Sustainable Banking Report 2023

Mobilising retail investor capital for climate action

standard chartered

Foreword

Climate change continues to dominate the global agenda but are we taking enough action?

Faced with rising global temperatures and increasingly frequent extreme weather, climate adaptation and mitigation will have urgent focus at COP28 and beyond.

Financing our collective response is a critical challenge: overall climate mitigation and adaptation face an annual funding gap of trillions of dollars.[1] Institutional capital is often the focus when mobilising funds to bridge this gap – the scale and power of retail investor capital is a lesser-known opportunity.

Our survey of 1,800 retail investors in 10 growth markets across Asia, Africa and the Middle East reveals that USD3.4 trillion of capital could flow into climate investments. This means there is an opportunity to facilitate investor access to more opportunities matched to their interests, provide more transparent and standardised measurement of their investment impact, and clearer information about any risk and return trade-offs in sustainable investing.

An overwhelming majority of investors expressed interest in climate investing – renewables, energy storage and efficiency, resilient infrastructure, and biodiversity are among the high-priority themes on their agenda.

We need to ensure wealth management product offerings cover these emerging themes, as investor interests evolve.

Our deep dive into markets revealed the potential for retail capital mobilisation is highest in Mainland China at USD2.33 trillion, followed by India at USD543 billion and South Korea at USD180 billion. In Mainland China, the top theme of interest was renewables, while energy efficiency received the most attention from investors in India.

However, there is a critical disconnect between interest and action: almost all investors say they are interested in climate investing but only around 20 per cent are willing to allocate significant funds into it.

Overcoming this continued challenge – which our research reveals annually – requires collective action from the industry including banks, asset managers, regulators and policymakers. High on the agenda is the need to improve and harmonise reporting standards.

Encouragingly, individuals are not just looking at sustainable investing, but also in making their entire interaction with the financial system more sustainable. They indicated high interest in sustainable banking products such as green mortgages, deposits and credit cards.

At Standard Chartered, we look forward to working with our clients to match their investments to their themes of interest, so they can help finance solutions for a more sustainable future.

We hope the industry can benefit from our research insights, as climate investing progresses into a more mainstream asset class.

Marc Van de Walle
Global Head
Wealth Management,
Deposits & Mortgages
Standard Chartered

1. Source: Climate Policy Initiative's Global Landscape of Climate Finance 2023

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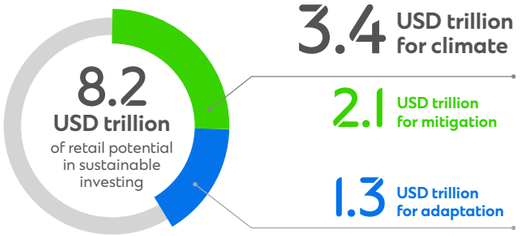
Executive summary

USD3.4 trillion[1] of retail investor capital could be directed towards climate mitigation and adaptation



There is potential for USD8.2 trillion of retail investor capital to flow into sustainable investing across Asia, Africa and the Middle East by 2030.

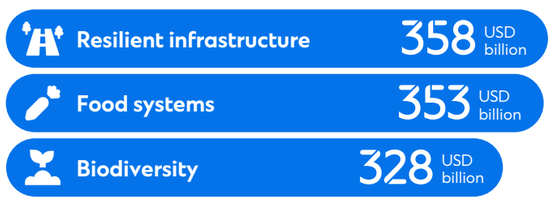
Based on investor preferences and wealth levels, we estimate that USD3.4 trillion could be mobilised specifically towards climate mitigation and adaptation.

Top 3 mitigation themes

Investors express high interest in how energy is generated, used and stored. Renewables, energy storage and energy efficiency combined present a USD1.2 trillion opportunity.

Top 3 adaptation themes

Striking a balance between natural and built environments is an investor priority. The top three themes – food, infrastructure and biodiversity – represent a USD1 trillion opportunity.

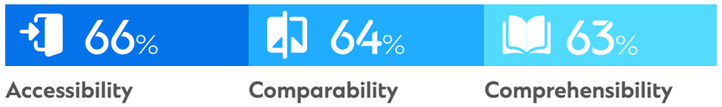


Accessibility is the biggest challenge to climate investing

Our survey of 1,800 investors across 10 markets[2] reveals the technical and cognitive barriers that hold them back from climate investing.

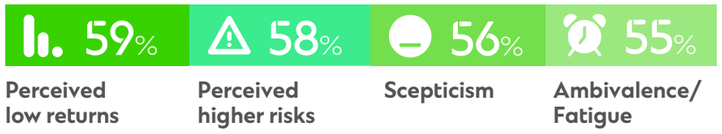
Technical barriers[3]

Accessibility – the availability and ability to make climate investments – is the top technical barrier.



Cognitive barriers[3]

Perceived low returns and higher risks are the top cognitive barriers, followed by scepticism and ambivalence or fatigue.



Greater collaboration and transparency needed across the industry

Portfolio companies, asset managers, banks and regulators must work together to help investors overcome these barriers.

Industry actions

- Drive sustainability from the bottom up, where asset managers take an activist approach[4] to drive climate action in portfolio companies.
- Expand climate investment opportunities to match emerging trends, such as biodiversity and the blue economy.
- Improve and harmonise reporting standards.

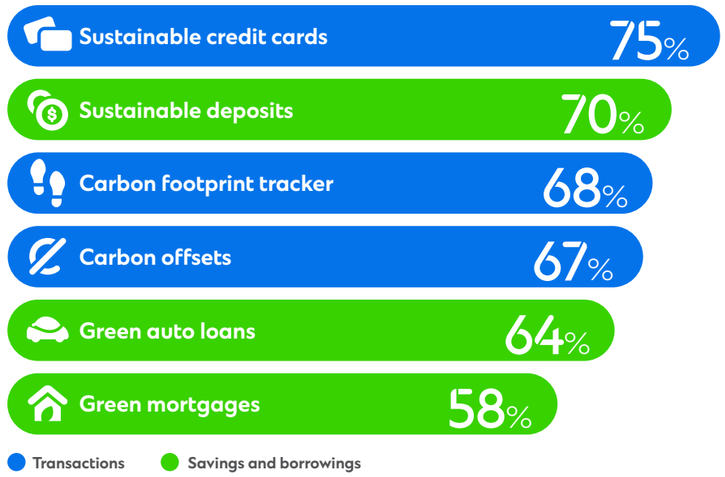
Direct-to-investor actions

- Empower investors with information about climate investing and debunk common myths.
- Provide investors with opportunities matching their investment horizon, risk tolerance and personal preferences.
- Demonstrate investment impact through better transparency and measurement.
- Leverage digital solutions to improve efficiency and access to climate investment solutions.

Investors want an end-to-end sustainable banking ecosystem

Across our survey markets, 97 per cent of investors want their entire interaction with the banking system – from transacting to saving and borrowing – to be more sustainable.

Likelihood of using sustainable banking products[5]



Investor interest is highest in sustainable credit cards and deposits.

They are also interested in products allowing them to manage their carbon footprint such as trackers and offsets.

Across all markets surveyed, investors in Mainland China are the most likely to use sustainable banking products including credit cards, deposits, carbon footprint tracker and mortgages.

1. For more details on the methodology, see Appendix.
2. Mainland China, Hong Kong, Taiwan, South Korea, Singapore, Malaysia, India, the UAE, Nigeria, Kenya.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.
4. Where through shareholder rights, asset managers actively shape relevant sustainability policies within their portfolio companies. For details on the definition of the barriers, please see Appendix.
5. Percentage indicates the share of individuals who are currently not using the respective sustainable banking product, but indicated the likelihood of using it in the near future.

Retail capital — a USD3.4 trillion opportunity

Almost all investors are interested in climate investing

of respondents are interested in climate investing[1]

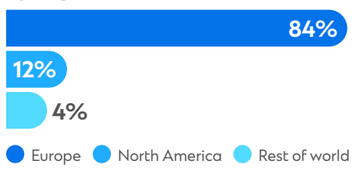
Current climate policies are insufficient to limit global temperature rises to 1.5°C by 2030, with Climate Action Tracker estimating a rise of 2°C by 2100.[2]

Faced with this reality, combating climate change requires both migitation and adaptation, to protect communities and manage risks.

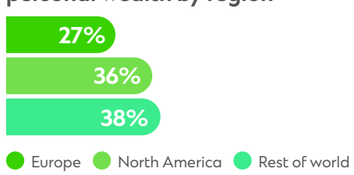
While investor interest is high, it has not yet translated into comparable levels of investment.

Despite strong interest, sustainable investing is still low outside Europe and North America

Share of global sustainable fund assets under management by region[3]



Share of global net personal wealth by region



Currently, the sustainable investing landscape is dominated by Europe and North America. Combined, both regions account for over 90 per cent of total asset under management (AUM) in sustainable funds.

However, the rest of the world holds over a third of global wealth – this represents a massive opportunity for capital to flow into climate investments.

Our research suggests there is USD3.4 trillion of retail potential that could be unlocked to address pressing climate issues across Asia, Africa and the Middle East, in areas including renewable energy, energy efficiency and storage, transforming food systems, building more climate-resilient infrastructure and protecting our biodiversity.

1. Values reflect the percentage of investors that indicated they were either 'Interested' or 'Very Interested' in climate investing.
2. Assuming all countries were to meet their net zero pledges and targets by 2030.
3. Share of sustainable fund assets from Morningstar, net personal wealth from World Inequality Database. See Appendix for more info.

USD 3.4 trillion

of potential[4] retail investments in climate across Asia, Africa and the Middle East

Potential for mitigation 2.1 USD trillion

Potential for adaptation 1.3 USD trillion

Top 5 themes by capital potential

- Renewables — 470 USD billion
- Energy storage — 410 USD billion
- Energy efficiency — 354 USD billion
- Resilient infrastructure — 358 USD billion
- Food systems — 353 USD billion
- Circular economy — 317 USD billion
- Carbon capture & storage — 254 USD billion
- Sustainable forestry — 253 USD billion
- Biodiversity — 328 USD billion
- Blue economy — 306 USD billion

4. USD values mentioned reflect the retail investor capital potential for each theme respectively. See Appendix for details on methodology.

Spotlight: opportunities to mobilise climate investment

Greater China & North Asia

Mainland China
2,326 USD billion

South Korea
180 USD billion

Taiwan
135 USD billion

Hong Kong
18 USD billion

South Asia & ASEAN

India
543 USD billion

Singapore
43 USD billion

Malaysia
17 USD billion

Retail capital that could flow into climate mitigation and adaptation

Top three themes with the highest potential for retail investor capital

Africa & the Middle East

Nigeria
94 USD billion

The UAE
40 USD billion

Kenya
7 USD billion

Key:

- Renewables
- Energy storage
- Energy efficiency
- Circular economy
- Sustainable Forestry
- Resilient infrastructure
- Food systems
- Biodiversity

Climate change will be damaging, disruptive and costly

Climate risks have a wide-ranging impact on businesses and investments

Nearly 90 per cent of survey respondents acknowledge the severity of climate disruptions on a global scale. Such disruptions have widespread consequences for the environment and society.

Beyond this, the physical and transitional risks associated with climate change will have broad-ranging impact on businesses across the globe, introducing significant volatility to investor portfolios.

Physical risk could damage assets across the globe

Acute physical risks, such as extreme weather events or natural disasters, can directly impact business performance. These risks can adversely impact a company's performance, resulting in potential losses in asset value and returns, detrimental to investor portfolios.

Chronic physical risks, such as sustained heat stress or rising sea levels, could force companies to divert their supply chains or relocate their manufacturing operations. This can lead to increased costs and decreased output, adversely affecting investor returns.

Transitional risk could make some assets obsolete, but could also introduce new investable sectors

Regulatory changes, such as emissions regulations or carbon pricing, could fundamentally alter an entire industry's business model. Consequently, this could have significant impact on investor portfolio performance and will require recalibration.

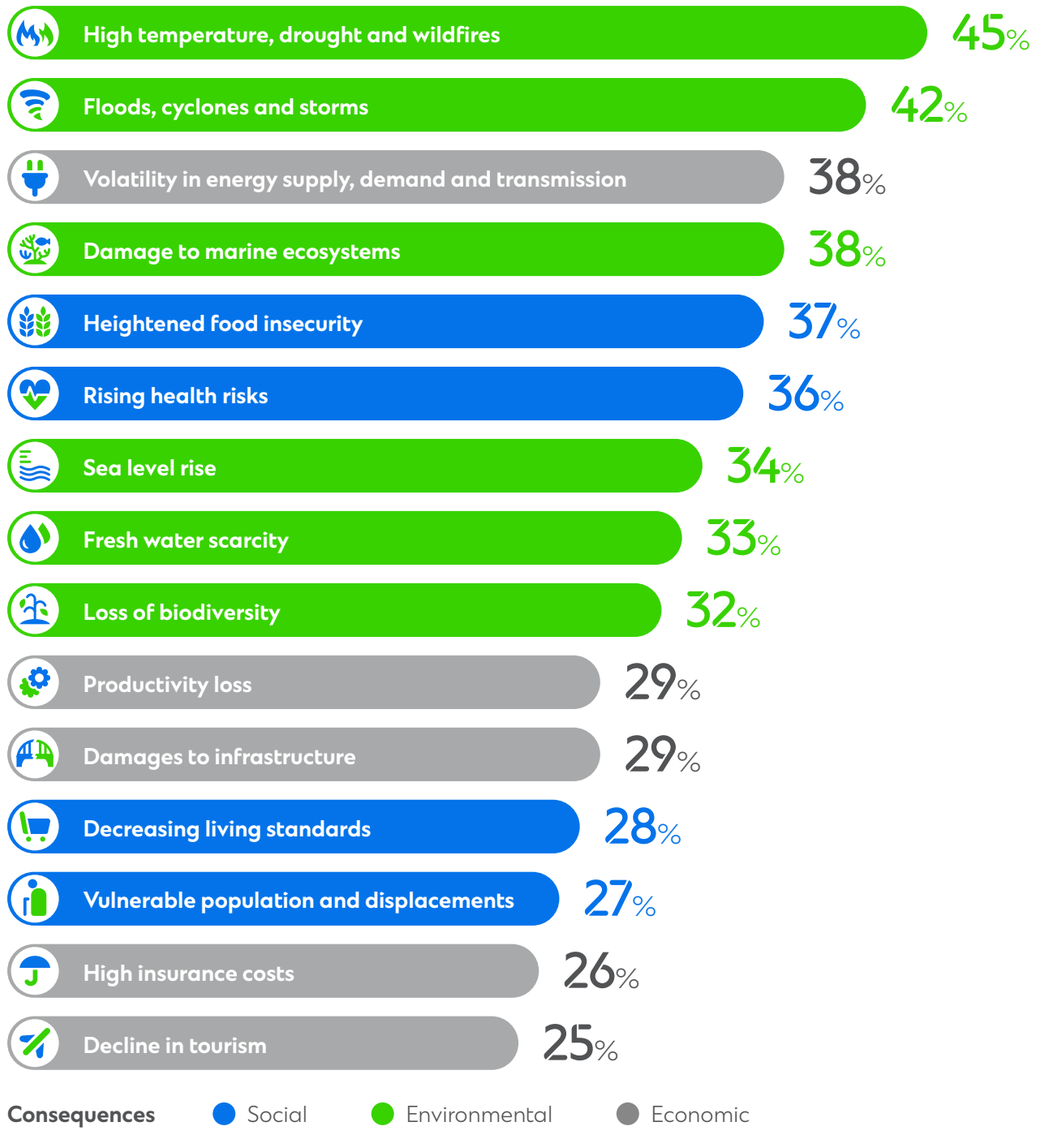
However, by investing in emerging sectors that contribute to the low-carbon transition, such as renewable energy, investors can rebalance their portfolios and profit from growth opportunities and greater risk diversification.

Maintaining momentum through COP28

COP27 created a pathway to align broader finance flows towards low emissions and climate-resilient development, and highlighted that the global transition to a low-carbon economy will require USD4-6 trillion annually. Delivering such funding will require a transformation of the financial system, engaging governments, institutional investors and other financial actors – including individual investors.

COP28 continues along this pathway, with the UN Climate Change's Standing Committee on Finance (UNFCCC) tabling a report to double adaptation finance and taking stock of progress on the USD100 billion goal set by developed markets[1], and to develop a global climate finance framework and roadmap to overcome the climate finance gap.

Investors are the most concerned about these consequences[2]



1. Developed countries set a goal of jointly mobilising USD100 billion per year by 2020 to address climate issues, but this has not been met.
2. Values indicate the percentage of investors that indicated the associated consequence as one of the top five most disruptive consequences to their markets in the coming decades.

