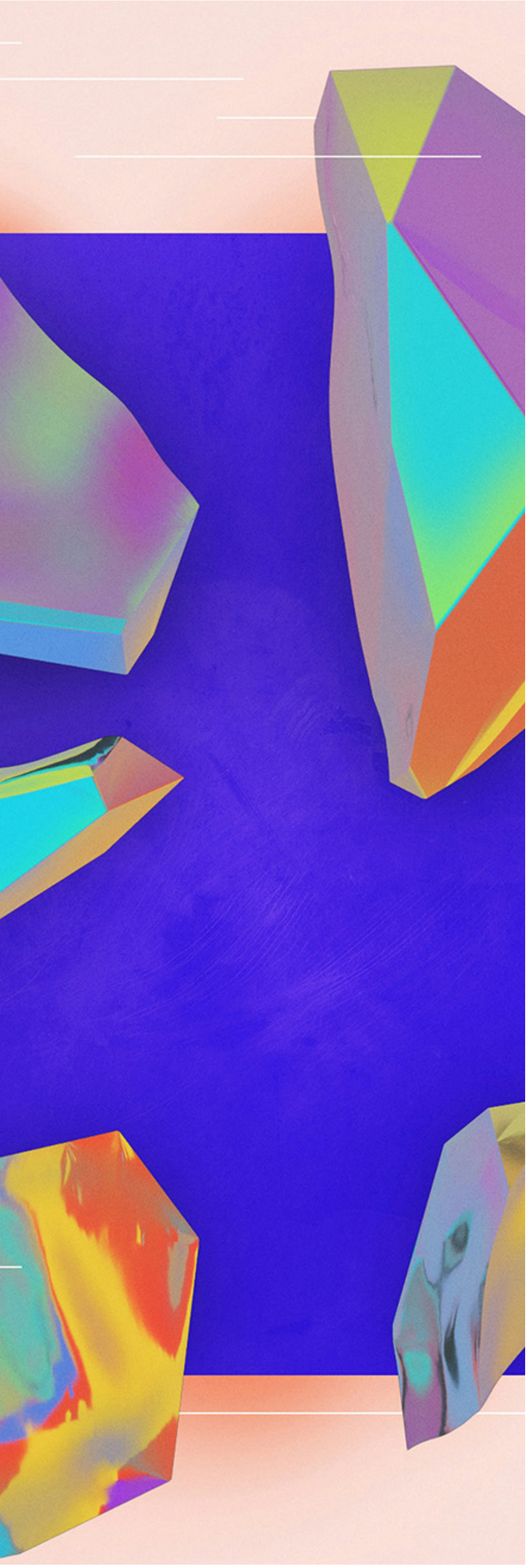
Global exit value during 2023 was just $225 billion—roughly the combined value of the Uber, Facebook, and Coinbase public listings—marking the lowest annual total since 2017 (Pitchbook, 2024). And a new word was “coined” to explain the funding progress of zombie startups: down rounds. Indeed, one of the most telling indicators of this shift is the rise in "down rounds," where startups raise funds at valuations lower than in previous rounds. In the first half of 2023, over 30% of U.S.-based tech startups that raised funds did so at reduced valuations, likewise, 23% of European companies suffered down rounds in the first three quarters of 2023 (Tech Funding News, 2023).

> **This trend reflects a broader market recalibration, as investors, including SWFs, become more risk-averse and focus on capital preservation. Indeed, investors became more selective.**

For instance, the average number of patents held by companies that raised a Series D or later round has increased substantially (50%) since 2022. Showing that an excessive capital environment could define the 2020-2022 VC bubble, when patents held by companies in similar rounds were down 60%. It is true that down rounds are not the end of the line, yet they are becoming riskier. The number of companies unable to raise or exit post-down round has multiplied 6x in 6 years (SVB, 2024). The risk of becoming a zombie company grows with that capital inactivity. Taking this into account, the relative value of SWF investments in the technology sector decreased from 20% to just 14% in the 2024 Report, with funds increasing their bets on finance, real estate, industrial, consumer and chemical sectors.

Moreover, the increase in interest rates has raised the cost of capital, making it more expensive for startups to borrow and operate. This has led to a more cautious approach by SWFs, which are now prioritizing investments in later-stage companies with proven business models and clearer paths to profitability. This shift is also evident in the reduction of early-stage funding rounds, as SWFs become more selective and focus on opportunities that align with their long-term strategic goals.

The trend looks serious. It is true that when considering only 2023 data the problem is not yet critical. Overall funding in 2023 was down 33% when compared to the pre-pandemic years of 2018 to 2020 (Pitchbook, 2024).The craziness of 2021 and 2022 probably will not come back in a while, unless the AI revolution comes to the rescue (which is not the case yet). It is true that one in four funds closed in 2023 focused on AI (SVB, 2024), but it is not enough. 2024 is on track for worst global VC fundraising year since 2015, with total



volumes expected to be 66% lower than the 2021-22 peaks. A shortage of public offerings, down rounds and fund lunches (1,300 new vehicles in the first half of 2024, versus nearly 4,000 in 2021) are the key industry factors that explain these figures. But there is more, like geopolitics, to add to the equation today.

2. GEOPOLITICAL FRAGMENTATION AND ITS INFLUENCE ON SWF STRATEGIES

The current geopolitical environment is characterized by increasing fragmentation, with significant implications for global investment patterns, particularly in the technology sector. The intensifying U.S.-China tech rivalry has led to heightened scrutiny of cross-border investments, particularly those involving sensitive technologies like semiconductors, AI, quantum technologies and telecommunications, including satellites. This rivalry has forced SWFs to navigate a more complex and risk-laden global environment, significantly influencing their investment strategies.

The United States has taken a more aggressive stance in limiting China's access to advanced technologies, implementing stringent export controls on advanced technologies and equipment, supporting investment restrictions, and increased scrutiny of Chinese investments in U.S. companies. In response, China has accelerated its efforts to achieve technological self-sufficiency, especially in areas critical to national security.

> **This "tech decoupling" has created a more challenging landscape for SWFs, which must carefully consider the geopolitical risks associated with investing in either U.S. or Chinese tech companies.**

The IFSWF notes that SWFs are increasingly cautious about large-scale investments in jurisdictions where geopolitical risks are high (IFSWF, 2024). For example, Middle Eastern SWFs, which have been active investors in both U.S. and Chinese tech markets, are now reorienting their strategies to focus on less volatile regions. This includes increasing investments in domestic and regional markets, as well as in countries like India, which was targeted three times more than China for SWFs deals valued above $300 million in the period of the report. This strategic shift highlights the growing importance of geopolitical considerations in SWF investment decisions, particularly in the technology sector. Additionally, the uncertainty created by geopolitical fragmentation has led SWFs to adopt a more defensive investment posture. This includes greater emphasis on sectors that are less susceptible to geopolitical tensions, such as healthcare, infrastructure, renewable energy, and digital technologies that are critical to national development goals. For instance, SWFs are increasingly investing in digital infrastructure projects within their home countries to support economic diversification and reduce reliance on foreign technologies. This trend is particularly evident in the Gulf Cooperation Council (GCC) countries, where SWFs are channeling funds into domestic tech ecosystems to foster innovation and resilience against external shocks.