Climate mitigation — powering a greener future by transforming our energy system

The energy transition is critical to net zero

As global temperatures rise, reducing our emissions is increasingly critical. The energy transition, a key lever, requires a fundamental shift in how we produce, store and consume energy.

Renewables, energy efficiency and energy storage are the key themes of this transition, which investors have also prioritised in their portfolio allocations.

Renewables

470 USD billion
Retail potential[1]

75%
Investor interest[2]

Energy storage

410 USD billion
Retail potential

73%
Investor interest

Energy efficiency

354 USD billion
Retail potential

75%
Investor interest

Transitioning to clean energy

How energy is generated is a key focus in the response to climate change. While non-renewables remain the dominant energy source today, Russia's invasion of Ukraine triggered concerns over energy security and affordability.

As a result, interest in clean energy is rising, with global investment in clean energy set to hit USD1.7 trillion in 2023, according to the International Energy Agency (IEA). Not only do renewables emit little to no greenhouse gases, they are readily available and could become more cost-effective than coal, oil or gas. Renewable energy can also improve overall air quality and correlated health risks.

Potential investment areas

- Solar PV modules and panel manufacturing
- Hydrogen technology
- Wind farm development and wind turbine components manufacturing

Capturing energy to manage variability

As energy demand and generation increases, energy storage will be an essential part of the new power system architecture. At the grid-scale level, energy storage is needed to efficiently manage supply and demand.

The output from renewable energy generation can vary significantly depending on factors such as wind speed and sun intensity. Smart and flexible grids can balance out the variability in generation and enable more flexible consumption.

Potential investment areas

- Lithium or battery technology
- Storage and transmission solutions

Changing consumption patterns

A successful transition to net zero will also require an overhaul of our energy consumption patterns. Energy efficiency is often considered the ‘first fuel’ in decarbonisation, as it can provide some of the quickest and most cost-effective CO_2 mitigation options.

The IEA estimates that a 4 per cent improvement in energy efficiency every year throughout this decade could lower global energy consumption and demand by almost one-third by 2030.[3]

Potential investment areas

- Energy-efficient cooling and heating systems, and lighting fixtures
- Energy-saving consumer electronics and appliances
- Energy-efficient transportation solutions

1. USD values reflect the retail investor capital potential for each theme respectively. See Appendix for details on methodology.
2. Values indicate the percentage of investors that indicated ‘Yes’ when asked if they were interested in this theme.
3. Energy efficiency improvement refers to the use of less energy to perform the same task or produce the same result.

Investor motivations

Segment and market lens

Investor segment lens

Positive impact is the top motivation for Affluent and NextGen HNW investors, while HNW investors prioritise personal values

Investor motivation towards climate investing varies by segment. Results among Affluent and NextGen HNW tend to converge, with both indicating positive impact as their top motivation, followed by improved investment returns.

HNW investors prioritise personal values and ranked improved investment returns and positive impact second equally.

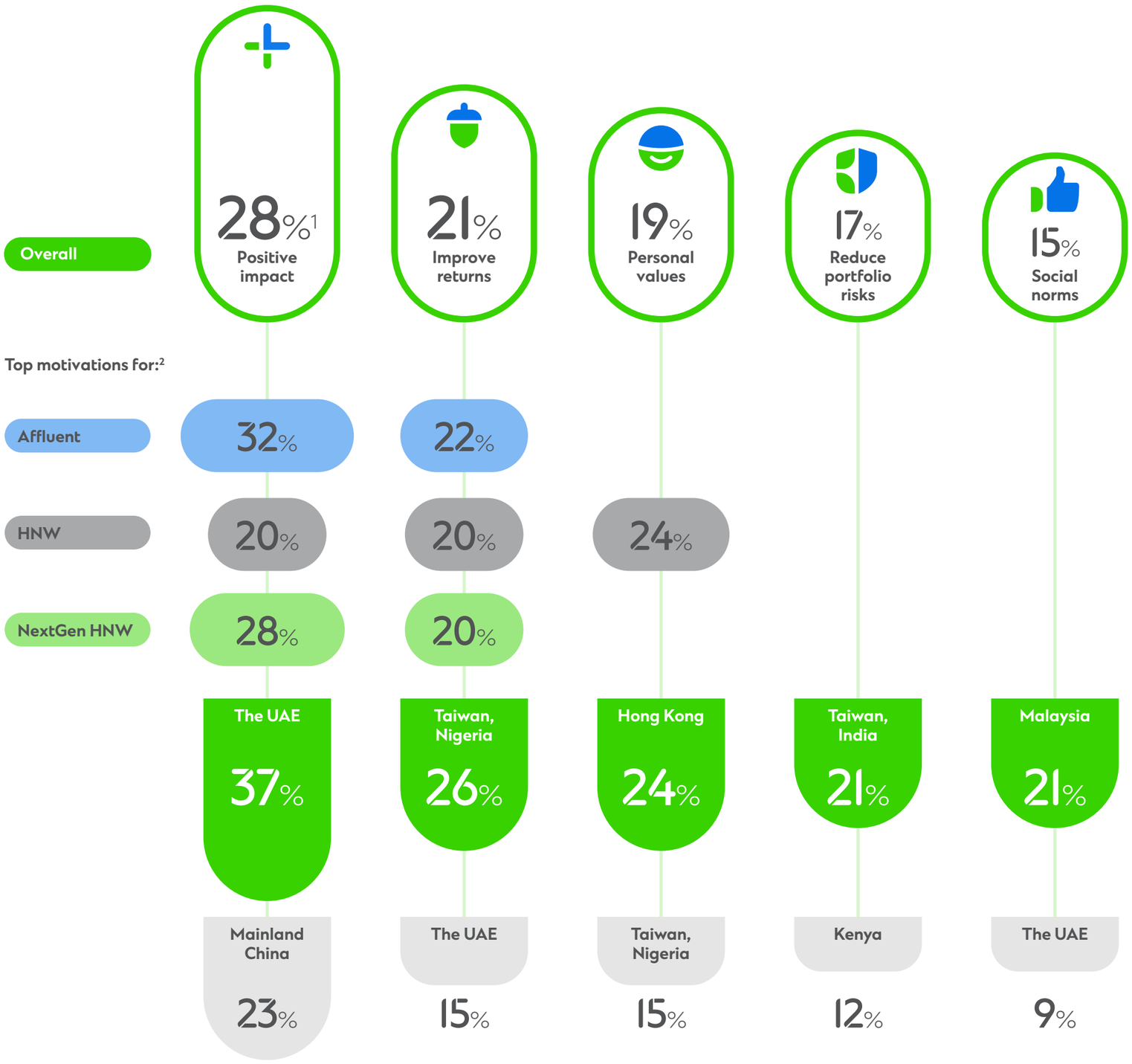
Market lens

Over a third of investors in the UAE are motivated by positive impact, while investors in Taiwan and Nigeria prioritise returns

Investors in the UAE are the most motivated by the potential positive impact of their investment across all 10 markets, and are the least concerned about social norms.

On the other hand, those in Malaysia prioritise social norms the most. Investors in Hong Kong tend to be strongly driven by personal values, while those in Taiwan and India consider mitigation-themed investments as a way to reduce portfolio risks, more so than other markets analysed in this report.

Notably, results between Nigeria and Taiwan tend to converge - they are the most driven by investment returns and the least motivated by personal values.



1. Percentages reflect the share of investors indicating this as their top motivation for investing in climate mitigation.
2. For investor segments definition, please see Appendix.

Allocation and familiarity

Segment and market lens

Approximately nine out of 10 respondents say they are familiar with climate mitigation. However, only 20 per cent of respondents are willing to allocate a significant portion[1] of their investment portfolio to the top three mitigation themes.

Investor segment lens

HNW investors are willing to allocate a more significant portion of their portfolio to climate mitigation than Affluent or NextGen investors

On average, Affluent investors report the lowest level of familiarity with climate mitigation.

Similar to NextGen HNW investors, the affluent are less likely to allocate a significant portion of their investment portfolio to climate mitigation compared to HNW investors.

Both HNW and NextGen HNW investors report similarly high levels of familiarity with climate mitigation.

HNW investors (24 per cent) overall are more willing to allocate a significant portion of their portfolio to the top three mitigation themes, compared to NextGen HNWs (18 per cent).

Market lens

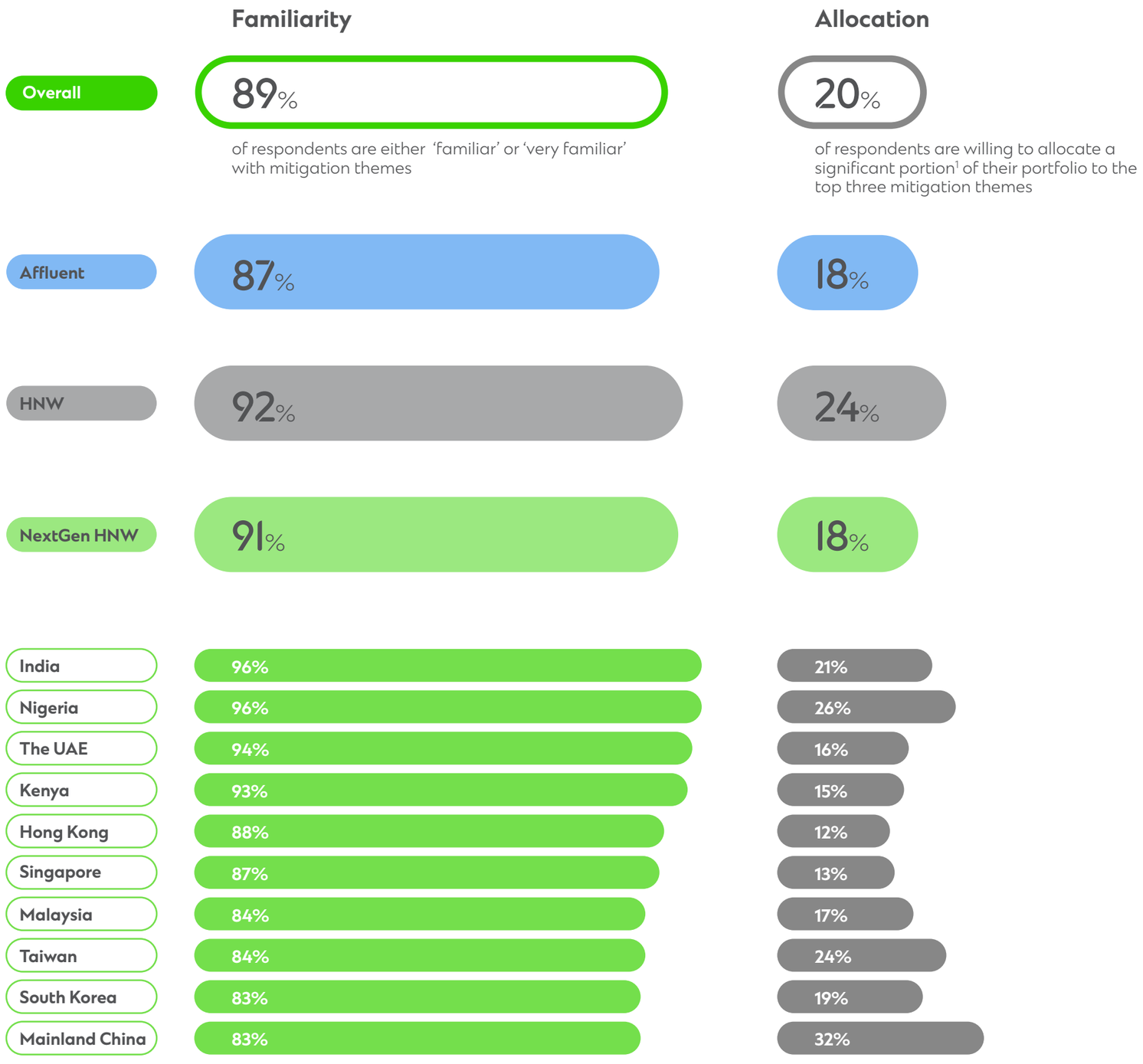
Investors in Mainland China, Nigeria and Taiwan are the most willing to invest in mitigation themes

Across all markets, investors in India, Nigeria and the UAE report the highest familiarity with climate mitigation.

Relative to other markets, investors in Kenya, Singapore and Hong Kong are the least willing to allocate a significant portion of their portfolios to the top three mitigation themes, despite relatively high levels of familiarity.

In contrast, investors in Mainland China and Taiwan report some of the lowest levels familiarity across all markets, but are among the top three markets most willing to put their capital towards climate mitigation.

1. Significant portion refers to more than 10 per cent of an investor's portfolio being allocated to the top three mitigation themes, under ideal conditions.



Barriers to climate investing

Segment and market lens

Investor segment lens

Accessibility, comparability and comprehensibility are the top-ranking barriers across all investor segments

Across all investor segments, more than 60 per cent rank accessibility, comparability and comprehensibility as the top three barriers.

HNW and NextGen HNW investors find that accessibility is the greatest challenge, while the Affluent say it's comparability.

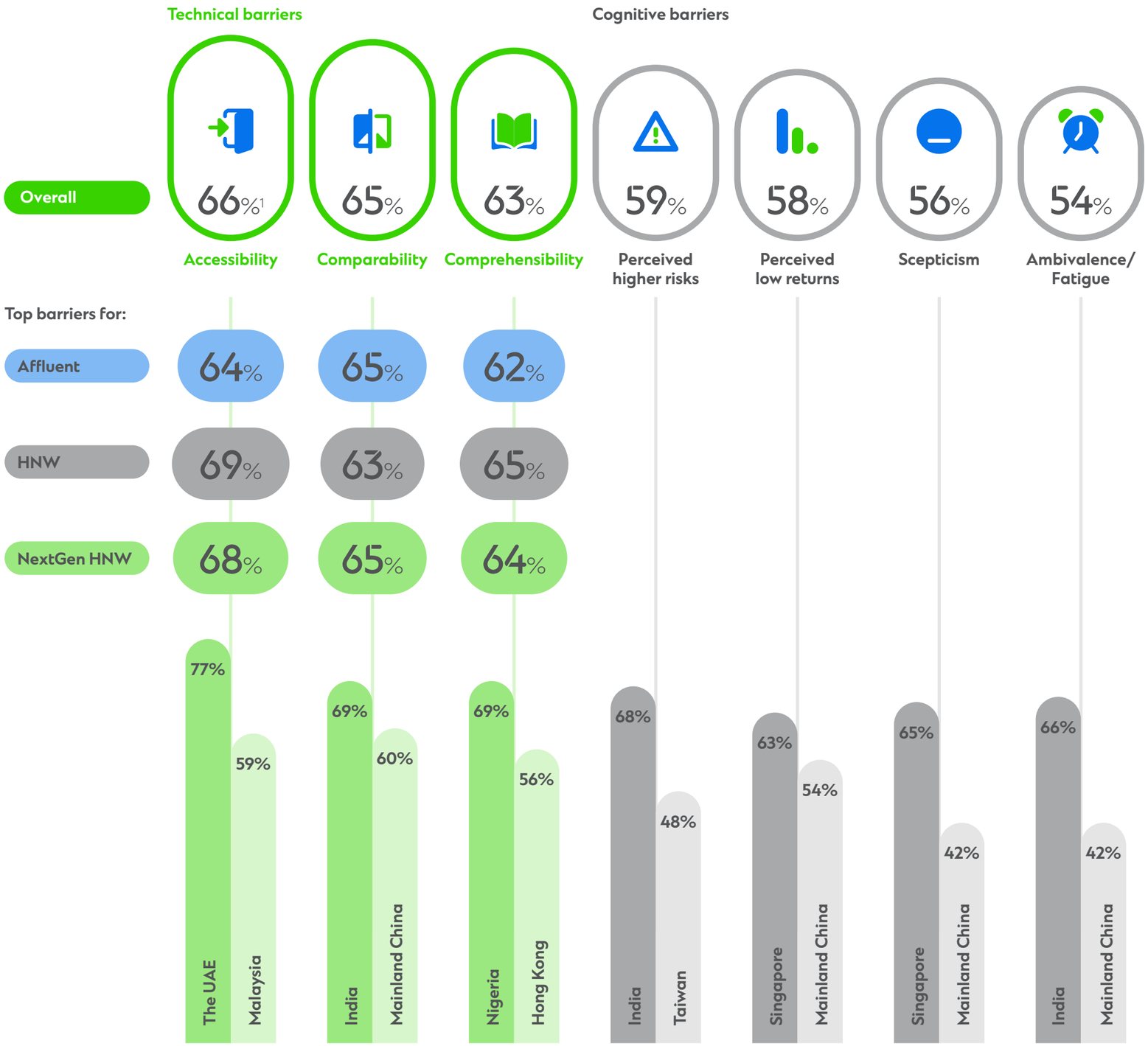
Market lens

However, the way barriers affect investors varies widely across markets - India has the highest proportion of investors facing barriers

Accessibility is the top barrier overall - UAE investors are the most affected
Investors face a confluence of barriers when investing in climate mitigation. Accessibility is the top-ranked barrier overall, but is the most prominent for investors in the UAE – of which approximately four out of five individuals identify it as a primary barrier to investing.