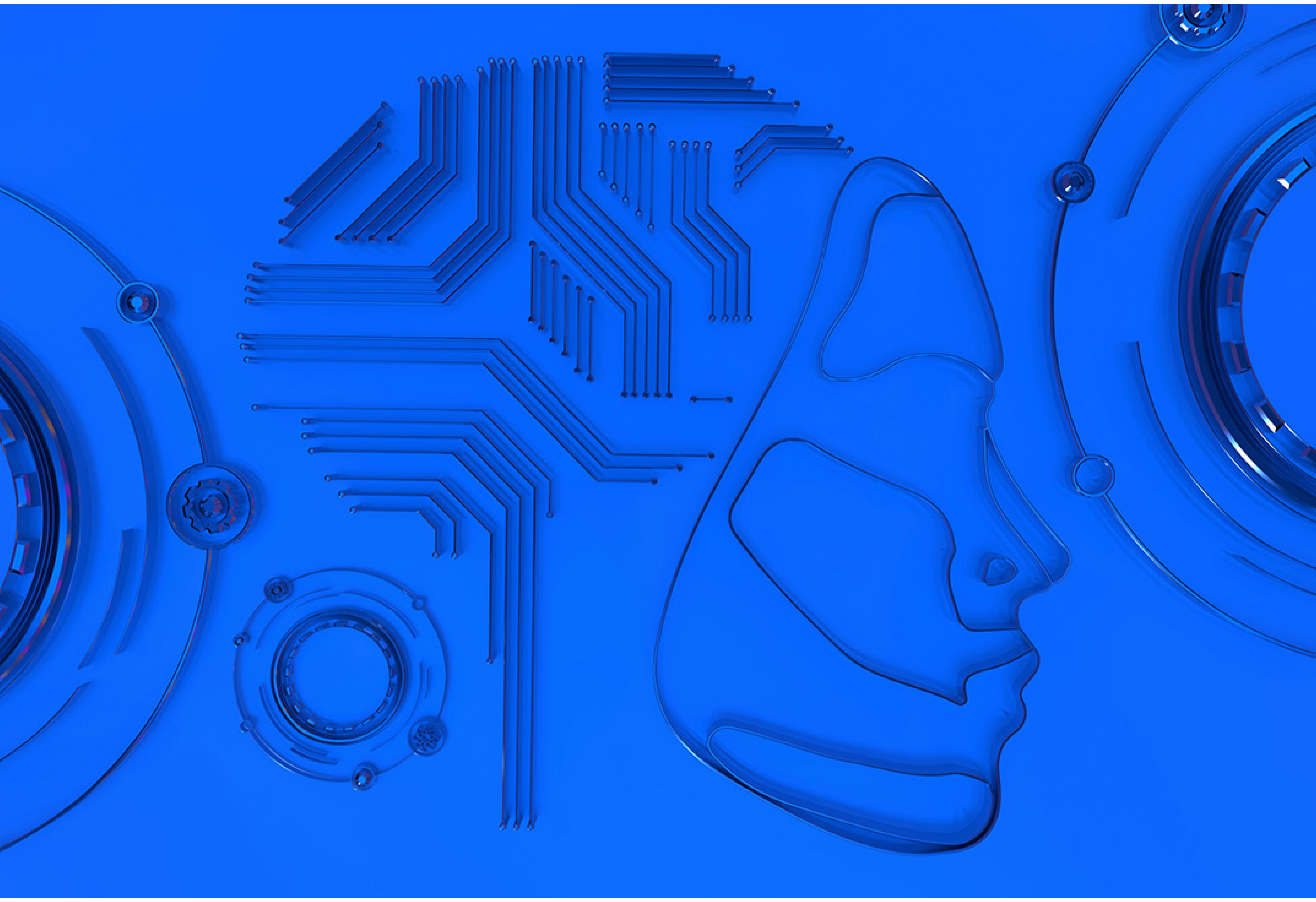
> As geopolitical tensions continue to rise, SWFs are likely to become even more selective in their technology investments, prioritizing deals that offer strategic value and align with national interests.

This cautious approach reflects the broader uncertainty that now permeates global markets, as SWFs seek to balance the need for growth with the imperative of managing risk in an increasingly complex and fragmented world.

In this chapter we focus on two different aspects framing SWF technology investments today. First, the growing exposure to the new AI revolution. Secondly, the solutions supported by SWFs at home and abroad to solve the water scarcity dilemma and the complicated exposure to the protein-based food tech revolution.

3. SOVEREIGN WEALTH FUND INVESTMENTS IN ARTIFICIAL INTELLIGENCE

SWFs have increasingly turned their focus towards artificial intelligence (AI) startups, recognizing the transformative potential of AI across various sectors. They are not alone. As said, one out of every four VC funds closed in 2023 was focused on AI. Despite the challenging global economic environment and the cooling of the tech investment frenzy, SWFs have strategically positioned themselves in high-potential AI companies, aligning with their long-term investment horizons. Despite the broader challenges in the techno-



logy sector, AI remains a significant area of interest for SWFs. As AI technologies become central to the future of industries ranging from healthcare to finance, travel or marketing, SWFs are positioning themselves to be at the forefront of this transformation. The global AI market is projected to grow at a compound annual growth rate (CAGR) of 37.3% from 2023 to 2030 (Grand View Research, 2023), underscoring the immense potential in this sector.

A prime example of the AI potential is provided by the Databricks deal of September 2023. Databricks is the fourth most heavily funded AI company, with $4 billion raised as of December 2023, just behind giants in funding like OpenAI ($11bn), Anthropic (7.7bn) and more recently xAI ($6bn). Databricks, which leads in AI as data analytics platform, announced a significant 'Series I' funding round, raising $500 million at a $43 billion valuation, converting Databricks into the second most valuable company in the AI ecosystem (well behind OpenAI with its impressive $157bn) and seventh worldwide. The round was led by NVIDIA (the world's second largest company by market capitalization as of October 2024) and T. Rowe Price. It included the participation of prominent SWFs active in the tech industry like QIA and GIC, and other AI and tech players like Jeff Bezos and OpenAI itself (TechCrunch, 2023). Databricks has been at the forefront of the AI and big data revolution, offering a unified platform that integrates data engineering, data science, and machine learning. The company gained substantial traction due to its ability to help organizations unlock the full potential of their data through AI-driven insights. The participation of QIA and GIC in the round underscores the strategic importance these SWFs place on AI as a key driver of future economic growth.

QIA's investment in Databricks is part of its broader strategy to diversify its portfolio and tap into the rapidly evolving AI sector. Similarly, GIC's involvement aligns with its long-standing focus on innovation and technology. For both SWFs, the Databricks investment offers exposure to a high-growth company with a strong market position and significant potential for future value creation. The funding round also highlights the confidence that these institutional investors have in Databricks' ability to maintain its leadership in the competitive AI landscape, especially as the company gears up for a potential IPO. According to TechCrunch, Databricks reported annual revenue exceeding $1.6 billion in 2023, a number that represented growth of more than 50% over the prior year (TechCrunch,2024).

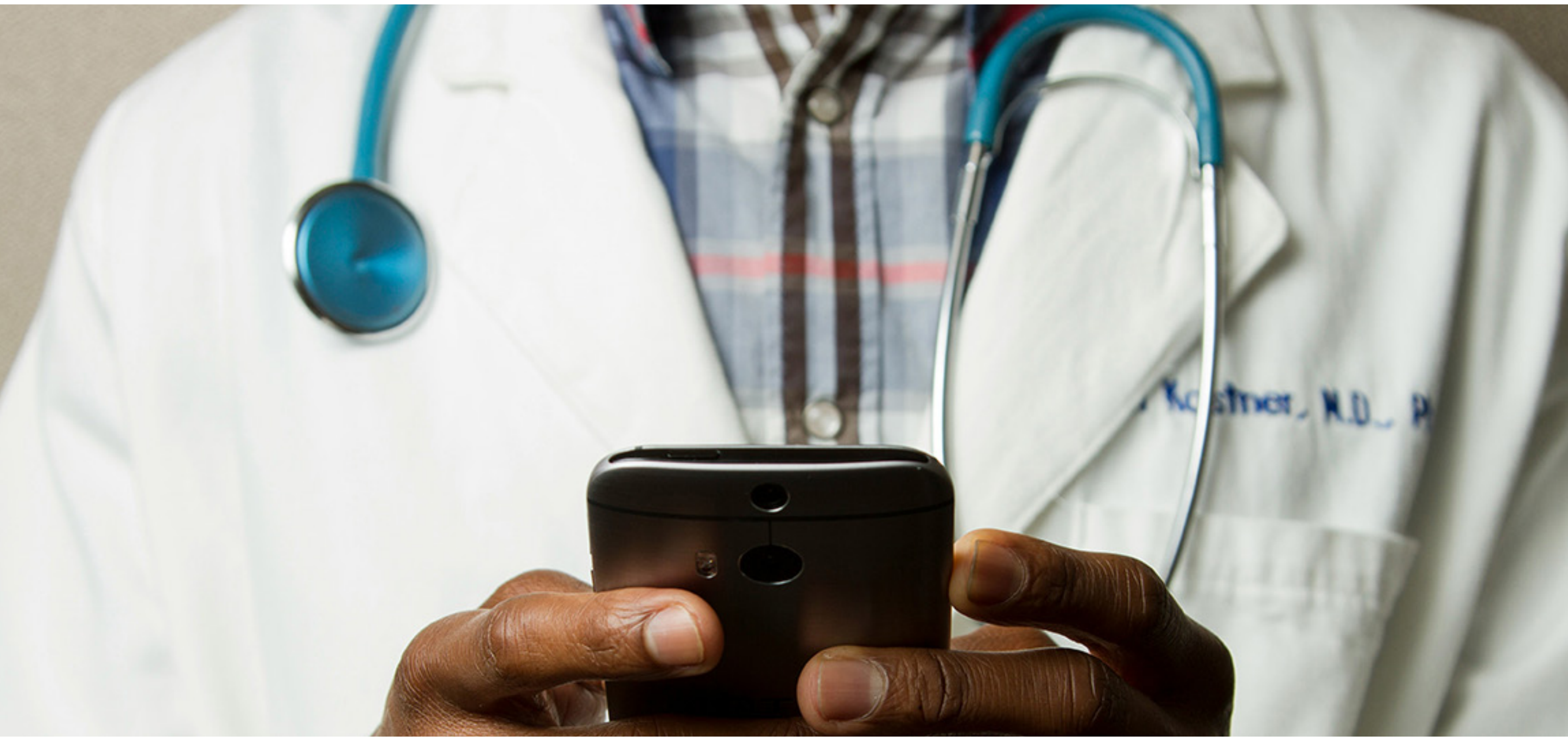
This deal is particularly significant, highlighting sustained interest from SWFs in AI and data-driven firms despite broader market pressures on valuations. Notably, AI unicorns continue to defy this trend, with rapid valuation growth reminiscent of the 2020-2021 venture capital surge. Examples include CoreWeave, a cloud computing startup specializing in GPU infrastructure, which saw its valuation jump from $7 billion to $19 billion in five months. French-based Mistral AI, focused on open-source models, rose from $2 billion to $6 billion, while xAI reached $18 billion in just ten months (Crunchbase, 2024).

But support from SWFs to AI goes well beyond startups. Only in Q2 2024, Temasek increased its holdings in US technology giants leading the generative AI revolution by $3.3 billion. Temasek invested in Microsoft, Apple, Meta, Amazon and Nvidia. The bet on Nvidia is particularly salient, with shares held by Temasek rising eighteen times and with the value of its investment tripling from $466 million to nearly $1.2 billion. Similarly, Microsoft's shares increased three times, while the value of the holdings tripled to $945 million. This movement came together with liquidating positions in US software and data cloud startups like GitLab, Snowflake or Datadog.

In another notable example, Temasek led a $50 million funding round for Twin Health, an Indian startup that uses AI to address chronic metabolic diseases (LongevityTechnology, 2023). The investment was announced in November 2023 and is part of a broader trend where SWFs are increasingly looking at healthcare AI as a key area of growth. Twin Health's platform leverages AI to create a "Whole Body Digital Twin," enabling personalized healthcare interventions that can potentially reverse chronic conditions like diabetes. This innovative approach has garnered significant attention, especially as global healthcare systems continue to grapple with the rising prevalence of chronic diseases.

Temasek's investment in Twin Health aligns with its strategic focus on health-tech and its commitment to addressing global health challenges through technology. The decision to lead this funding round reflects Temasek's belief in the potential of AI to revolutionize healthcare, particularly in emerging markets like India where access to affordable and effective healthcare solutions remains a critical challenge. Moreover, this investment illustrates Temasek's broader approach to supporting companies that not only promise strong financial returns but also have the potential to make a meaningful impact on society. Twin Health's technology, which combines AI with medical science, offers a scalable solution that could have far-reaching implications for managing chronic diseases globally, making it an attractive proposition for long-term investors like Temasek.

Applied-AI unicorns are gaining traction globally. Indeed, the AI sector showcases remarkable diversity, offering opportunities across various specializations. For instance, Anduril raised $2.8 billion for defense technology, while Insitro secured $643 million for advancements in drug discovery. Figure AI has raised $754 million



to develop humanoid robots. Additionally, companies are integrating cutting-edge AI into existing applications, such as Abridge, which employs voice recognition for automated medical documentation, again a health tech startup leading the AI adoption. Notion, founded in 2013, aims to challenge Google Workspace and Microsoft Office, while Perplexity seeks to redefine the search engine landscape.

Both investments highlight the strategic importance that SWFs place on AI as a critical area of innovation.

> **The key element would be to determine whether this focus on AI is capitalizing on current trends or if it reflects a deeper understanding of the long-term impact that AI technologies are likely to have across industries and geographies.**

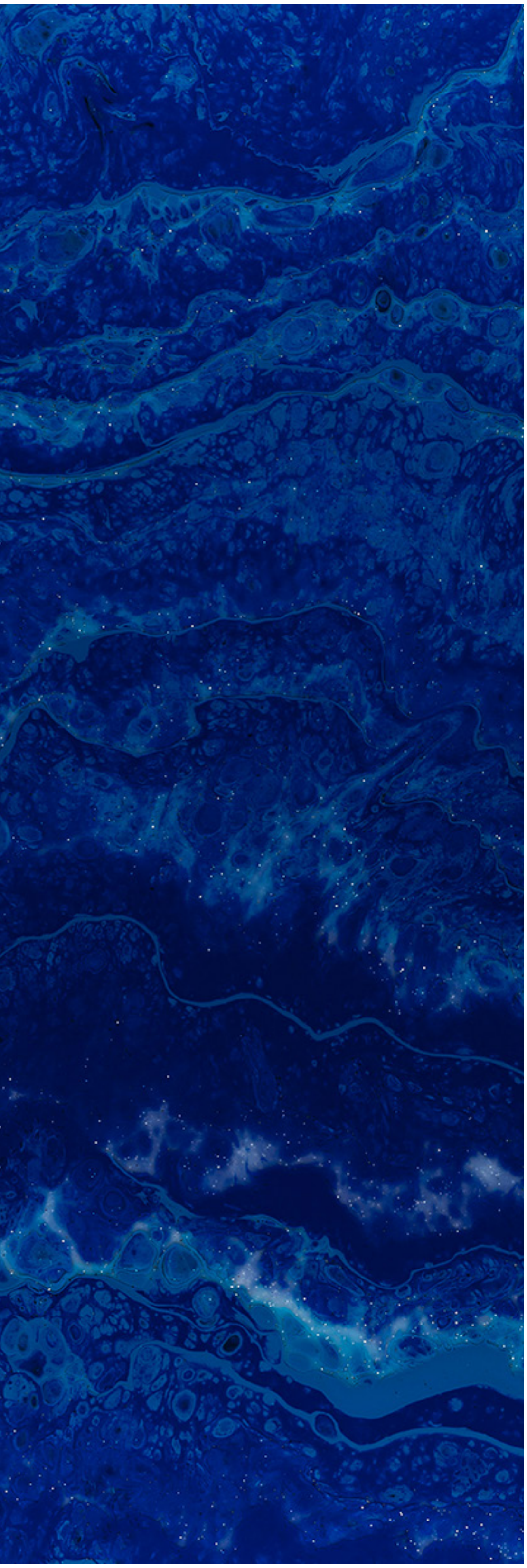
By backing leading AI companies, both in mature and emerging markets, SWFs are positioning themselves to benefit from the next wave of technological disruption, while also contributing to the development of technologies that have the potential to address some of the world's most pressing challenges.