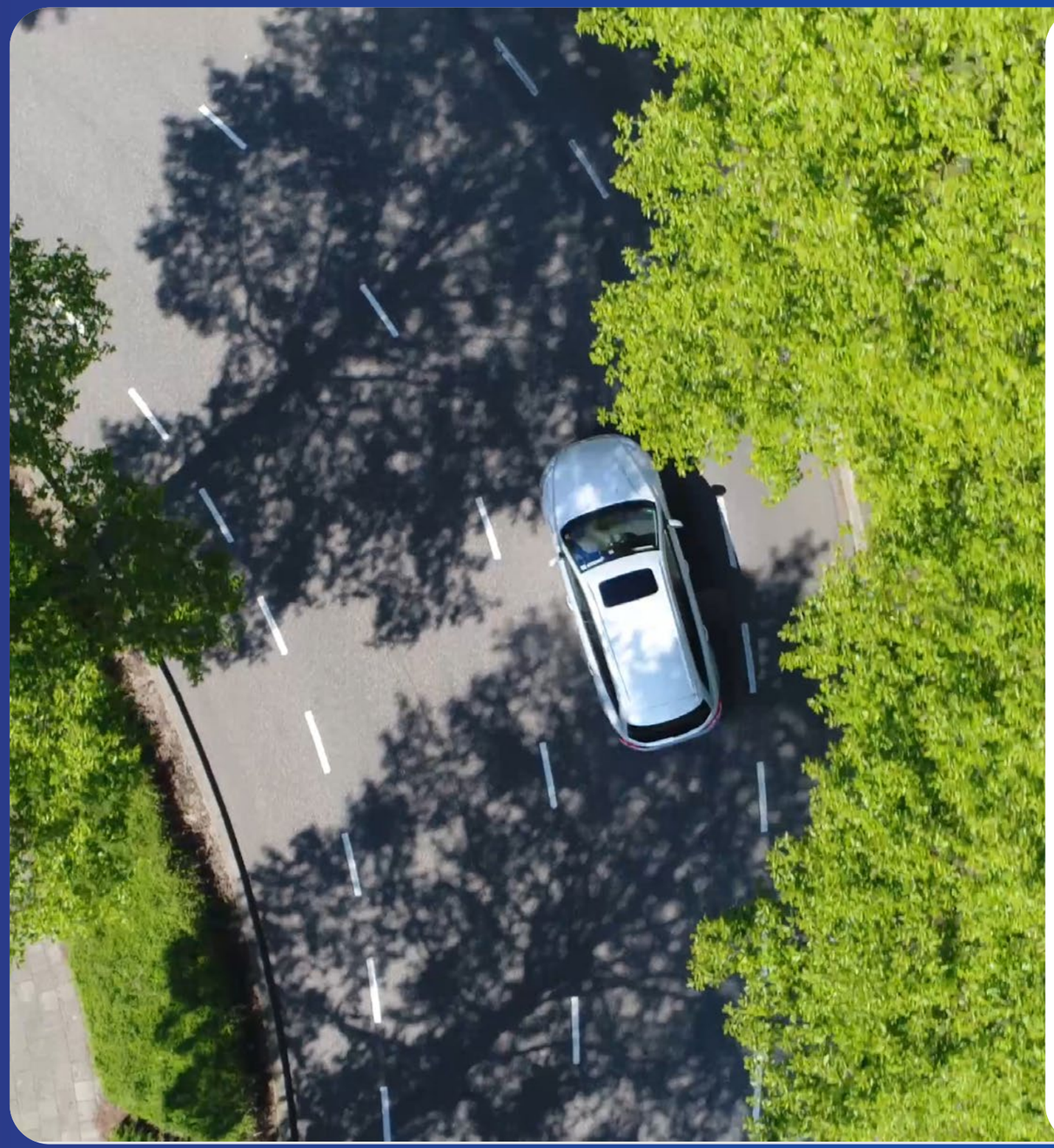
India tops more categories than any other market for reported barriers
India has the highest proportion of investors impacted by three out of the seven barriers – comparability, perceived higher risks, and ambivalence/ fatigue. This could be why India has one of the lowest allocation in climate investing despite high familiarity.

Investors in Greater China and North Asia are the least affected
Mainland China has the lowest proportion of investors impacted by four out of the seven barriers identified. Investors in Taiwan are the least impacted by perceived higher risks whereas those in Hong Kong indicate the same for comprehensibility.



1. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation. For details on the definition of the barriers, please see Appendix.

Pathway to net zero



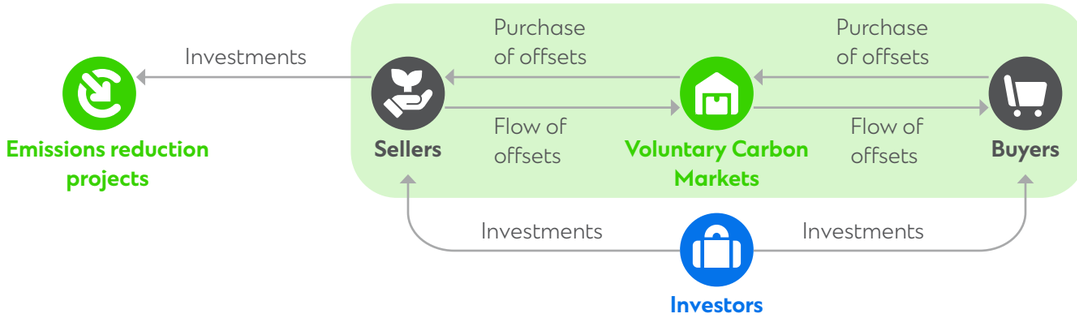
The emergence of voluntary carbon markets

By putting a price on carbon – the EU Emissions Trading System (ETS), the UK ETS, and the California Cap-and-Trade programme – compliance carbon markets have introduced a financial disincentive to greenhouse gas emissions and are instrumental in pushing carbon-intensive sectors to decarbonise.

The impact of compliance carbon markets goes far beyond sectors covered by them. Voluntary carbon markets have also emerged as an outcome of this wider decarbonisation movement. Voluntary markets serve as a platform for companies not mandated by compliance markets to participate in offsets and trading schemes in support of net zero pledges.

The trillion-dollar opportunity of carbon offsets

Carbon market participants:



Offsets make emissions reduction projects financially viable

In a voluntary carbon market, the product is carbon offsets. Companies buy these offsets to complement their decarbonisation efforts, while others sell the offsets generated through emissions reduction projects. The market mechanism makes emissions reduction projects, such as reforestation, financially viable.

Individuals can invest in carbon market participants

Carbon offsets have the potential to become a trillion-dollar industry, creating ample new opportunities for retail investors. Individuals can invest in firms selling offsets through mutual funds and ETFs, and gain exposure to carbon-related investments.

In this process, investors support companies that play key roles in the transition towards renewables, development of carbon capture and storage technologies, as well as those providing nature-based climate solutions.

Overcoming offset challenges — Climate Impact X

Voluntary carbon markets currently face various challenges

While carbon offsets are an important instrument in emissions abatement, current offsetting schemes are not entirely effective in steering businesses to net zero due to several issues:

Quality

Voluntary carbon markets lack standardised and mandatory certifications and often rely on vague predictions of a project's carbon impact.

Additionality is another key issue in offset quality. Additionality measures the amount of emissions reduction that would otherwise not occur without the sale of the offsets. Proving this often relies on estimation, leading to the true climate impact of offsets sometimes being overestimated.

Price

The price of carbon credits varies significantly. According to S&P, the price per credit can range from a few cents to hundreds of dollars, with the most expensive credits associated with tech-based removal projects such as carbon capture and storage. For buyers, the complexity of carbon pricing mechanisms can be a significant deterrent.

Investments versus offsets

While carbon offsets are levers that can support a company's decarbonisation efforts, capital investments in technology and efficiency improvements will be critical to achieve neutrality.

Climate Impact X (CIX) – a trusted marketplace for offsets

CIX, a Singapore-based global carbon exchange and marketplace co-founded by Standard Chartered, has recently crossed the 1 million tonne milestone in traded and cleared credits within its CIX Exchange.

Launched in June 2023, the spot trading platform alleviates the challenges of voluntary markets by providing investors access to trusted, high-quality and liquid carbon offsets.

The venture improves access to high-quality offsets and creates value in the following areas:

Approach to quality

CIX offers different types of credits that support a range of mitigation activities, from emissions reduction to atmospheric carbon removal.

To ensure that a project is of sufficient quality, it is reviewed at two levels: (i) methodology; (ii) project implementation and impact.

This approach drives impact on the ground by ensuring projects are designed under robust standards and implemented with integrity. Often, projects can be poorly implemented even if the methodology is robust.

Approach to pricing and transparency

CIX Exchange facilitates price transparency and establishes a price benchmark for carbon, to introduce more certainty in carbon trading. Transparent data and trusted pricing signals lay the foundations for future scalability.

The CIX Marketplace stores comprehensive data to help investors understand the carbon, social and biodiversity impact of the carbon credits they are purchasing. Insights from project developers, third-party ratings, and monitoring and verification reports are made accessible to all investors.

Climate adaptation — enhancing resilience

Radical change needed to build a more climate-resilient world

As a result of climate change, natural disasters have become more frequent and severe; biodiversity loss is also occurring at alarming rates. With half the world's GDP being dependent on nature, this poses major risks to societies and economies.

In the face of these pressing climate challenges, a more resilient world demands a radical change in our relationship with nature. It calls for greater effort in managing potential climate risks and adapting our economies to a new climate reality. This can be done through innovation and investments on three fronts – infrastructure, agriculture and biodiversity.

Infrastructure

358 USD billion
Retail potential[1]

73%
Investor interest[2]

Adapting the built environment for greater climate resilience

Global economic losses stemming from natural catastrophes in 2023 is estimated to have exceeded USD100 billion. Building resilient infrastructure will be essential for climate adaptation.

New infrastructure should be planned, designed and built to account for climate risks and able to withstand increasingly extreme weather events. It is also important to retrofit existing buildings to maximise energy efficiency and enhance resilience against climate change. Furthermore, integrating the built environment with nature, such as coastal wetlands, can strengthen flood and stormwater defence in coastal cities, while minimising disruption to local ecosystems.

Potential investment areas

- Construction or architecture companies focused on climate-resilient solutions
- Utilities
- Water infrastructure and treatment
- Road construction and reparation
- Digital technology (e.g. natural disaster early warning systems)

Food systems

353 USD billion
Retail potential

73%
Investor interest

Future-proofing our food systems from farm to fork

The United Nations estimates that global food demand will increase by 60 per cent by 2050. Restructuring our global food systems is imperative to reduce our environmental impact and ensure long-term food security.

New food production methods can help farmers adopt practices that protect soil and water quality while optimising yield. How food is stored, transported and processed can also be changed to minimise food loss and waste. From a consumer standpoint, a shift in dietary habits from animal to plant-based proteins could increase food availability, contribute to healthier diets and reduce the environmental impact of livestock protein production.

Potential investment areas

- Vertical farming
- Agricultural technology
- Alternative proteins and lab-grown meat
- Fast-moving consumer goods companies and packaging manufacturers

Biodiversity

328 USD billion
Retail potential

74%
Investor interest

Protecting natural habitats that support diverse ecosystems and livelihoods

Unsustainable human activities such as deforestation and overfishing are causing irreparable damage to ecosystems and biodiversity. Protecting nature both above and below land will be critical to preventing further biodiversity loss.

Businesses should incorporate biodiversity impact assessments in their commercial practices to prioritise responsible land use and sustainable supply chains. This way, companies can minimise their impact on habitat destruction, invasive species or species displacement and pollution.

Potential investment areas

- Bio-based products and biodegradable plastics
- Soil remediation and rehabilitation
- Material recovery and recycling
- Habitat conservation

1. USD values reflect the retail investor capital potential for each theme respectively. See Appendix for details on methodology.
2. Values indicate the percentage of investors that indicated 'Yes' when asked if they were interested in this theme.

Investor motivations

Segment and market lens

Investor segment lens

Across all segments, investors are primarily motivated by positive impact when investing in adaptation

The top motivation - desire to create positive impact - is consistent across all three investor segments.

However, they differ in their second-ranked motivation. Affluent investors prioritise improved investment returns, while HNW investors are focused on having their investment choices reflect their personal values. NextGen HNW investors want to ensure that their portfolio mix minimises their risk exposure.

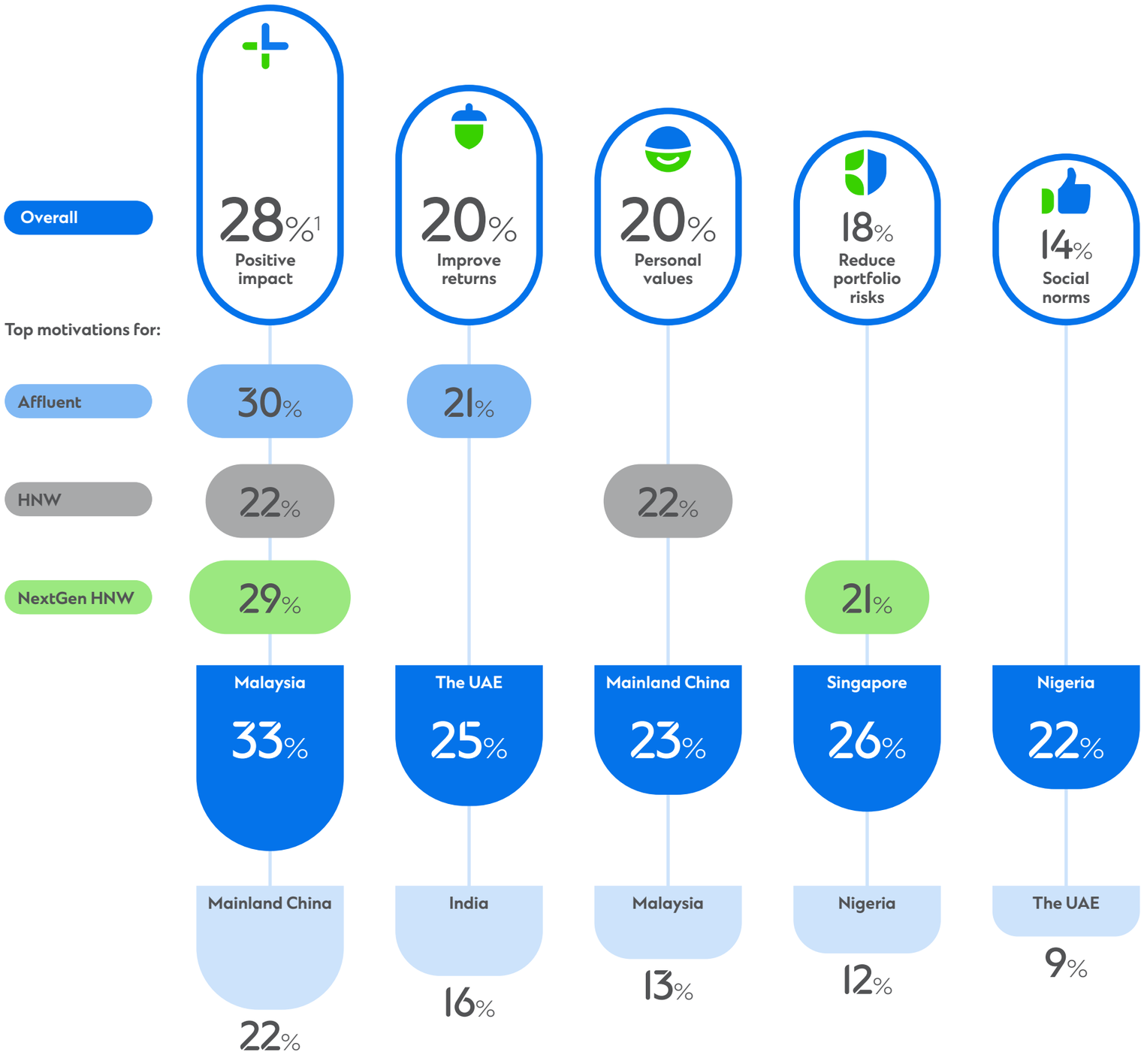
Market lens

Positive impact is the top investor motivation in Malaysia

Compared to other markets, investors in Malaysia are the most motivated by positive impact but least driven by personal values.