Other SWFs are looking inwards when thinking about AI. For instance, the Public Investment Fund (PIF) of Saudi Arabia is intensifying its commitment to fostering innovation within its borders, marking a strategic shift towards supporting domestic mega projects and local economic development. In March 2024, Saudi Arabia unveiled a groundbreaking plan to channel $40 billion into AI and emerging technologies, as part of its Vision 2030 initiative (NY Times, 2024). This ambitious investment strategy aims to boost the kingdom's technological capabilities and position it as a leader in the AI sector. However, recent reports indicate a nuanced shift in Saudi Arabia's approach. Like other strategic SWFs, PIF would need to balance the high returns obtained from developed markets with the tangible benefits for the local economy required by a young, growing population.

Central to this recalibrated focus is the establishment of the Saudi Company for Artificial Intelligence (SCAI), which operates under the PIF's oversight. SCAI is tasked with advancing AI research and fostering local talent while attracting international AI firms to Saudi Arabia. The recent collaboration with American venture capital behemoth Andreessen Horowitz (a16z) exemplifies this new direction (Reuters, 2024). This partnership involves co-investing in AI ventures that have the potential to deliver both high technological value and substantial economic benefits to Saudi Arabia. By integrating a16z's extensive network and expertise with the PIF's capital, the initiative aims to create a durable AI ecosystem within the kingdom. This partnership is designed to ensure that foreign investment not only supports high-growth companies globally but also contributes to the development of Saudi Arabia's own technological and industrial base. SCAI's mission includes nurturing local startups, driving innovation, and facilitating the transfer of cutting-edge technologies to Saudi Arabia.

Even amid broader market downturns and increased geopolitical scrutiny, AI remains a critical focus for SWFs due to its transformative potential and alignment with long-term strategic goals. However, these investments are not without challenges. The rapid pace of AI innovation, coupled with its ethical and regulatory complexities, means that SWFs must be particularly diligent in assessing the risks and potential returns associated with AI investments. Moreover, as AI becomes increasingly intertwined with national security considerations, especially in the U.S. and China, SWFs must navigate a complex regulatory and geopolitical landscape to capitalize on opportunities in this space.

What are other areas where SWFs can exploit their long-term investment vision and mission? No doubt that looking into the 17 SDGs can provide proper guidance on the needs of humanity. AI would help to provide solutions to two of the world's most pressing challenges: food (SDG 2) and water (SDG 6). Let's explore how SWFs are investing in the technologies that could bring hope to millions (billions) of human beings in the coming decades.



4.
SWFS INVESTING IN WATER SOLUTIONS

More than 2 billion people around the world (25% of total population) do not have access to clean and safe drinking water, and approximately 3.5 billion people – 44% of the world's population – lack adequate sanitation services, according to the latest *United Nations World Water Development Report* released in March 2024 (UN Water, 2024). Moreover, water scarcity is becoming an urgent issue, with reports indicating that over 2.4 billion people (30% of world's population) live in countries experiencing high water stress (UNEP, 2024). In regions that historically did not face such challenges, global warming is exacerbating water scarcity, leading to temporary restrictions and long-term sustainability concerns. SWFs, as long-term investors located (about a fourth of them) in geographies where food and water scarcity is the norm, are becoming even more conscious about the critical (and valuable) role of companies developing the technologies of the future.

> **Agriculture, water, food, require business and scientific innovations supported by strategic long-term investors. These investments are driven by a desire to identify the next generation of leaders supporting the innovations needed to enhance resource management and environmental sustainability.**

One such investor is Qatar Investment Authority. In September 2023, QIA made a significant move by participating in Severn Trent's £1 billion share issuance (Financial Times, 2023). This investment marks QIA's deepening involvement in the UK's water management sector, as Severn Trent, one of the largest water companies in the UK providing water and sewage services to 8 million people in the Midlands and Wales, sought to bolster its financial position to meet increasing regulatory demands and address infrastructure challenges. The equity raise, which aimed to strengthen Severn Trent's balance sheet, was part of a broader strategy to enhance water management capabilities amid growing environmental concerns and climate change pressures. QIA, which already had a 4.6%

stake in the company, participated with £500 million, underscoring its interest in backing critical infrastructure sectors and climate resilience needs. This move by QIA echoes the involvement of other sovereign wealth funds, such as China Investment Corporation (CIC) and Abu Dhabi Investment Authority (ADIA) in Thames Water, another major British utility. However, Thames Water has been at the center of controversy due to its handling of water supply and wastewater management. The company has faced criticism for its management of leaks and sewage discharges into rivers, which has led to public outcry and regulatory scrutiny. These issues highlight the challenges faced by water companies in the UK, and worldwide, which are increasingly under pressure to improve their services in the face of growing environmental demands and the impacts of climate change.

In the domain of water solutions, the PIF has made significant strides too. Its majority-owned subsidiary ACWA Power leads the efforts of the Saudi Kingdom to achieve its ambitious greening goals within Vision 2030. ACWA Power plays a key role both domestically and internationally: large-scale desalination projects are utilizing advanced technologies both at home and abroad (please refer to Chapter 3 on infrastructure for detailed figures and strategies).

Another noteworthy water-related investment by a SWF was made by Temasek in August 2023. Verdagy, a green hydrogen technology company, secured a significant Series B funding round led by Temasek and Shell Ventures, the VC arm of the oil giant showcasing the transition push of oil companies today rebranded as energy giants (Verdagy, 2023). This investment marks another milestone in Temasek's ongoing commitment to sustainable technologies, particularly those aimed at addressing critical global challenges such as climate change and resource scarcity, and contributing to decarbonization and sustainable industrial processes.

Verdagy is rising to the challenge to accelerate the green hydrogen economy and decarbonize hard-to-abate sectors such as steel and ammonia production. The challenge is about orders of scale, thus scaling climate technologies from megawatts to gigawatts. Green hydrogen is defined as splitting water using renewable energy, like solar and wind. Verdagy's technology enables deep decarbonization of heavy industries by incorporating green hydrogen at a very large scale. Their technology drives down the investment with the low operating cost of their 20MW electrolyzers, coupled with flexible operating capabilities and allowing the large (3 square meters) cells to operate at higher current densities. This translates directly into more hydrogen production per cell.

Temasek's investment in Verdagy is part of a broader trend where the Singaporean SWF has been increasingly focusing on agritech, water, and other sustainability-focused sectors over the past years. In June 2022 Temasek merged one of its wholly-owned subsidiaries with Jain Irrigation Systems, an Indian conglomerate (Jain, 2022). Jain Irrigation provides micro-irrigation, and green energy technology products to farmers. The merger was carried out through Temasek's subsidiary, Rivulis, which is a global micro-irrigation company that was fully acquired by Temasek in 2022 (Rivulis, 2020). The combination has produced a global irrigation and climate leader (second in the world) – with revenue of over $750 million (Jain, 2023). This merger consolidates Temasek's strategic position towards addressing climate change, which includes goals to halve portfolio greenhouse gas (GHG) emissions by 2030 compared to 2010 levels, and to achieve net-zero carbon emissions by 2050 (Temasek, 2024). Temasek has also invested in Pivot Bio, a biotech firm developing nitrogen-producing microbes to replace synthetic fertilizers. These investments reflect Temasek's strategy of backing companies that offer innovative solutions to global food and water security issues, aiming to create long-term value while contributing to global sustainability goals.

5. SOVEREIGN WEALTH FUNDS BETTING ON FOOD INNOVATION

The foodtech sector, particularly plant-based proteins, experienced significant attention and investment in the early 2020s as consumers and investors alike sought sustainable and healthier food alternatives. However, the sector has faced considerable challenges in recent years, including valuation declines and market corrections. SWFs have been active in this space, and the current downturn provides insight into the evolving dynamics of foodtech investments.

Recently, the big names have been struggling: Beyond Meat's share price slid 97% since its peak in October 2020. Milk alternative maker Oatly has been beset with production woes and its ADR price has declined another 97% after peaking in June 2021. Moreover, consumers have generally cooled on the products. Demand has sunk and companies have adjusted, with McDonald's stalling rollout plans for its McPlant burger and Brazilian meat giant JBS shutting down its plant-based meat division.