In contrast, investors in Mainland China rank personal values highly. Whereas investors in Nigeria are the most motivated by social norms and least concerned about portfolio risks.

Among the 10 markets, investors in the UAE are the most motivated by investment returns, and those in Singapore are the most concerned with reducing their portfolio risk when investing in climate adaptation themes.



1. Percentages reflect the share of investors indicating this as their top motivation for investing in climate adaptation.

Allocation and familiarity

Segment and market lens

In general, investors are less familiar with climate adaptation themes, compared with climate mitigation, and are less willing to allocate a significant portion[1] of their portfolio to adaptation-related investments.

Investor segment lens

NextGen HNW investors are the most willing to allocate a significant portion of their portfolio to adaptation

Across all segments, investors are relatively less familiar with adaptation than with mitigation. However, both HNW segments seem more familiar with adaptation than Affluent investors.

Affluent and HNW investors are also less willing to allocate a significant portion of their portfolio to climate adaptation, as opposed to their preferred allocation in mitigation.

In contrast, despite lower levels of familiarity with adaptation, a higher share of NextGen HNW investors are willing to allocate a significant portion of their portfolio to adaptation (23 per cent) – compared to only 18 per cent in mitigation.

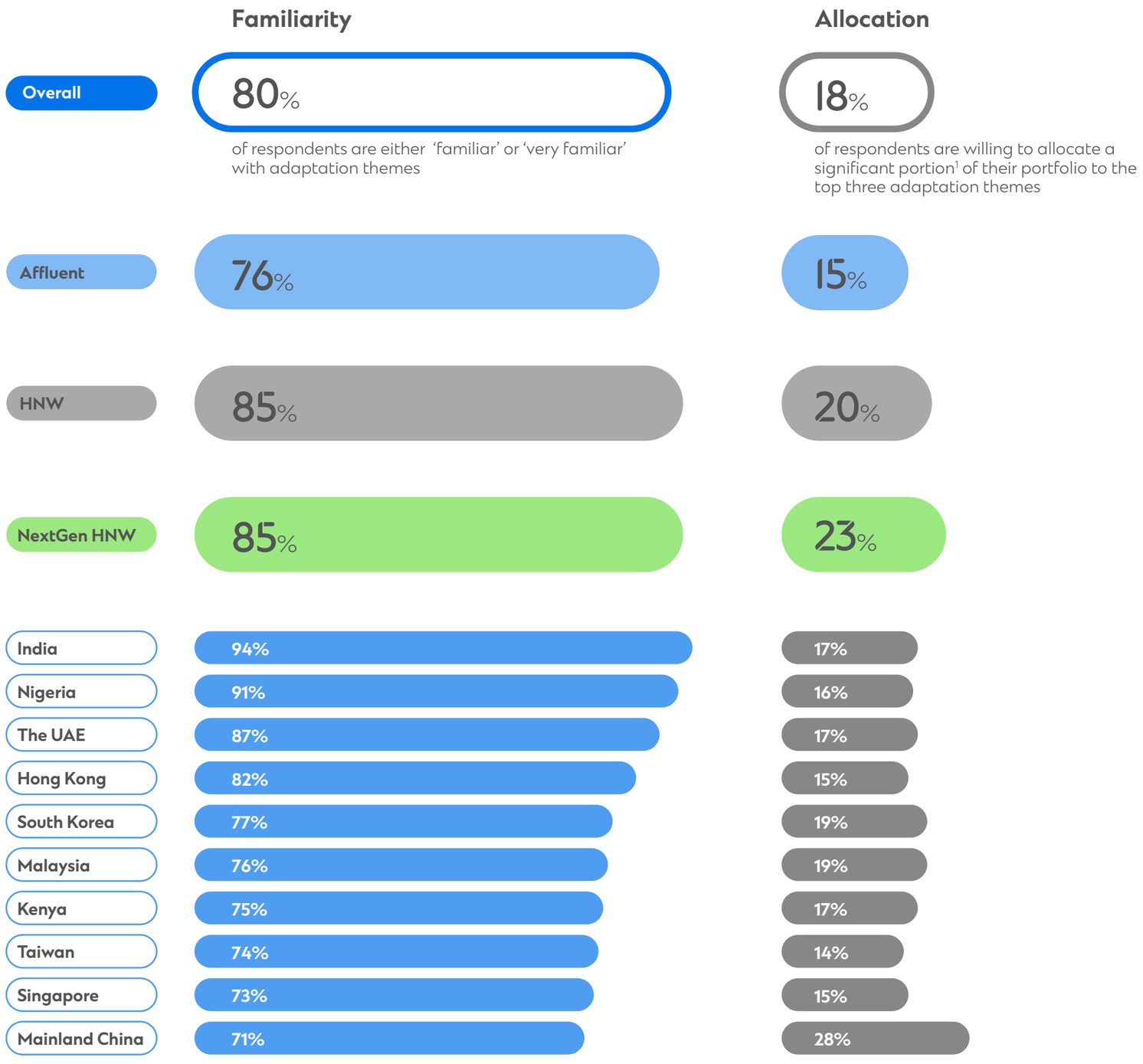
Market lens

Investors in Mainland China are the most willing to invest in adaptation, whereas this is lowest in Taiwan, Hong Kong and Singapore

For both mitigation and adaptation, investors in Mainland China have the lowest familiarity. Nonetheless, they indicate the highest allocation potential among the 10 markets. South Korea and Malaysia are also among the top three markets with the highest allocation potential for climate adaptation.

Relative to other markets, investors in India, Nigeria and the UAE report the highest level of familiarity with climate adaptation. However, the percentage of investors willing to allocate a significant portion of their portfolio to adaptation remains low.

1. Significant portion refers to more than 10 per cent of an investor's portfolio being allocated to the top three adaptation themes, under ideal conditions.



Barriers to climate investing

Segment and market lens

Investor segments lens

The top barriers in adaptation are similar across investor segments

As with mitigation, investors consistently ranked accessibility, comparability and comprehensibility as the top barriers.

For Affluent and NextGen HNW investors – accessibility is the most significant barrier. However, for HNW investors, comprehensibility is slightly more of a concern.

Market lens

The top barriers for investing in adaptation vary across markets - the UAE and India have the highest proportion of investors facing challenges

The markets most affected by a given barrier vary between mitigation and adaptation

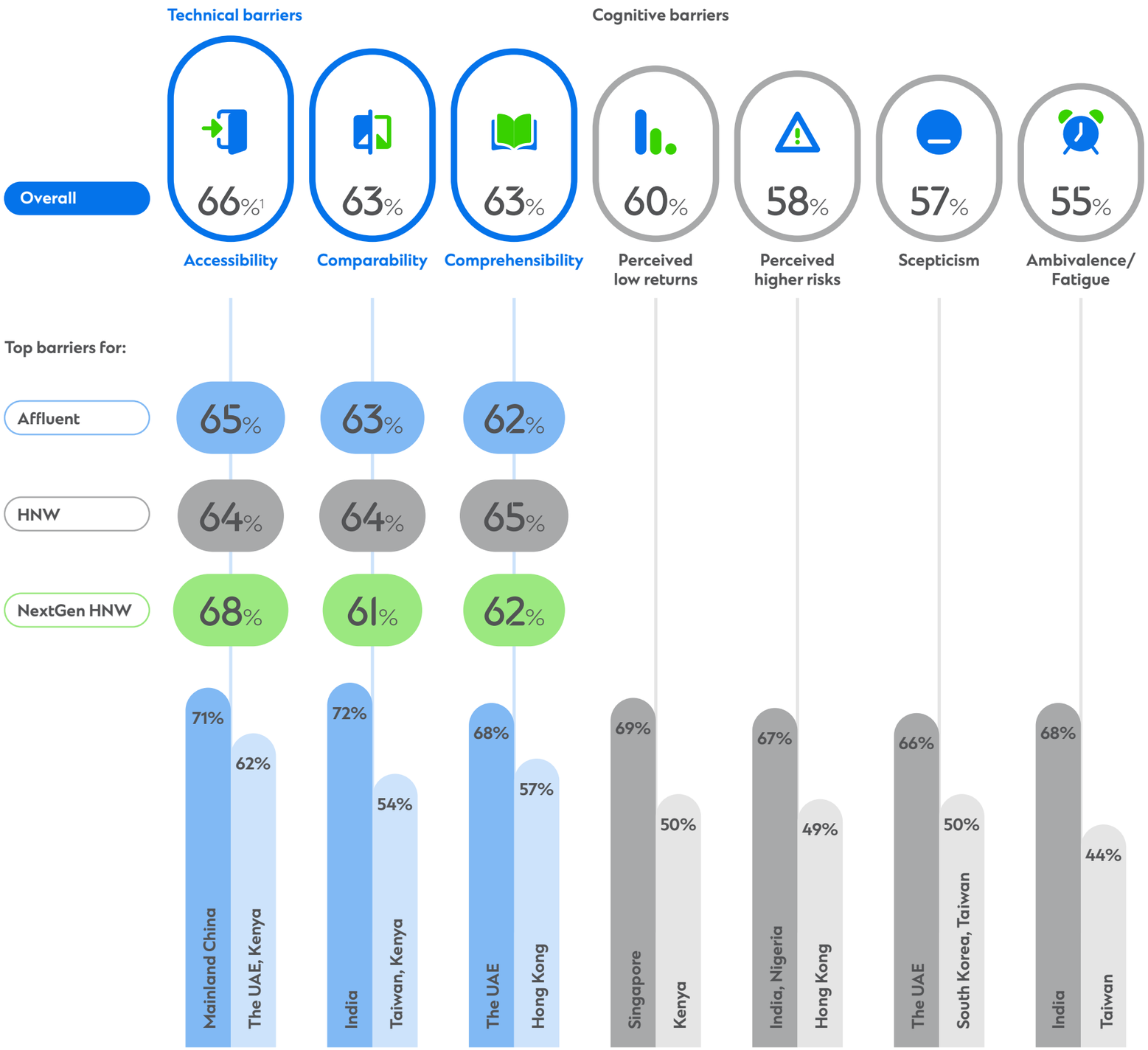
Although the top-ranking barriers do not change overall, the proportion of investors impacted by market varies when investing in mitigation versus adaptation. For example, while investors in Singapore are sceptical about greenwashing when investing in mitigation, it is more pronounced in the UAE when it comes to adaptation.

Investors in each market experience a varied combination of technical and cognitive barriers

Investors in the UAE are the most affected by comprehensibility and scepticism. While perceived higher risks affects investors in India and Nigeria, investors in India are also severely encumbered by comparability and ambivalence or fatigue.

Accessibility ranks low in the UAE for adaptation despite being most pronounced for mitigation

In adaptation, while accessibility is the overall top-ranking barrier across all markets, it is the least pronounced for investors in the UAE. This is in stark contrast with accessibility to mitigation opportunities, where investors in the UAE are the most affected by it relative to all markets.



1. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in adaptation. For details on the definition of the barriers, please see Appendix.

Building a blue future

Our oceans are in danger

The oceans generate half of the world's oxygen and absorb almost a quarter of all CO_2 emissions. They are also an important driver of world trade, with 90 per cent of global annual trade volume shipped via sea. The Organisation for Economic Co-operation and Development (OECD) estimates that the value-add of the ocean economy could reach USD3 trillion by 2030.

Yet, the oceans and coastal areas are severely under stress from pollution, overexploitation, declining biodiversity and climate change. According to the UK National Oceanography Centre, the global cost of rising sea levels could reach USD14 trillion annually by 2100.

There is a need for a sustainable blue economy

Only 2%
of countries are expected to meet SDG14 by 2030

Only 1.4%
of the funding needed for SDG14 has been received

The oceans hold immense potential to meet global rise in demand for food, jobs, energy and raw materials, yet it is one of the least prioritised areas of environmental protection.

SDG14 – 'Life under water', is often neglected by governments around the world, and is the most underfunded of all SDGs. A responsible and sustainable approach to the oceans is required.

The World Economic Forum (WEF) identified several focus areas for ocean-climate action. Among them are the protection of coastal wetlands and ecosystems, the scaling of maritime renewable energy sources and the decarbonisation of global shipping. Urgent action is needed as entire industries could be affected if we fail to build a sustainable blue economy.

Maintaining momentum through COP28

Following the call-to-action set by the Ocean for Climate Declaration at COP26, COP27 highlighted the agenda of ocean protection. Markets have also acknowledged the need to increase financial flows to create a resilient blue economy.

Key blue initiatives emerged from the previous COPs

The following initiatives have emerged as a result of the increased focus on the blue economy following previous COPs.

COP26
Great Blue Wall

This African-led initiative aims to create protected marine areas along Africa's Indian Ocean coastline, partially financed through the issuance of regional blue bonds, with the objective to unlock the full potential of a sustainable blue economy in the region.

COP27
Blue Mediterranean Partnership

This initiative serves as a vehicle to pool funds for capital expenditure and technical development of blue projects. It aims to narrow the investment gap by USD6 billion, to protect biodiversity and economic health in the Mediterranean region over the next eight years.

Blue economy – a major focus for COP28

These initiatives are laying the groundwork for future blue projects. Following COP27's call for the Ocean Conservation Pledge, the blue economy will also feature as a major agenda point for COP28, which could prove a breakthrough moment in efforts to protect the world's oceans and nature.

Expert perspective

Investing in nature is still a nascent industry and this is even more so the case when we consider retail investments or specifically ocean conservation. Despite the strong indicative interest from retail investors in nature-related solutions, there is currently a dearth of products available.

But this is changing, and opportunities are emerging. For example, the ASN Biodiversity Fund is a publicly listed index fund launched in 2021, targeting retail investors. Its objective is to contribute to the retention, protection and restoration of biodiversity, expressed in hectares of protected and restored areas on land and at sea. The fund invests globally in projects and private and listed equities with a focus on four sectors: sustainable forestry, sustainable agroforestry, sustainable oceans and fisheries and ecotourism.

We expect momentum to grow in the retail nature investment sphere, especially with more policies, regulations and market guidance introduced to address the biodiversity crisis and deliver a nature-positive economy.

Whilst we do not yet have a standardised definition of “nature positive”, it is broadly acknowledged that this includes acting at scale to actively improve the state of nature and the ecosystem dependencies (services) it provides, as well as working to reduce and remove the drivers and pressures fuelling the degradation of nature. The latter, which focuses on reducing drivers of biodiversity loss, is beginning to be mainstreamed in active institutional ownership and engagement funds, including funds specifically focused on oceans.

We can bend the curve of biodiversity loss: scientific modelling shows us the actions and trajectory needed. The Kunming-Montreal Global Biodiversity Framework (GBF), adopted at the UN Convention on Biological Diversity COP15 in December 2022, puts us on the policy trajectory needed to “halt and reverse biodiversity loss” by 2030, and be “living in harmony with nature” by 2050.

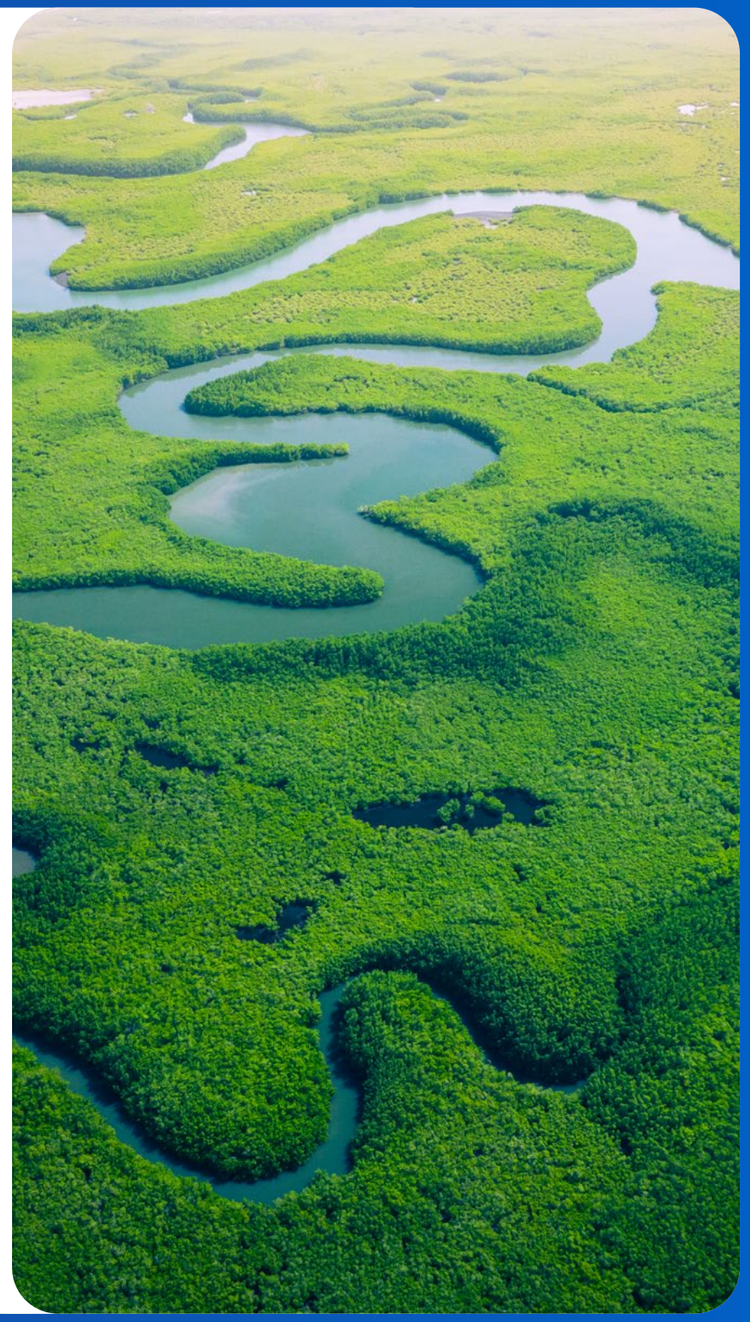
The GBF is the nature equivalent to the Paris Agreement for climate. Additionally, the High Seas Treaty, also known as the agreement on Biodiversity Beyond National Jurisdiction or 'BBNJ', was signed in September 2023 and provides for the common governance of activities beyond national ocean jurisdictions.