Impossible Foods, a leading player in the plant-based protein industry, illustrates the challenges faced by this sector. In May 2019, Impossible Foods secured $300 million in a Series E funding round led by Temasek alongside other investors (Business Wire, 2019). Despite the substantial funding, the company has encountered valuation adjustments and a downround, reflecting broader market corrections in the plant-based protein sector. Impossible Foods, based in the United States, has struggled with scaling production and achieving widespread consumer adoption. The high costs associated with plant-based protein production and competition from alternative meat products have impacted its financial performance and valuation. Inflation pressures, particularly food prices, have made consumers turn to cheaper options like canned meats. Impossible ground beef costs almost $20-kg, while comparable ground beef from low-cost retailers like Walmart stays close to 11$-kg.

Beyond Meat, another prominent player in the plant-based meat sector, faced significant challenges and a notable decline in stock value. Beyond Meat's stock has experienced a dramatic drop since its peak back in 2020. According to recent analyses (Food Institute, 2013), Beyond Meat's stock has plummeted from its peak valuation of over $13 billion to just $400 million as of June 2024. The company's struggles have been attributed to high production costs, increased competition, and fluctuating consumer demand. Additionally, Beyond Meat has faced operational hurdles in scaling production to meet market expectations. The company's aggressive expansion strategy and pricing pressures have compounded its financial difficulties, resulting in a series of downrounds and adjustments in its market valuation. Despite ongoing investments, including a $200 million funding round led by Singapore's Temasek Holdings in April 2023, Beyond Meat's valuation has not stabilized, highlighting the broader challenges facing the plant-based protein sector.

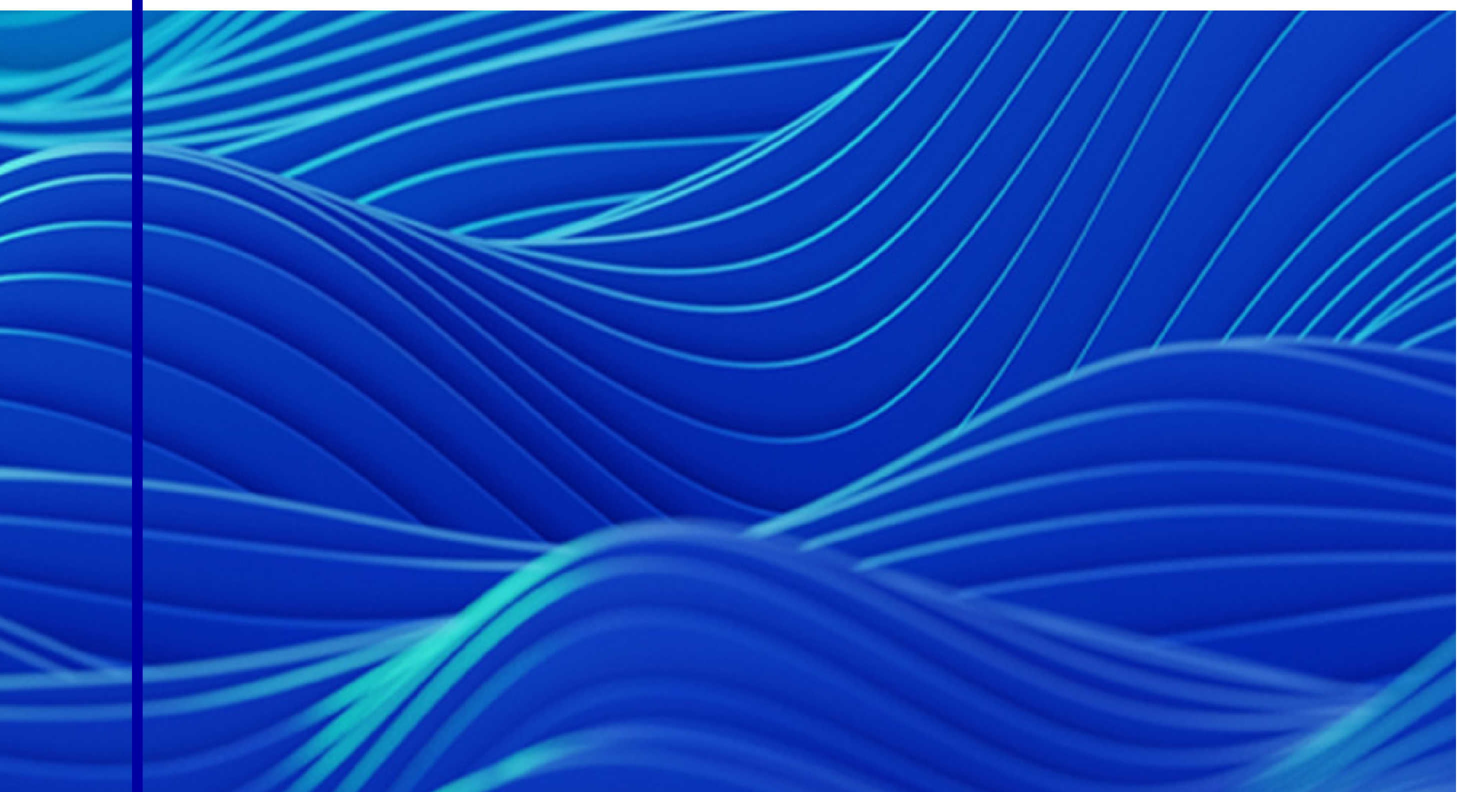
Perfect Day illustrates the financial challenges that can beset foodtech companies, even those with significant backing from SWFs. The company, known for its production of dairy proteins via fermentation technology, raised $90 million in a Series D funding round in early 2024, led by Singapore's Temasek Holdings and other investors. Temasek has led four investment rounds in the Berkeley, CA-based company. It is long-term and resource-demanding bet from the Singaporean sophisticated fund.

Yet, despite this substantial investment and institutional investment backing (including CPPIB, Horizons Ventures), Perfect Day has been facing significant financial difficulties. The company has experienced a substantial decline in its valuation, attributed to various factors including high production costs and slower-than-expected market adoption. Perfect Day recently made notable changes in its leadership, which included appointing a new CEO to address these financial challenges and drive the company towards profitability (Green Queen, 2024). The company's valuation has reportedly halved from its peak, reflecting ongoing struggles with scaling production and achieving broader market penetration.

Perfect Day has sold its business-to-consumer division and will focus its attention on B2B channels. The founders stepped down from their operational and leadership roles. Taking over is a new executive team led by current president TM Narayan as interim CEO, alongside newly appointed co-chairs of Temasek and of Horizon Venture, both anchor major investors in the foodtech since its early days.

In conclusion, SWFs are playing a pivotal role in advancing Agritech, water solutions, and food technology, driven by the need to address global challenges in resource management and sustainability. While investments in plant-based proteins and foodtech have faced significant hurdles, including valuation declines and market corrections, SWFs remain committed to supporting innovative technologies that promise long-term benefits, both financially and socially. Indeed, these critical sectors highlight the importance of balancing immediate financial returns with the broader goal of fostering sustainable solutions for global challenges. As the sector evolves, SWFs will be instrumental in shaping the future of agricultural technologies, water solutions, and food innovation.