In alignment with the GBF, the Taskforce on Nature-Related Financial Disclosures (TNFD) published its first recommendations in September 2023 pertaining to risk management and disclosures on evolving nature-related impacts, dependencies, risks and opportunities.

Additionally, the International Capital Markets Association (ICMA) released a practitioner’s guide for bonds to finance a sustainable blue economy in September 2023, which provides definitions for blue economy project types and eligibility criteria. The guide highlights potential key performance indicators for impact and reporting purposes. This is designed to provide information on the key steps required in issuing a credible blue bond, how to evaluate the impact of eligible projects, and the requirements to facilitate transactions to promote market integrity.

These recent policy, regulation and market guidance developments represent green shoots for nature finance. However, it will take some time for these implications to trickle through our systems, foster the development of more nature investment opportunities – and mobilising more retail investor capital will be critical to filling the nature funding gap and delivering on the GBF.

Oliver Withers
Head, Biodiversity
Standard Chartered



Overcoming barriers requires a concerted effort from the industry

Barriers must be addressed collectively due to interdependencies

Barriers to climate investing are interconnected - they cannot be addressed in isolation nor resolved by a single entity.

Addressing them requires a concerted effort from industry providers and regulators.

Technical barriers can reaffirm cognitive biases

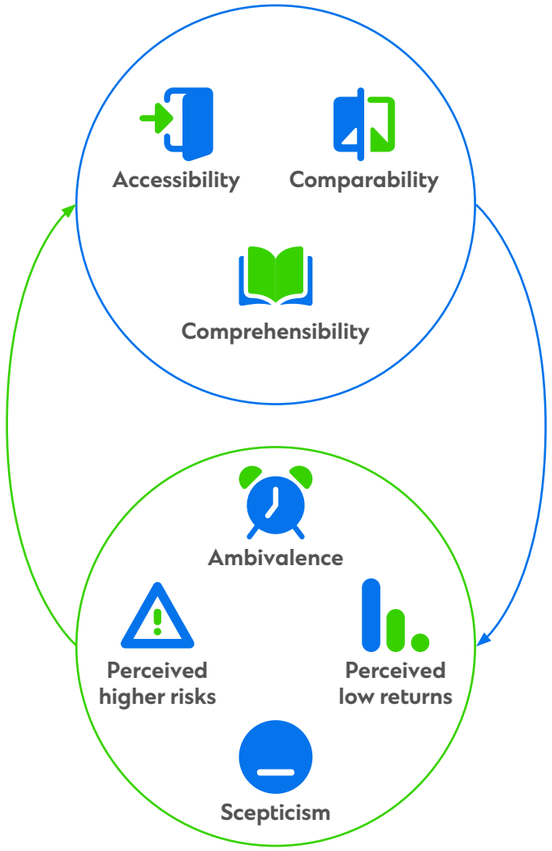
When data is complex and difficult to compare, and there are high levels of opacity around which criteria are used to evaluate companies, it can exacerbate investor scepticism around greenwashing.

Climate investing is also a relatively new area compared to traditional asset classes. The lack of historical data or product information may also contribute to negative perceptions about the expected returns and risks associated with climate products.

Cognitive biases can exacerbate technical barriers

Investors can often feel overwhelmed by the deluge of information in the market. Ambivalence or fatigue can inhibit an individual's ability to comprehend climate opportunities.

Furthermore, individuals who are already sceptical or have preconceived notions about risks and returns in climate investing are more likely to exhibit symptoms of confirmation bias – simplifying or selectively processing information that reaffirms their existing beliefs or opinions.

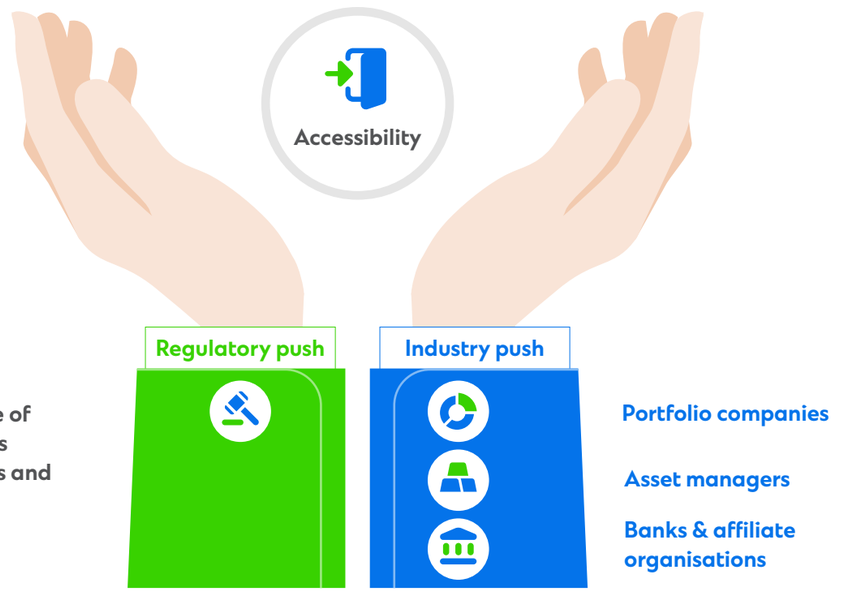


Barriers cannot be addressed by a singular entity – accessibility as an example

From a direct-to-consumer perspective, even if banks want to make climate investments more accessible to retail investors, national regulations need to enable distribution.

The origination of climate investments can be a bottleneck. This could stem from either a lack of profitable investment opportunities among portfolio companies, an absence of a dedicated climate strategy at the asset management level, or a combination of both – notwithstanding that regulations remain a potential constraint.

To overcome the accessibility barrier, relevant stakeholders must work together to overcome potential bottlenecks from origination to distribution.



Industry must collaborate to innovate climate assets and empower investors

Industry actions to establish a dynamic universe of climate assets

Driving sustainability from the bottom up

In their interaction with portfolio companies, asset managers must leverage their shareholder influence to take an activist approach.

This approach extends beyond exclusionary screening and requires asset managers to drive climate-positive action, and help actively shape relevant sustainability policies within their portfolio companies.

Innovation in climate asset and strategies

As climate is a fast-moving and rapid-evolving field of investing, it is imperative that asset managers and banks work in tandem to innovate new climate assets and strategies that best capture investors' changing preferences.

Emerging themes of interest, such as biodiversity and the blue economy, could be the next hot topics for retail investments, despite current low levels of retail participation.

The role of regulators

Regulatory standards are fundamental to enhancing transparency and credibility in climate assets.

Organisations such as the IFRS[1] and ISSB[1] have been first movers in establishing an international benchmark for sustainability reporting standards among companies. For asset managers and banks, initiatives such as the TCFD[1] set the standard for financial institutions to report climate risks and opportunities of their portfolio companies.

Governments across Asia, Africa and the Middle East must align national legislation to harmonise reporting standards and mandate minimum disclosure requirements to boost investor confidence.

Besides establishing robust standards for transparency, national regulators also play a key role in expanding the climate investment product universe for retail investors. However, there is a need to balance protecting investors from risk with channeling more capital towards climate investments.

Direct-to-investor actions to enable greater retail participation

For banks and affiliate organisations, three key pillars – providing investors information about climate, product customisation, and outcome-based information – will be key to mobilising retail capital. Digital and fintech solutions will play an enabling role.

Investor information

Providing investors information about climate concepts and products is fundamental. Reliable, data-backed insights that can debunk common myths can help address cognitive barriers to investing among individuals, such as perceived low returns or higher risks.

Product matching and customisation

Customising and matching products to an investor's interest themes and asset preferences, life stage and risk tolerance is where banks can provide the most value and drive increased capital flows toward climate efforts.

Focus on outcomes

Overcoming barriers such as scepticism and ambivalence requires enhanced transparency on asset performance and measurable impact. Providing outcome-based information establishes a throughline between investments and their climate impact.

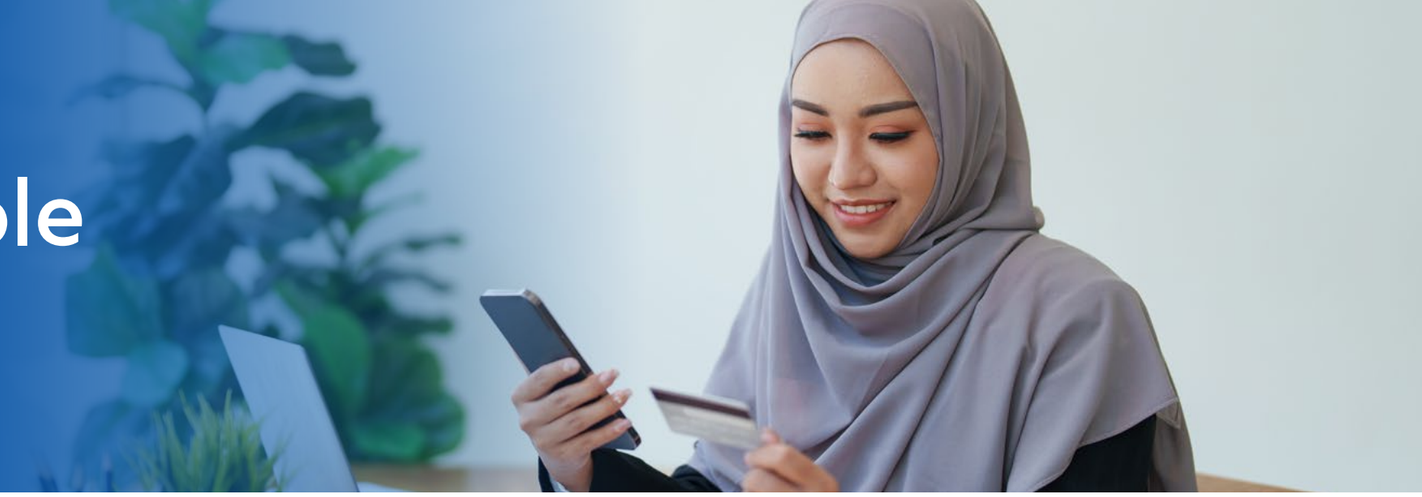
Digitalisation and fintech

Digital and fintech solutions can amplify the effect of each of the three pillars. Digital channels can reduce friction for investors by simplifying processes. They can also be used to share educational information or monitoring and evaluation metrics with investors.

Key: Industry actions/collaboration; Direct-to-investor actions

1. IFRS: International Financial Reporting Standards, ISSB: International Sustainability Standards Board, TCFD: Task Force on Climate-related Financial Disclosures

An end-to-end sustainable banking experience



An ecosystem approach to sustainable banking

Investors are increasingly interested in an end-to-end sustainable banking experience. According to our survey, 97 per cent of investors would like an ecosystem where all their interactions with a bank can be more sustainable.

This allows retail investors to complement their climate investments with sustainable options such as transactions, savings and borrowings.

This requires more digital solutions and supportive policy from governments and regulators.

Interest in a sustainable banking ecosystem is high

of respondents want a sustainable banking ecosystem

Savings and borrowings

In collaboration with policymakers, banks can incentivise individuals to make sustainable purchases - for example green auto loans and mortgages.

Banks must also demonstrate to investors that their sustainable deposits are going towards financing green assets.

Transactions

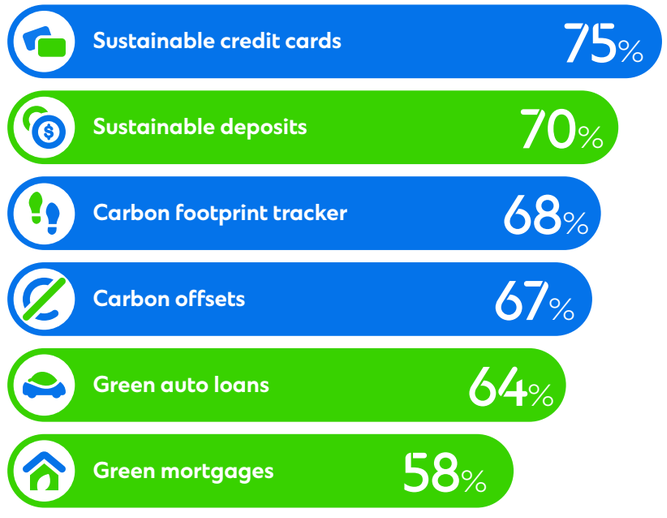
Banks can provide sustainable credit cards and offer carbon market solutions to help investors track and offset carbon emissions embedded in their purchases.

Interest in sustainable banking products is high

Investors are most likely to use sustainable credit cards and deposits in the next two to three years, with over 70 per cent of investors looking to adopt these products.

Investors are more likely to use transaction-based solutions, such as offsets or a carbon footprint tracker, compared to borrowing products such as green mortgages and green auto loans.

Likelihood of future usage of sustainable banking products[1]



1. Percentage indicates the share of respondents who are currently not using the respective sustainable banking product, but indicated the likelihood of using it in the next two to three years.

Sustainable banking products

Segment and market lens

Investor segment lens

Affluent individuals are the most likely to use sustainable banking products in the next 2-3 years

Affluent individuals expressed the highest potential uptake in 4 out of 6 products

Compared to HNW individuals, Affluent individuals currently not using a sustainable banking product expressed the highest likelihood of uptake in four out of six sustainable banking products: sustainable credit cards, deposits, carbon footprint tracker and offsets.

NextGen HNW are relatively less enthusiastic but are the most likely to use green mortgages in the next two to three years

NextGen HNW individuals currently not using a sustainable banking product are the least likely to use them in the next two to three years, as seen across four out of six products: sustainable deposits, carbon footprint tracker and offsets, and green auto loans. This investor segment, however, shows the most potential uptake for green mortgages.

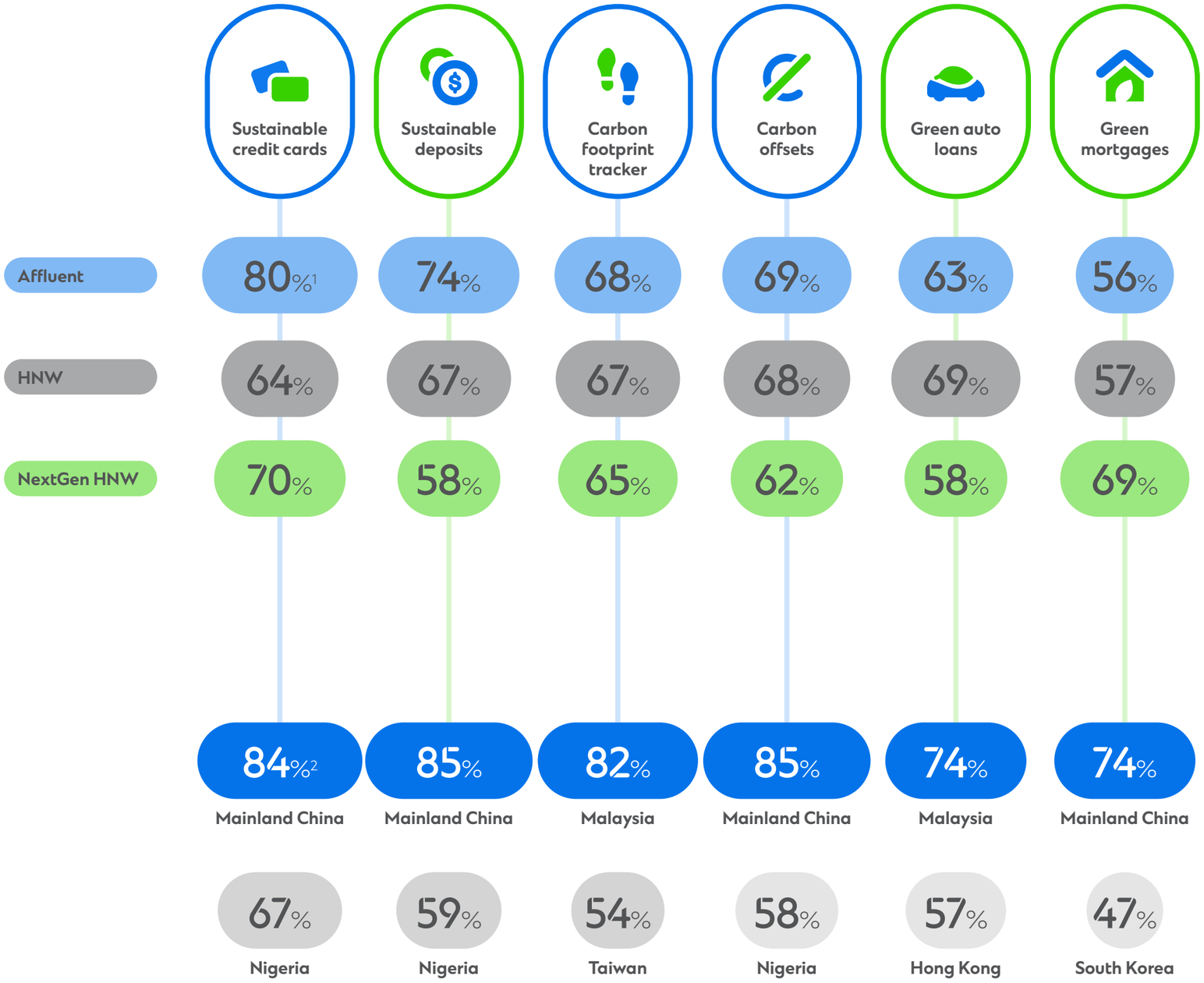
Market lens

Investors in Mainland China and Malaysia are the most likely to use sustainable banking products in the future

Compared to other markets, individuals in Mainland China showed the highest likelihood of using four out of six sustainable banking products: deposits, carbon offsets, credit cards, and green mortgages.

Similarly, individuals in Malaysia indicated the highest likelihood of using carbon footprint trackers and green auto loans in the future.

In contrast, among all markets, individuals in Nigeria indicated the lowest likelihood of usage in the next two to three years across three out of six products: deposits, carbon offsets and credit cards.



1. Percentage indicates the share of respondents within the segment who are currently not using the respective sustainable banking product, but indicated a likelihood of using it in two to three years
2. Percentage indicates the share of respondents within the market who are currently not using the respective sustainable banking product, but indicated a likelihood of using it in two to three years

Expert perspective

Consumers are now starting to apply more scrutiny around the sustainability of their everyday choices, from food and fashion to transportation, housing and their financial transactions.

The consumer demand for organic food is growing steadily, enabled by the industry's progress in making information and labelling more standardised.

Similarly, sustainable fashion is becoming more popular, but the industry struggles with a common definition on what constitutes sustainable clothing – this lack of clarity is a barrier to higher consumer adoption.

Multiple industries struggle with standardisation when it comes to identifying sustainability criteria.

Interestingly, at a panel discussion on sustainable fashion, one of the panellists pointed to the finance industry as an example of progress towards standardisation and consistent labelling.

While there has indeed been progress, the finance industry is not moving fast enough – our latest investor survey shows the lack of standardisation, comprehensibility and comparability continue to be the top barriers preventing investors from higher allocation into sustainable investments.

More work needs to be done for consistent labelling of sustainable banking products and an easy-to-understand narrative about their potential impact.

The industry also needs to simplify information given to investors by minimising jargon and breaking down complex concepts, particularly in the climate investing space.

Encouragingly, the same survey shows that investors are now more informed about the positive impact of sustainable investing, and how their wealth can potentially help tackle critical global challenges such as climate change.

As investor interests evolve, sustainable investing can help them build more resilient portfolios and capture opportunities matched to their themes of interest in multiple markets.

By providing them with clearer information and standardised measurement, we can help them overcome their barriers and mobilise more retail capital towards sustainability goals, including combating climate change.

Eugenia Koh
Global Head, Sustainable Finance
Standard Chartered

Spotlight on 10 markets

A deep dive into investor potential in 10 growth markets

Realisation markets

- **Mainland China**
- **South Korea**
- **Taiwan**

Investors in these markets have the narrowest gaps between allocation and familiarity among the surveyed markets.[1] Besides being some of the world's largest and most advanced manufacturing economies, they share a common attribute in having climate goals with an industrial focus. For example, Mainland China is a global leader in solar energy and EV production. South Korea is home to some of the biggest global battery makers and a frontrunner in hydrogen technology. Taiwan's 5+2 Innovative Industries Plan is pushing for developments in green energy and agricultural innovation.

As climate-related industries are deeply embedded in local economies, retail investors in these markets are more willing to allocate capital to climate themes despite lower levels of familiarity. The goal for this group is to help local investors realise their preferred portfolio allocation through enhanced accessibility and transparency.

Activation markets

- **India**
- **Malaysia**
- **Kenya**
- **Nigeria**

Investors in these markets have some of the widest gaps between allocation and familiarity.

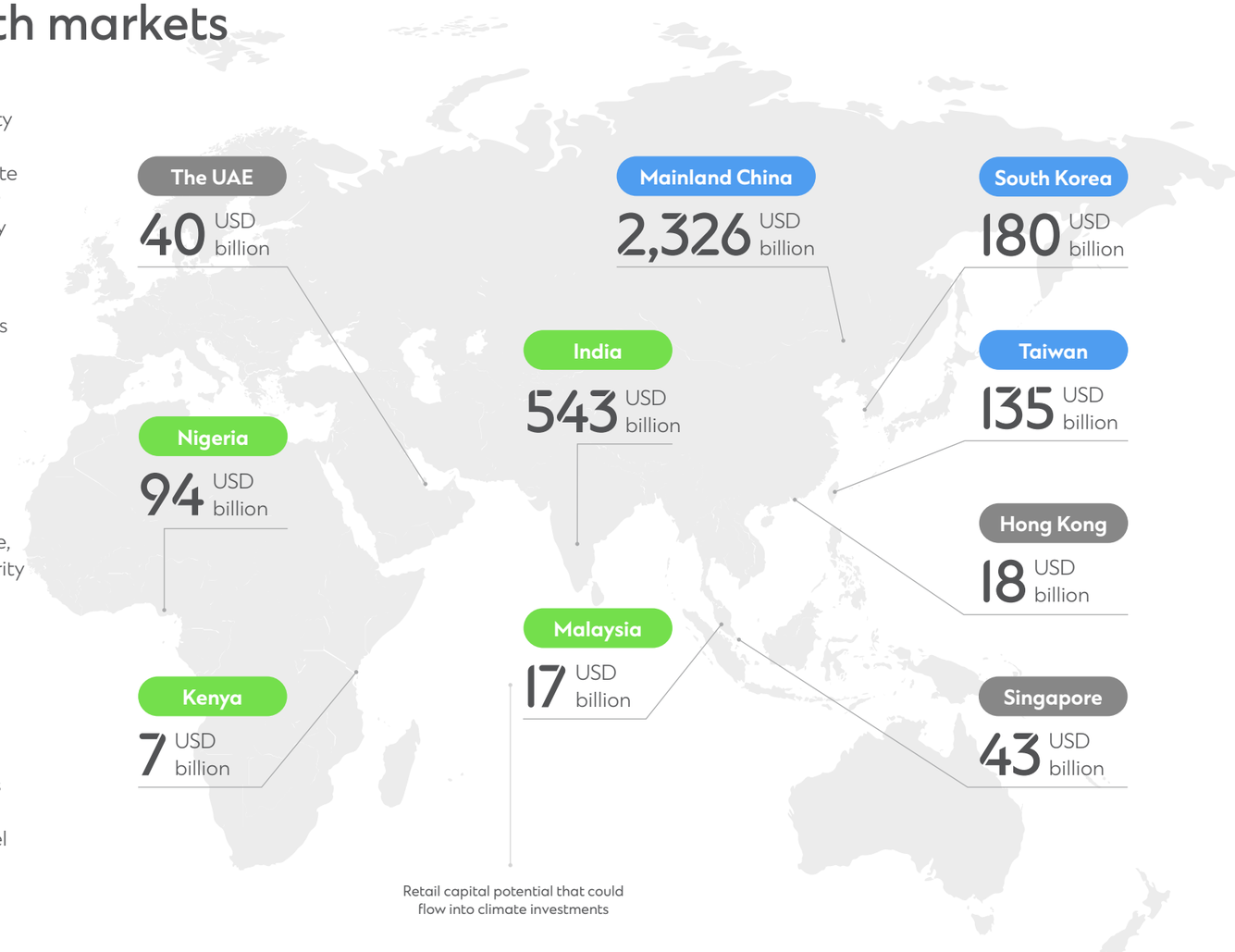
These markets have relatively nascent climate-focused financial market infrastructure, making climate-themed investing more challenging. In addition, despite high familiarity with climate themes, domestic investors may have other non-climate investment priorities aligned with the market's overall developmental goals.

There is significant potential to tap into the growing wealth across these markets, by activating capital to flow towards climate investments, through more robust infrastructure and expanded product offerings.

Connection markets

- **Singapore**
- **Hong Kong**
- **The UAE**

Investors in these markets could play an expanded role in driving climate investments beyond their home markets. As prominent financial hubs that connect global capital flows, the robust financial infrastructure of these markets can be leveraged to channel capital towards net zero targets in their respective regions and beyond.



1. The allocation familiarity gap refers to the difference between the share of investors willing to allocate a significant portion (more than 10 per cent) of their investment portfolio to climate themes, and those who indicated they are 'familiar' or 'very familiar' with climate mitigation and adaptation themes.

Realisation market

Mainland China

Asia's largest capital market and a global leader in solar energy and EV production.

Economy

Nominal GDP: USD18.0 trillion (2022)

Forecast real GDP growth: 4.9% (CAGR 2022-2030)

Wealth

Net personal wealth: USD78.6 trillion (2021)

CAGR: 6.4% (2021-2030)

Top climate themes

Renewables: Opportunity in solar, including polysilicon and wafer production

Energy storage: Largest EV market in Asia with opportunities in batteries and minerals

Mainland China will be a key market for climate investments. Electrification and renewables will drive decarbonisation efforts to carbon neutrality in 2060, to which retail investors express high interest in allocating their capital.

The government's target to increase non-fossil fuel share of total energy consumption to 25 per cent by 2030 will greatly expand opportunities in renewables. With solar expected to become the market's primary energy source by 2045, many opportunities are emerging along the value chain, from the production of polysilicon, to wafers and photovoltaic modules.

Most end-use efficiencies are linked to electrification, such as electric vehicles (EVs) in the transportation sector. Mainland China remains the largest market for EVs with 6.9 million units sold in 2022, representing almost two-thirds of global sales. There are growth opportunities across the EV supply chain, including battery production, mineral processing from lithium and cobalt to graphite, as well as cathode production.

Efficiency gains and renewables can only take Mainland China part of the way to carbon neutrality. Emerging and innovative technologies in carbon capture and storage will also be essential in driving further emissions reductions beyond 2030.

of investors in Mainland China are interested in climate themes[1]

of investors in Mainland China want to increase capital flows towards climate[2]

2.3 USD trillion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation **1.4** USD trillion

Renewables	347 USD billion
Energy storage	298 USD billion
Energy efficiency	232 USD billion
Circular economy	214 USD billion
Carbon capture & storage	157 USD billion
Sustainable forestry	157 USD billion

Potential for adaptation **0.9** USD trillion

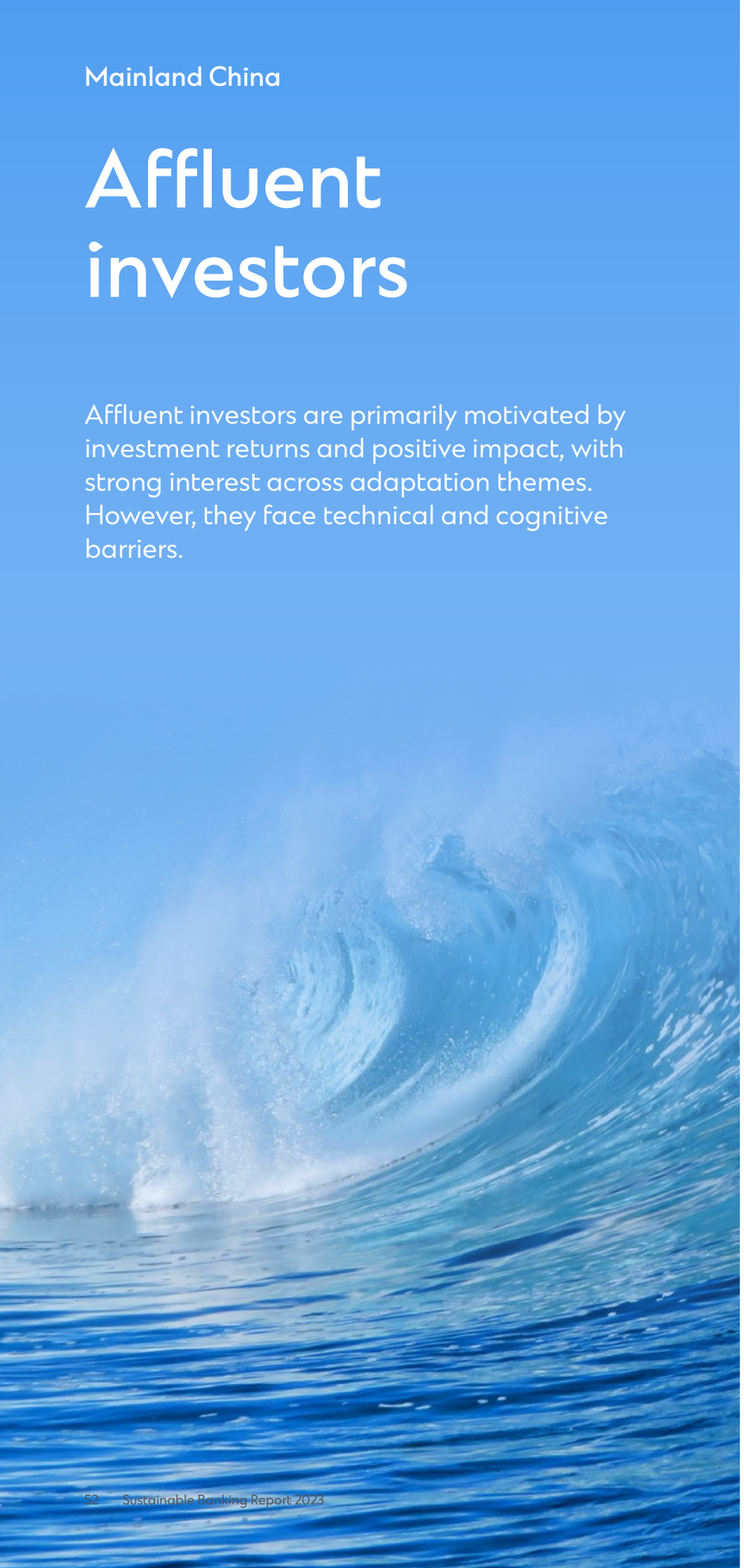
Food systems	246 USD billion
Resilient infrastructure	239 USD billion
Biodiversity	220 USD billion
Blue economy	214 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Mainland China

Affluent investors

Affluent investors are primarily motivated by investment returns and positive impact, with strong interest across adaptation themes. However, they face technical and cognitive barriers.