ANNEX 1
IE SOVEREIGN WEALTH RESEARCH RANKING 2024



IE SOVEREIGN WEALTH RESEARCH RANKING 2024

IFSWF MEMBERS

- **Pre-2010 SWFs**
- **New SWFs (2010-2024)**

		AUM ($bn, US dollars)	Country	Established	Raking changes
1.	Government Pension Fund Global	1,779	NORWAY	1990 •	=
2.	China Investment Corporation	1,332	CHINA	2007 •	=
3.	State Administration of Foreign Exchange	1,098	CHINA	1997 •	↑2
4.	Abu Dhabi Investment Authority	993	UAE	1976 •	↓1
5.	Public Investment Fund	978	SAUDI ARABIA	1971 •	↑3
6.	Kuwait Investment Authority	969	KUWAIT	1953 •	=
7.	GIC	847	SINGAPORE	1981 •	↓3
8.	Hong Kong Monetary Authority	513	CHINA	1993 •	↓1
9.	Qatar Investment Authority	510	QATAR	2005 •	↑1
10.	Saudi Arabian Monetary Authority	469	SAUDI ARABIA	1952 •	↓1

		AUM ($bn, US dollars)	Country	Established	Raking changes
11.	National Social Security Fund	414	CHINA	2000 ●	=
12.	Investment Corporation of Dubai	360	UAE	2006 ●	=
13.	Mubadala Investment Company	302	UAE	2002 ●	↑1
14.	Temasek	301	SINGAPORE	1974 ●	↓1
15.	ADQ	249	UAE	2018 ●	↑3
16.	Future Fund	224.9	AUSTRALIA	2004 ●	↑1
17.	Korea Investment Corporation	189.4	SOUTH KOREA	2005 ●	↓2
18.	National Development Fund	162	IRAN	2011 ●	↑15
19.	National Wealth Fund	135.7	RUSSIA	2008 ●	↓3
20.	JSC Samruk-Kazyna	101.3	KAZAKHSTAN	2008 ●	↑4
21.	Emirates Investment Authority	91	UAE	2007 ●	↓2
22.	Dubai World	80	UAE	2006 ●	↑6
23.	Alaska Permanent Fund	79.1	USA	1976 ●	↓3
24.	Dubai Holding	72.1	UAE	1997 ●	↑6
25.	Libyan Investment Authority	68	LIBYA	2006 ●	↓4
26.	National Oil Fund of Republic of Kazakhstan	65.7	KAZAKHSTAN	2000 ●	↑20
27.	JSC National Investment Corporation of the National Bank of Kazakhstan	63	KAZAKHSTAN	2012 ●	↑51
28.	State Oil Fund of the Republic of Azerbaijan	58	AZERBAIJAN	1999 ●	↓3
29.	Texas Permanent School Fund	56.8	USA	1854 ●	↓7
30.	New Mexico State Investment Council	53.3	USA	1958 ●	↓1
31.	Brunei Investment Agency	53	BRUNEI	1983 ●	↓8
32.	Oman Investment Authority	50	OMAN	2020 ●	↓6
33.	New Zealand Superannuation Fund	48.3	NEW ZEALAND	2001 ●	↓6
34.	Ethiopian Investment Holdings (EIH)	46	ETHIOPIA	2021 ●	↑64

		AUM ($bn, US dollars)	Country	Established	Raking changes
35.	Bpifrance	36	FRANCE	2014 ●	↑21
36.	National Wealth Fund	35	UNITED KINGDOM	2024 ●	=
37.	Khazanah Nasional	30.2	MALAYSIA	1993 ●	↓6
38.	Russian Direct Investment Fund	28	RUSSIA	2011 ●	=
39.	Türkiye Wealth Fund	26.6	TURKIYE	2016 ●	↓7
40.	Alberta Heritage Savings Trust Fund	23.4	CANADA	1976 ●	↓4
41.	Uzbekistan Fund for Reconstruction and Development (UFRD)	23	UZBEKISTAN	2006 ●	N/A
42.	Timor-Leste Petroleum Fund	18.47	TIMOR-LESTE	2005 ●	↓8
43.	Ireland Strategic Investment Fund	18.11	IRELAND	2001 ●	↓6
44.	Bahrain Mumtalakat Holding Company	18	BAHRAIN	2006 ●	↓9
45.	Zimbabwe Sovereign Wealth Fund	16	ZIMBABWE	2014 ●	↑48
46.	Quebec's Generations Fund	13.66	CANADA	2006 ●	↓5
47.	Permanent Wyoming Mineral Trust Fund	11.36	USA	1974 ●	↓5
48.	North Dakota Legacy Fund	10.87	USA	2011 ●	↓5
49.	CDP Equity	10.7	ITALY	2011 ●	↓1
50.	Indonesia Investment Authority	10.5	INDONESIA	2020 ●	↓10
51.	China-Africa Development Fund	10	CHINA	2007 ●	↓12
52.	Fondo de Reserva de Pensiones	9.54	CHILE	2006 ●	↓8
53.	Maharlika Investment Fund	8.9	PHILIPPINES	2023 ●	↑47
54.	Future Ireland Fund	8.7	IRELAND	2024 ●	=
55.	Hong Kong Investment Corporation (HKIC)	7.95	CHINA	2022 ●	↓48
56.	GrowthFund	5.50	GREECE	2016 ●	N/A
57.	Heritage and Stabilization Fund	5.39	T. AND TOBAGO	2000 ●	↓12
58.	COFIDES	4.97	SPAIN	2018 ●	↑17

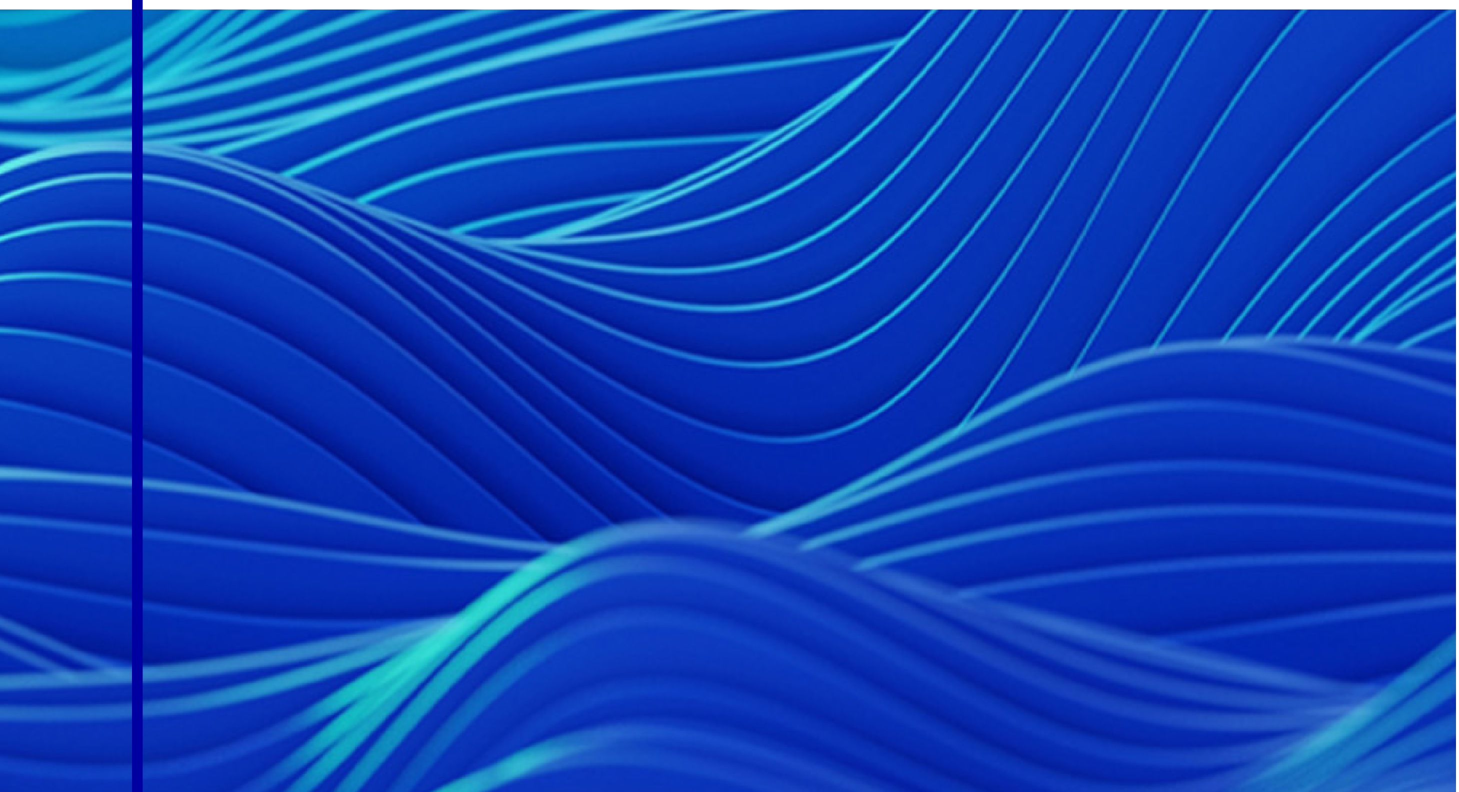
		AUM ($bn, US dollars)	Country	Established	Raking changes
59.	National Investment and Infrastructure Fund	4.9	INDIA	2015 ●	↓12
60.	Fondo de Estabilidad Económica y Social	4.7	CHILE	2007 ●	↓3
61.	Pula Fund	4.52	BOTSWANA	1994 ●	↓12
62.	Fondo de Ahorro y Estabilización	4.3	COLOMBIA	2011 ●	↑7
63.	Gulf Investment Corporation	3.69	KUWAIT	1982 ●	↓12
64.	Idaho Endowment Fund	3.41	USA	1969 ●	↓12
65.	Caisse des Depots et des Consignations (CDC)	3.409	TUNISIA	2011 ●	N/A
66.	Alabama Trust Fund	3.4	USA	1985 ●	↓16
67.	Fondo de Ahorro de Panamá	2.69	PANAMA	2011 ●	↓6
68.	Malta Government Investments	2.3	MALTA	2015 ●	↑32
69.	Fundo Soberano de Angola	2.17	ANGOLA	2012 ●	↓15
70.	Natural Resource Fund	2.1	GUYANA	2019 ●	↓2
71.	Nigeria Sovereign Investment Authority	2.1	NIGERIA	2011 ●	↓16
72.	The Sovereign Fund of Egypt	2	EGYPT	2018 ●	↓1
73.	State Capital Investment Corporation	1.96	VIETNAM	2006 ●	↓15
74.	Fonds Gabonais d'Investissements Stratégiques	1.89	GABON	1998 ●	↑9
75.	Ithmar Capital	1.84	MOROCCO	2011 ●	↓22
76.	Fondo de Estabilización Fiscal	1.83	PERU	1999 ●	↑11
77.	Louisiana Education Quality Trust Fund	1.57	USA	1986 ●	↓17
78.	Revenue Equalization Reserve Fund	1.523	KIRIBATI	1956 ●	↓16
79.	Fund for Israel Citizens	1.48	ISRAEL	2014 ●	↑17
80.	Mauritius Investment Corporation	1.18	MAURITIUS	2020 ●	↑13
81.	Fondo de Estabilización de los Ingresos Petroleros	1.13	MEXICO	2015 ●	↓18
82.	Ghana Petroleum Funds	1.046	GHANA	2011 ●	↓16