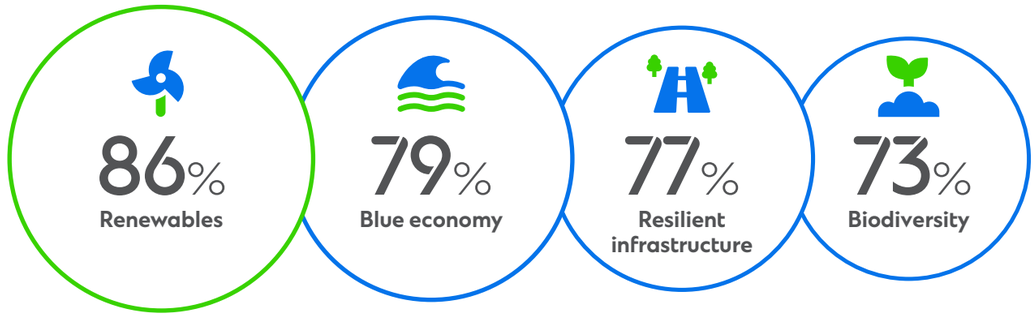


Motivations[1]

Affluent investors in Mainland China are equally motivated to improve their investment returns and make a positive impact. They also want their investment choices to reflect their personal values.

Themes of interest[2]

Overall, Affluent investors in Mainland China are most interested in renewables, followed by adapation themes such as the blue economy.

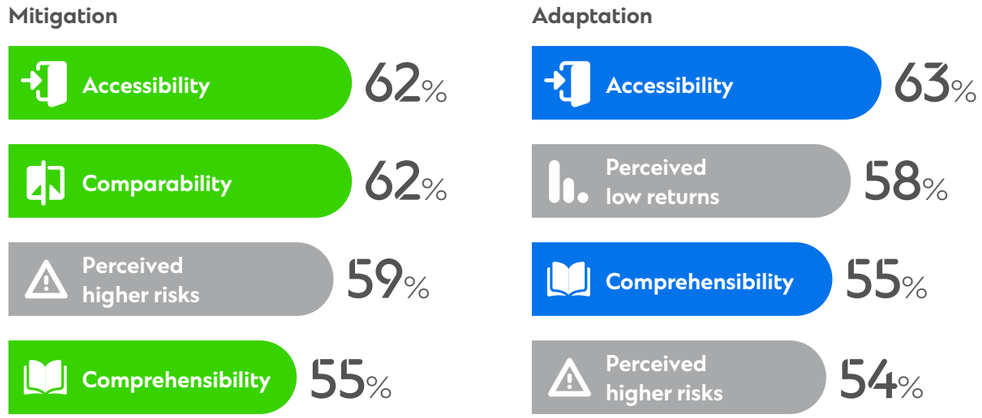


Mitigation Adaptation

Barriers to investing[3]

Overall, Affluent investors face a confluence of barriers at similar levels: accessibility, comprehensibility and perceived higher risks are common barriers across mitigation and adaptation.

Investors in this segment are also concerned about low returns when it comes to investing in adaptation, rather than comparability of data or investment opportunities.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Mainland China

HNW investors

HNW investors prioritise personal values and show strong interest in resilient infrastructure and the blue economy. Accessibility is the top barrier and is more pronounced in adaptation.

Motivations[1]

HNW investors in Mainland China want their investment choices to reflect their personal values. This contrasts with Affluent investors, who ranked the same motivation third. Nevertheless, both HNW and Affluent investors consider making a positive impact an important decision-making factor.

- **Personal values**
- **Positive impact**
- **Reduce portfolio risks**

Themes of interest[2]

HNW investors demonstrate a strong interest in adaptation themes. Similar to Affluent investors, they are interested in resilient infrastructure, the blue economy and renewables.

- **84%** Resilient infrastructure
- **82%** Blue economy
- **78%** Renewables
- **78%** Energy storage

Mitigation Adaptation

Barriers to investing[3]

Similar to Affluent investors, HNW investors in Mainland China indicated accessibility as the top barrier for investing in both mitigation and adaptation.

HNW investors are especially concerned about the risk and return performances of adaptation investments.

Mitigation

- Accessibility 70%
- Comprehensibility 70%
- Perceived low returns 68%
- Scepticism 64%

Adaptation

- Accessibility 78%
- Comparability 76%
- Perceived higher risks 76%
- Perceived low returns 72%

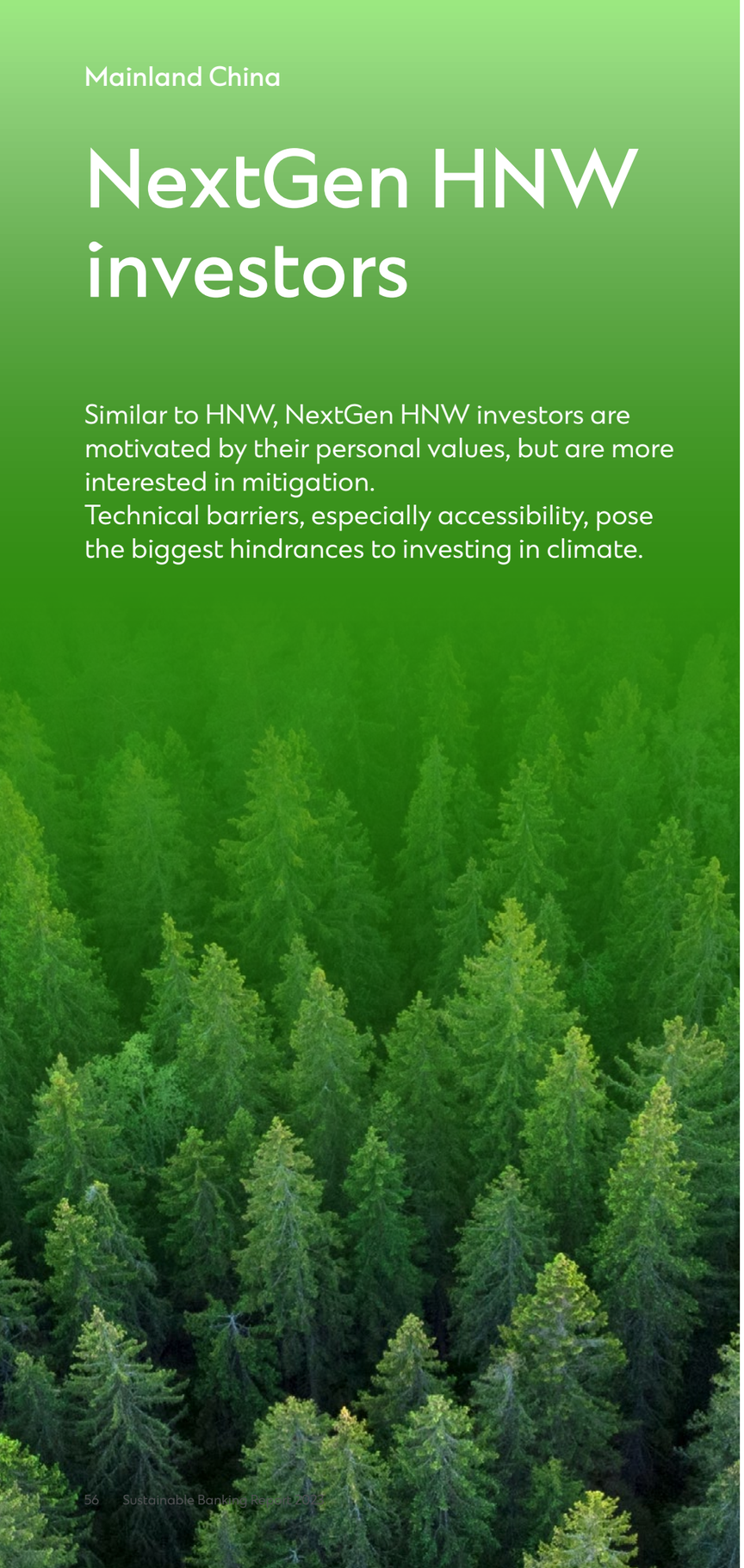
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Mainland China

NextGen HNW investors

Similar to HNW, NextGen HNW investors are motivated by their personal values, but are more interested in mitigation.
Technical barriers, especially accessibility, pose the biggest hindrances to investing in climate.



Motivations[1]

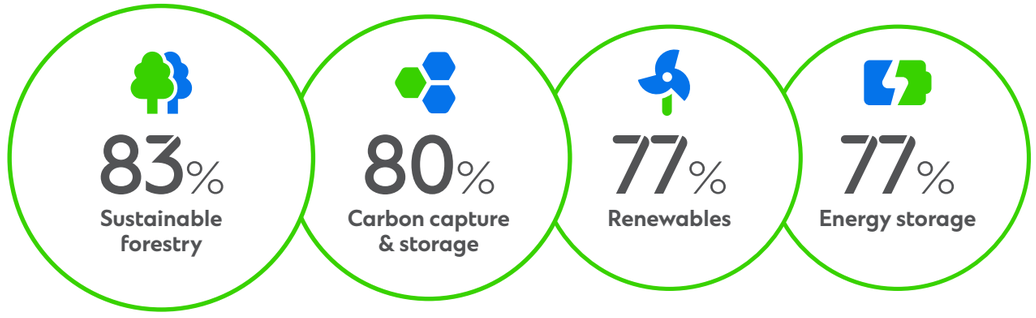
Similar to HNW investors, NextGen HNW investors prioritise their personal values when making investment decisions. Compared to the former, NextGen HNW see reducing their portfolio risks as a stronger motivator.

Akin to Affluent, NextGen HNW investors also want to improve their investment returns.

Themes of interest[2]

NextGen HNW investors are primarily interested in mitigation themes. They also show more interest in emerging themes, such as sustainable forestry, and carbon capture and storage.

Renewables is a common top theme of interest among all investor segments.



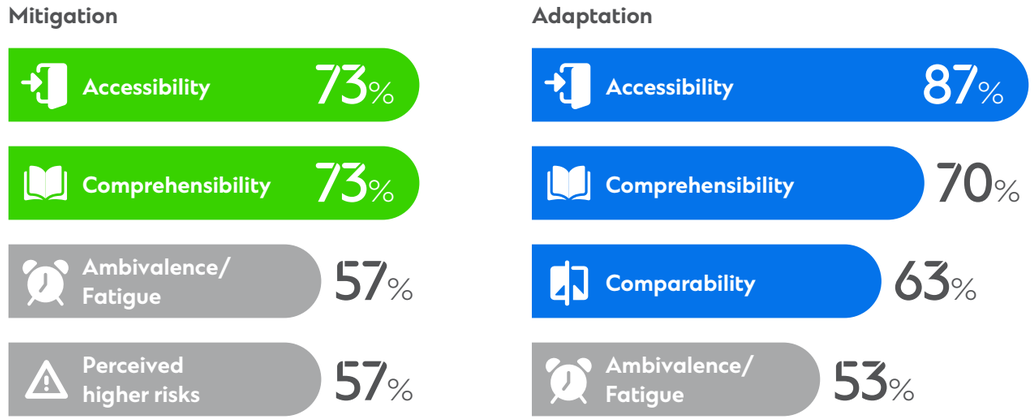
Mitigation Adaptation

Barriers to investing[3]

For NextGen HNW investors, technical barriers pose the biggest challenge. The top three barriers across mitigation and adaptation are the same. However, accessibility and comparability are more pronounced in adaptation.

On average, accessibility is a bigger issue for NextGen HNW individuals compared to the other segments.

Both Affluent and NextGen HNW think mitigation themes may have higher risks, but only NextGen HNW find ambivalence or fatigue to be a challenge.



Technical barriers Cognitive barriers

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Hong Kong

A global financial centre that can connect capital flows to develop innovative food solutions and waste management technology.

Economy

Nominal GDP: USD361.0 billion (2022)

Forecast real GDP growth: 2.1% (CAGR 2022-2030)

Wealth

Net personal wealth: USD860.9 billion (2021)

CAGR: 3.3% (2021-2030)

Top climate themes

Food systems: Urban farming solutions and plant-based tech to meet increased food demand

Circular economy: Waste-to-energy technology can be a game changer

Hong Kong is well-positioned to become a green finance hub in Asia. The city's robust financial infrastructure and geographic location also facilitates capital flows with Mainland China.

Part of Hong Kong's transformation will include changes to its food systems. On the supply side, with only 10 per cent of food locally produced, innovative urban farming solutions such as rooftop farms have significant growth potential. On the demand side, as consumers become more wary about potential risks associated with meat production and shift to healthier diets, demand for meat alternatives will create opportunities in companies investing in plant-based food technology.

As a compact city with more than seven million people, the circular economy is among the climate themes investors care about the most. Policymakers have made a push for waste reduction policies, such as the 'Waste Blueprint for Hong Kong 2035', emphasising Hong Kong's commitment to reduce municipal waste and develop waste-to-energy facilities. Hong Kong can work with regional partners to become more integrated with broader circular economy initiatives. For businesses, products must be designed with repair, reuse and recycle concepts in mind.

of investors in Hong Kong are interested in climate themes[1]

of investors in Hong Kong want to increase capital flows towards climate[2]

18 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation

11 USD billion

Circular economy	2.0 USD billion
Sustainable forestry	1.9 USD billion
Renewables	1.8 USD billion
Energy storage	1.8 USD billion
Energy efficiency	1.7 USD billion
Carbon capture & storage	1.6 USD billion

Potential for adaptation

7 USD billion

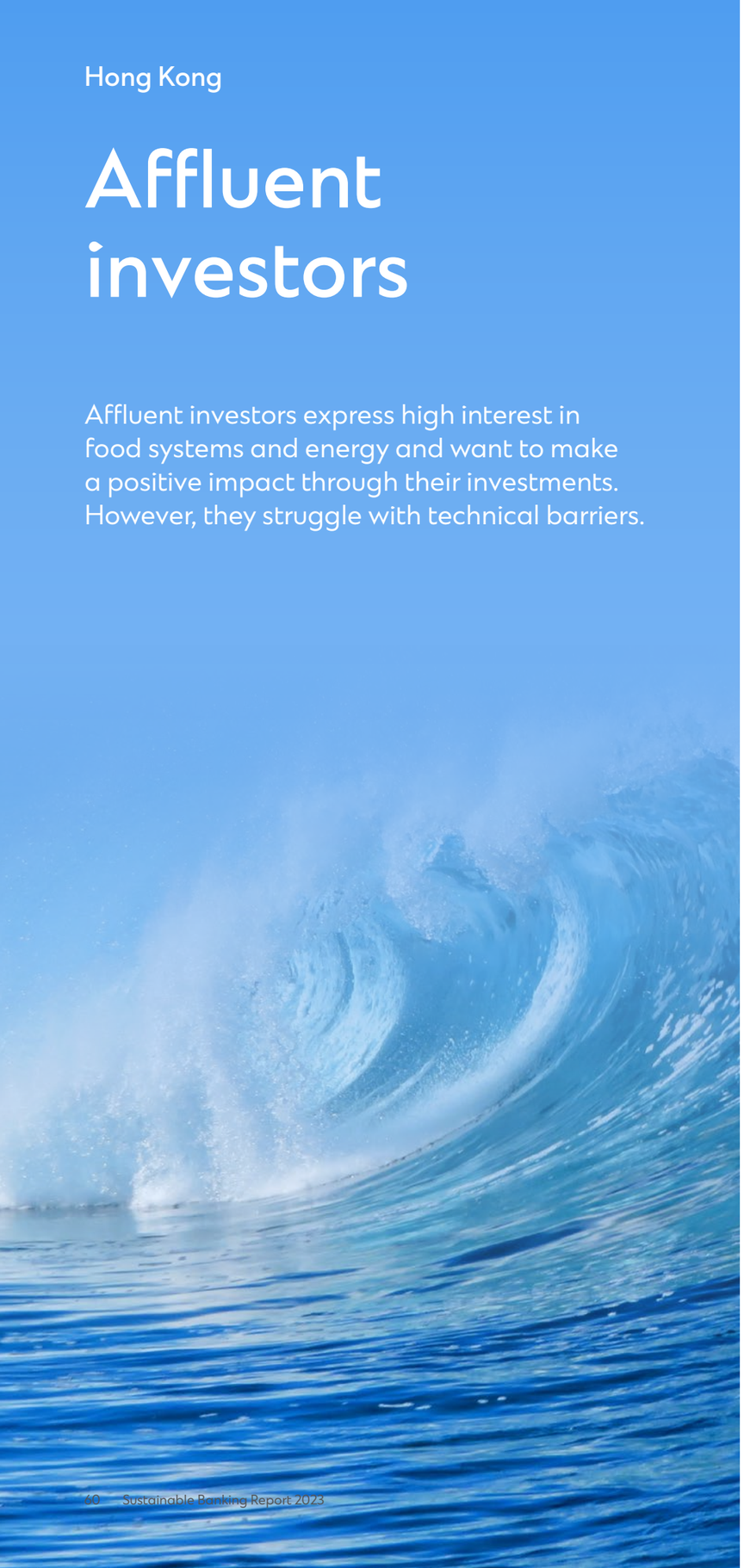
Food systems	2.1 USD billion
Resilient infrastructure	1.8 USD billion
Biodiversity	1.7 USD billion
Blue economy	1.5 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Hong Kong

Affluent investors

Affluent investors express high interest in food systems and energy and want to make a positive impact through their investments. However, they struggle with technical barriers.