	AUM ($bn, US dollars)	Country	Established	Raking changes
83. Palestine Investment Fund	0.957	PALESTINE	2003	↓18
84. National Investment Fund	0.75	CYPRUS	2019	6
85. Future Generations Fund	0.68	BAHRAIN	2006	↓18
86. Northwest Territories Heritage Fund	0.54	CANADA	2012	2
87. Intergenerational Trust Fund for the People of the Republic of Nauru	0.297	NAURU	2015	↓13
88. Agaciro Development Fund	0.25	RWANDA	2012	↓16
89. Future Heritage Fund	0.22	MONGOLIA	2019	↓16
90. Ghana Petroleum Funds	0.19	GHANA	2011	↓14
91. Fonds Souverain de Djibouti	0.17	DJIBOUTI	2020	↑6
92. Fund for Future Generations	0.165	EQUATORIAL GUINEA	2002	↓11
93. National Fund for Hydrocarbon Reserves	0.159	MAURITANIA	2006	↓13
94. JSC Development Fund of Georgia	0.147	GEORGIA	2011	↓35
95. Petroleum Revenue Investment Reserve	0.067	UGANDA	2015	↓16
96. FONSIS	0.051	SENEGAL	2012	↓32
97. Fondo para la Estabilización Macroeconómica	0.03	VENEZUELA	1998	↓13
98. National Wealth Fund	0.03	TURKS & CAICOS I SLANDS	2017	↓16
99. Welwitschia Fund	0.024	NAMIBIA	2021	↓14
100. Fonds de Stabilisation des Recettes Budgétaires et Réserves pour Générations Futures	0.02	D. R. OF THE CONGO	2005	↓14
101. Papua New Guinea SWF	0.02	PAPUA NEW GUINEA	2011	↓5
102. Savings and Stabilization Fund	N/A	SURINAME	2017	↓4
103. Oil Revenue Stabilization Fund	N/A	SOUTH SUDAN	2008	↓12
104. Turkmenistan Stabilization Fund	N/A	TURKMENISTAN	2008	↓12

POTENTIAL NEW FUNDS

	Country
1. South Africa	SOUTH AFRICA
2. Lebanon	LEBANON
3. Kenya	KENYA
4. Mozambique	MOZAMBIQUE
5. Bahamas	BAHAMAS
6. Romania	ROMANIA
7. Japan	JAPAN
8. Zambia	ZAMBIA
9. Tanzania	TANZANIA
10 Liberia	LIBERIA
11. Saskatchewan	CANADA
12. Bangladesh	BANGLADESH
13. New Caledonia	NEW CALEDONIA
14. Investment and Development Fund	MACAU SAR
15. Chinese Taipei	CHINESE TAIPEI
16. Mongolia	MONGOLIA
17. Jordan	JORDAN
18. Republic of Kosovo	KOSOVO
19. United States	UNITED STATES

ANNEX 2
SOVEREIGN WEALTH FUNDS AND SPAIN: RENEWABLE ENERGIES AND TOURISM



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ANNEX 2
SOVEREIGN WEALTH FUNDS AND SPAIN: RENEWABLE ENERGIES AND TOURISM

Spain set a record for attracting sovereign fund investments in 2023-2024.

> **A total of seven different sovereign funds made 13 direct investments in Spanish companies or projects led by them. The total investment volume in 2023 reached nearly €6.9 billion.**

This marks the second most significant year in attracting sovereign investment in the historical series, surpassed only by 2011 (when IPIC, now Mubadala, acquired Cepsa). It represents a 140% increase compared to 2022 figures. The period covered by this report (January 2023 to June 2024) raises the total to €7.2 billion, with a significant concentration in infrastructure (both digital and, especially, renewable energy) and the real estate (hotel sector).

1.
INFRASTRUCTURE:
FROM GREEN ENERGY TO TELECOMMUNICATIONS

Iberdrola has been extraordinarily active in establishing strategic alliances with SWFs recently. By no coincidence it was one of the first large companies in Spain invested by a SWF. The relationship of Iberdrola with these state-owned investors dates to 2011, when Qatar Investment Authority acquired 6% of the Spanish electric company for €2 billion (QIA still controls 8.71% of its voting rights and remains its top shareholder).

Starting from the newest deals, Iberdrola executed four relevant deals with three different SWFs from January 2023 up to January 2024.

1. In January 2024, NBIM invested €307 million in Iberdrola to acquire a 49% stake in a portfolio of renewable assets in Spain and Portugal. This investment is part of a broader partnership we commented on last year, aiming to invest over €2 billion in the next three years. It includes onshore wind and solar photovoltaic projects totaling over 1,300 MW, capable of supplying energy to more than 700,000 homes annually and preventing over 350,000 tons of CO2 emissions each year. This partnership strengthens NBIM's position in Spain, expands into Portugal, and enhances its renewable energy footprint. Of the new capacity added through this deal, 40% is wind and 60% is photovoltaic on the Iberian Peninsula. Spain reinforces its leadership position as a global force of both solar and wind renewable energy. In fact, Spain's solar and wind energy share in the energy mix stands at 39.4% (world's fourth only after Denmark, the Netherlands and Germany).

2. Going backwards, the second agreement was signed at the sidelines of the climate global meeting COP28 in Dubai, in December 2023. Iberdrola closed a deal with Masdar (owned by Mubadala, ADNOC and Taqa, an energy company controlled by a subsidiary of ADQ, another Abu Dhabi SWF) to co-invest an impressive €15 billion in offshore wind and green hydrogen in Germany, the UK and the US.

3. This co-investment agreement was just preceded by the regulatory approval, in November 2023, of a €1.6 billion alliance with Masdar to co-invest in the Baltic Eagle offshore wind farm, the second largest offshore wind project in Germany. Iberdrola is to keep a majority stake in the project while Masdar will retain a 49% valued at €784 million.

4. In April 2023, through its Brazilian affiliate Neoenergia, Iberdrola signed a strategic agreement with GIC for the development of transmission networks in Brazil for $476 million. Both companies will co-invest in operational assets, 1,865km of transmission lines with an average concession term of 25 years. The alliance gives priority to GIC and the right to acquire a 50% stake in other assets under construction and operation which encompass another 6,279 km. GIC will have a 50% stake in the company, valued at €215 million. These SWF strategic alliances reflect a dynamic and ambitious strategy launched by Europe's top utility by market value.

On its part, in September 2023 (a quite active SWF month in 2023), Saudi Telecom Company (STC), partially owned (64%) by the **Public Investment Fund of Saudi Arabia**, bought a 9.9% stake in **Telefónica** for €2.1 billion, becoming the shareholder with the largest voting rights at that time. In fact, the investment by STC was divided in two parts: first, through the acquisition of shares representing 4.9% of Telefónica's share capital, and secondly by acquiring financial instruments conferring economic exposure to another 5% of the share capital. This second tranche is still pending regulatory approval. Since then, **Criteria Caixa** has increased its exposure to 10.01% and **SEPI** (Sociedad Estatal de Participaciones Industriales) reached 10% back in May 2024. **PIF**, on its part, **keeps focused on supporting the development of its Saudi Vision 2030**, including mega projects like NEOM or Red Sea Global, and is investing massively in gaming, electric vehicles, AI, tourism and sports worldwide. In Europe, it has acquired infrastructure assets such as the 25% stake in the holding company controlling Heathrow Airport, the second busiest airport in the world, or joining the consortium led by KKR and GIP that acquired the tower business of Vodafone Group for $16.2 billion.

2.
TOURISTS ARE BACK AND SO IS HOTEL INVESTMENT

Real estate attracted some of the largest deals lead by SWFs in Spain in the period January 2023-June 2024. Supported by the rebound experienced in the global tourism industry, SWFs continued supporting one of the main elements of the Spanish economy. **Spain** consolidated the post-pandemic trends with close to 85 million international arrivals only in 2023, being the **second most visited country worldwide**. Reflective of such dynamism, hotel investment in Spain reached €4.25 billion in 2023, marking the second-highest volume in the country's history, surpassed only by the €4.8 billion recorded in 2018. In 2023, 171 hotels (+29% year on year) and 21,748 rooms (+22%) were sold, a significant increase compared to 2022.

Large portfolio transactions were the main protagonists, with a volume of €2.6 billion (62%). And within this category, SWFs are sovereigns indeed. **GIC from Singapore and Abu Dhabi's ADIA lead the group and confirm the internationalization of the Spanish hotel market**, gaining attractiveness globally.

In September 2023, **ADIA acquired 17 properties** owned by **Equity Inmuebles** (a hotel property firm from the founding families of Tryp) for an amount close to **€600 million**. In the first quarter of that year Equity Inmuebles put all 17 assets, some 2,500 beds, up for sale. Five of them operate under the **Meliá brand**, three under the **Sol brand**, eight operated under **Tryp** and the iconic **ME Madrid Reina Victoria**. The transaction now authorised by Competition will allow Meliá to continue operating under management of the 17 establishments in the Equity Inmuebles portfolio that it has leased since 2002. Additionally, **ADIA purchased 51% of a second portfolio** (Avenue Capital) partially controlled by Meliá-related subsidiaries **in Mallorca** (Magaluf). The transaction is valued at **€250 million**.

The profitability of hotels as real estate assets has improved notably due to rising prices and occupancy rates, leading long-term investors like ADIA to view these assets as an attractive and stable opportunity for portfolio diversification. As a result of these successful transactions, ADIA and Meliá's plan to create a joint venture to manage these 24 hotels, expecting to reach a valuation of €1 billion. This strategy would include renovation and reposition of some of the assets, helping the modernization of the hotel offering in Spain.

For its part, **GIC** was part of one of the significant moves in the European hotel market in October 2023. The Singaporean SWF **acquired a 35% stake in Hotel Investment Partners** (HIP), **Blackstone's** hospitality platform for Southern Europe. Originally founded by Alejandro Hernández-Puértolas and Banco Sabadell in 2015, Blackstone acquired HIP in 2017. Since then, Blackstone has invested over **€600 million** in the platform, which now boasts a portfolio of **72 hotels** across Spain, Greece, Italy, and Portugal, with more than 21,000 rooms, operated under global brands such as **Ritz-Carlton**, **Barceló**, **Meliá**, **Hyatt**, **Hilton**, **Ledra** or **Marriott**. Blackstone will retain a 65% majority stake.

3. SPORTS AND TECHNOLOGY

In August 2023, **Qatar Sports Investments** (QSI), a fully owned subsidiary of **Qatar Investment Authority**, and one of the world's leading sports investment companies and Barcelona-based **Damm**, the brewer company whose sports subsidiary **Setpoint Events** organizes the World Padel Tour (WPT) since 2013, **reached an agreement for the acquisition of WPT by QSI**. Headed by Nasser Al-Khelaifi, president of Paris Saint Germain football club and CEO beIN Media Group, QSI would have valued the transaction in **at least €30 million**, although the financial terms of the deal were not revealed. **QSI launched** a rival parallel competition to WPT known as **Premier Padel back in 2022**. Since February 2024, **WPT ceased to operate and Premier Padel took the lead**. The transaction shows the impressive growth and capillarity of a sport that has secured multi-year broadcast agreements covering 180+ countries reaching over 150 million household. **The inaugural 2022 Premier Padel season attracted 23 million views on YouTube.**

In February 2024, **NBIM acquired** a **2.6% stake** in **Wallbox**, a Spanish unicorn manufacturing **electric vehicle chargers** which was listed in the New York Stock Exchange in October 2021. **The company** headquartered in Barcelona **has lost 93% of its market value since** it peaked in early **2022**. During **2024**, **NBIM** made several **strategic adjustments** in its Spanish investments, increasing its net stake by 5% in the **banking sector** (notably in Unicaja, BBVA, and CaixaBank) and by 49% in the **energy sector** (notably in Iberdrola and Repsol). The five largest positions of the giant Nordic investor being as of June 2024, **Iberdrola** (€2.6bn), **Inditex** (€1.5bn), **BBVA** (€1.4bn), **Santander** (€1.2bn) and **Repsol** (€837m). NBIM has its largest positions (by voting shares) in **Unicaja** (7.7%, an extraordinary high exposure to NBIM standards), **Repsol** (4.36%), **Solaria** (4.3%), **Cellnex** (3.24%) and **Iberdrola** (3.15%).

4.
THE GROWING SWF ATTRACTION SPANISH PUBLIC ECOSYSTEM: SOPEF II AND FOCO

In **October 2023**, the **Oman Investment Authority** and **COFIDES** decided to establish **SOPEF II**, the continuation fund built on the success of SOPEF I, which was launched in December 2018 and achieved an IRR of 13.8%. With an additional **€100 million in capital** in total, SOPEF II will also take minority stakes aiming to support the international expansion of Spanish companies particularly in Oman or its related markets, fostering **investment and technology transfer**. With this second fund, the **total capital made available** to Spanish companies by Cofides and OIA reaches **€300 million**. The strong performance of the SOPEF I reinforced the partnership and laid the groundwork for this new initiative, continuing their focus on high-growth opportunities in Spanish companies willing to grow abroad.

In the **third quarter of 2024**, COFIDES would approve its **first investments** from the **Coinvestment Fund (FOCO)**, which has a **€2 billion budget** to attract foreign investment (including sovereign wealth funds) in sectors linked to the **green and digital transitions**. The fund offers co-financing up to 49% for each project, targeting medium and large companies with investments between €10 million and €150 million. Supported by the **EU's Next Generation funds**, FOCO aims to allocate its entire budget by mid-2026, enhancing Spain's role in key global sectors.

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SOVEREIGN WEALTH FUNDS 2024

RESILIENCE AND GROWTH IN A NEW GLOBAL LANDSCAPE

Sovereign Wealth Research, Center for the Governance of Change, IE University – November 2024