Motivations[1]

Affluent investors in Hong Kong are motivated by the potential to generate positive impact through climate investing. They also want their investment decisions to reflect their personal values while generating returns.

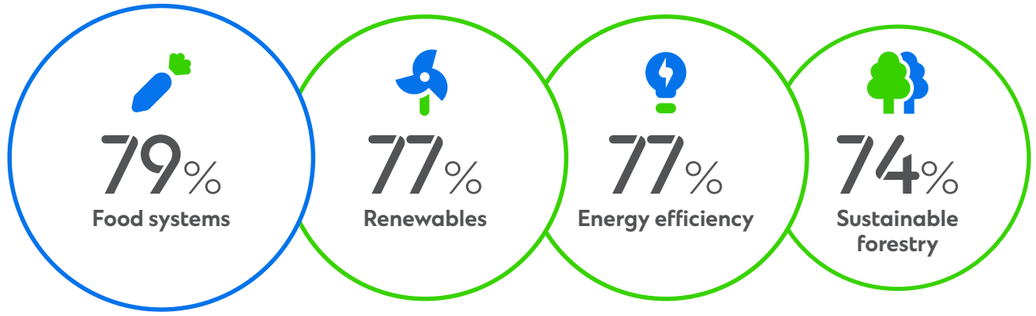
Positive impact

Personal values

Improve returns

Themes of interest[2]

Affluent investors are the most interested in food systems. They also express high interest in energy-related mitigation themes and sustainable forestry.



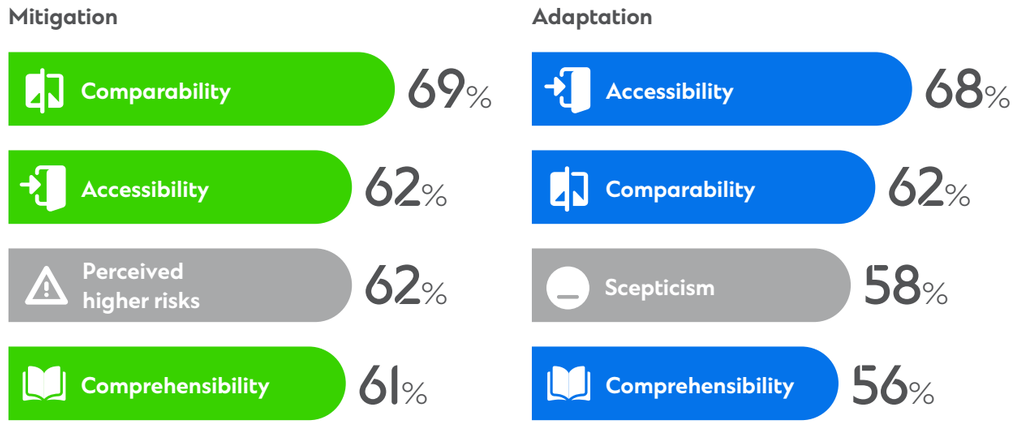
Mitigation Adaptation

Barriers to investing[3]

Technical barriers pose the biggest challenge for Affluent investors when it comes to climate investing.

Nearly seven out of 10 investors report that comparability is a major obstacle to investing in mitigation themes. Similarly, almost the same share of investors indicate that accessibility is a key issue for investing in adaptation.

While Affluent investors are concerned about risks in mitigation, they are more sceptical about greenwashing when it comes to adaptation.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Hong Kong

HNW investors

HNW investors prioritise personal values and are interested in the circular economy and biodiversity. They face greater cognitive challenges.

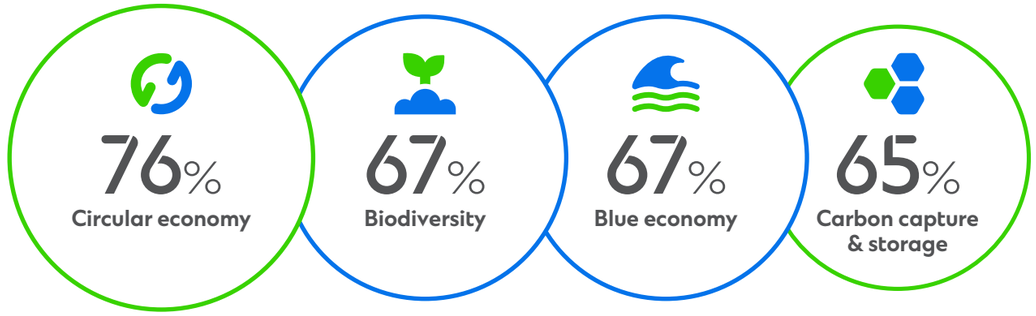
Motivations[1]

For HNW investors, alignment with personal values is the top motivation for climate investing, followed by reducing portfolio risks and improved returns.

- Personal values
- Reduce portfolio risks
- Improve returns

Themes of interest[2]

HNW investors are most interested in the circular economy, followed biodiversity.



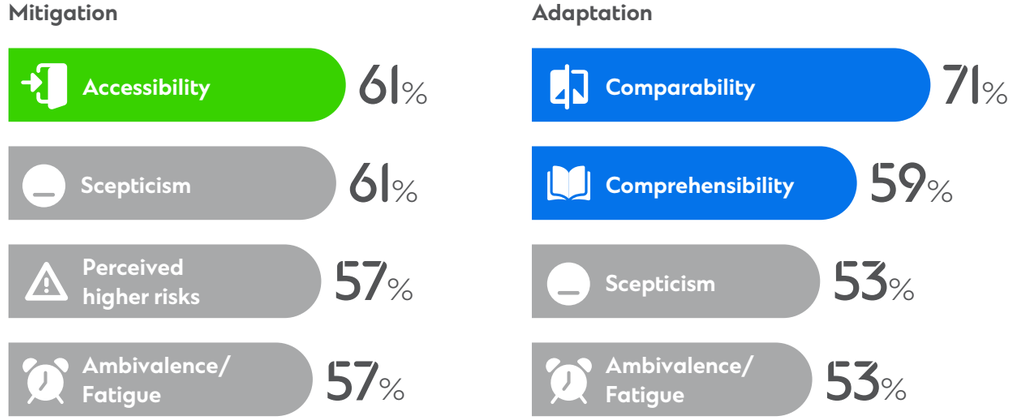
Mitigation Adaptation

Barriers to investing[3]

For mitigation, HNW investors are mainly held back by cognitive barriers, which constitute three out of the four top barriers. This is in contrast to Affluent investors, who face more issues with technical barriers.

For adaptation, HNW investors face similar barriers as Affluent investors, with technical barriers posing a bigger challenge. Compared to Affluent investors, comparability is a bigger challenge for HNW investors.

However, unlike the Affluent segment, HNW investors also face challenges with ambivalence or fatigue when it comes to climate investing.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Hong Kong

NextGen HNW investors

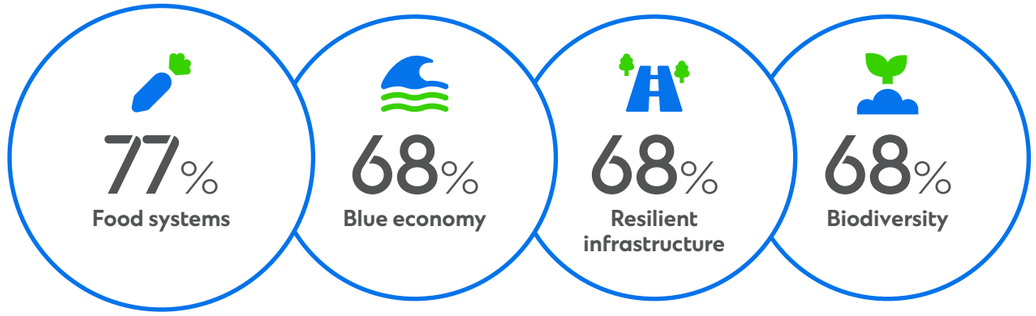
NextGen HNW investors express high interest in climate adaptation and want their investments to reflect their personal values. Accessibility is the dominant barrier for both mitigation and adaptation.

Motivations[1]

Similar to the HNW segment, NextGen HNW investors want their personal values to be reflected through their investment choices. Improved returns and making a positive impact are also important decision-making factors for investors in this segment.

Themes of interest[2]

NextGen HNW investors are particularly interested in adaptation themes, with food systems attracting the most attention, followed by the blue economy, resilient infrastructure and biodiversity.



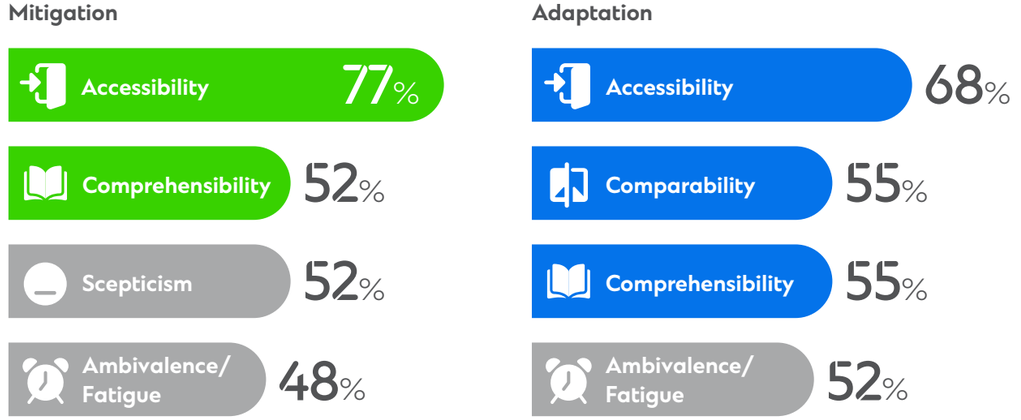
Mitigation Adaptation

Barriers to investing[3]

Accessibility is the most pronounced barrier for investors in this segment, across mitigation and adaptation.

Similar to Affluent investors, NextGen HNW investors face greater challenges with technical barriers.

Similar to HNW investors, NextGen HNW investors also demonstrate a level of ambivalence or fatigue when it comes to climate investing.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Activation market

India

The world's most populous market with potential gains in EV production and climate-resilient infrastructure.

Economy

Nominal GDP: USD3.4 trillion (2022)

Forecast real GDP growth: 6.5% (CAGR 2022-2030)

Wealth

Net personal wealth: USD12.2 trillion (2021)

CAGR: 10.1% (2021-2030)

Top climate themes

Energy efficiency: Greater gains through industrial greening and a push towards EV

Resilient infrastructure: Protect urban areas from climate shocks

India's growing population and increased urbanisation will lead to higher energy use and CO_2 emissions. Improving energy efficiency will be critical to meet the government's target of net zero emissions by 2070 as the market continues to develop.

To reduce consumption in India's energy-intensive industries, the government implemented regulations through the Perform, Achieve, Trade (PAT) scheme. As industries transition to low-carbon operations, there will be significant opportunities across traditional industries covered under the PAT such as cement, chemicals and textile. As the EV value chain develops, India could benefit from a domestic EV ecosystem and allow it to unlock additional efficiency gains through greater adoption. Investors could capitalise on India's energy transformation by investing in energy-efficient solutions.

Climate-resilient infrastructure will be an important aspect of India's climate adaptation journey. Integrating long-term climate and sustainable management practices into road reconstruction, planning and design will be essential to protect cities from floods, landslides and other climate shocks. Investors recognise this need and want to allocate capital to take advantage of potential gains through India's green infrastructure development.

of investors in India are interested in climate themes[1]

of investors in India want to increase capital flows towards climate[2]

543 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation **324** USD billion

Energy efficiency	62.3 USD billion
Renewables	57.7 USD billion
Energy storage	52.0 USD billion
Carbon capture & storage	51.9 USD billion
Circular economy	51.0 USD billion
Sustainable forestry	49.3 USD billion

Potential for adaptation **219** USD billion

Resilient infrastructure	60.8 USD billion
Biodiversity	56.7 USD billion
Food systems	54.5 USD billion
Blue economy	46.9 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

India

Affluent investors

Affluent investors want to make a positive impact and have a slightly stronger preference for mitigation themes. Technical barriers pose the biggest challenges.

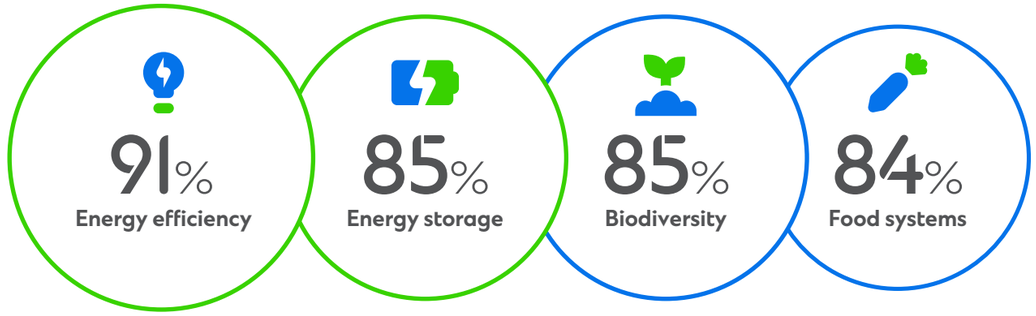
Motivations[1]

Affluent investors in India are the most motivated by opportunities to make a positive impact through their climate investments. They are also influenced by social norms and want investment decisions to reflect their personal values.

- Positive impact
- Social norms
- Personal values

Themes of interest[2]

Affluent investors are more interested in mitigation themes, with energy efficiency being the most popular. Energy storage and biodiversity are ranked equally as second.

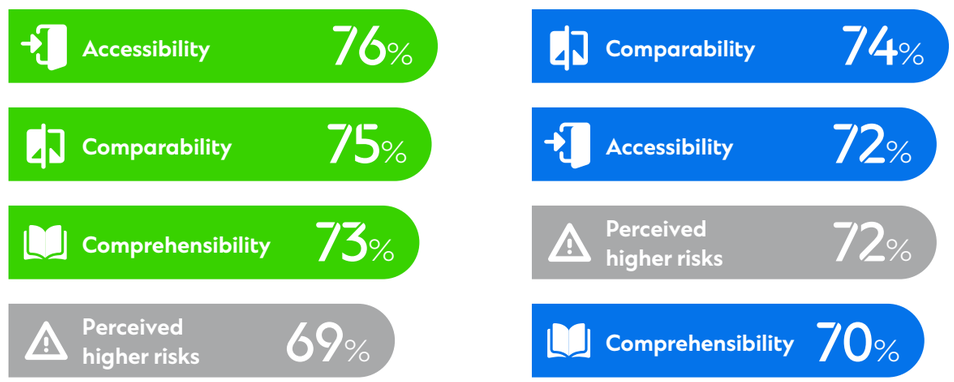


Mitigation Adaptation

Barriers to investing[3]

Overall, the top barriers to climate investing for Affluent investors remain the same across mitigation and adaptation. However, the top barrier does differ.

For mitigation, accessibility is the most pronounced barrier, but comparability is the top barrier for adaptation.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

India

HNW investors

HNW investors place great value on creating a positive impact and express high interest in adaptation-related themes. Overall, ambivalence, fatigue and accessibility are common barriers.

Motivations[1]

Similar to Affluent investors, the HNW segment is motivated by positive impact. However, HNW investors place a greater value on improving investment returns.

- Positive impact
- Personal values
- Improve returns

Themes of interest[2]

Overall, HNW investors are highly interested in adaptation themes, such as biodiversity, resilient infrastructure and the blue economy.

- 72% Biodiversity
- 68% Energy efficiency
- 64% Resilient infrastructure
- 64% Blue economy

Mitigation Adaptation

Barriers to investing[3]

Overall, the proportion of HNW investors facing the top barriers is lower than the Affluent segment.

Notably, HNW investors rank ambivalence or fatigue as their top barrier for investing in adaptation, and second for mitigation. Whereas the Affluent investors in India are the most hindered by the technical barriers in climate investing, the HNW segment have greater cognitive barriers such as ambivalence and scepticism.

Mitigation

- Perceived higher risks 72%
- Ambivalence/ Fatigue 70%
- Accessibility 66%
- Comparability 66%

Adaptation

- Ambivalence/ Fatigue 72%
- Accessibility 70%
- Comprehensibility 66%
- Scepticism 66%

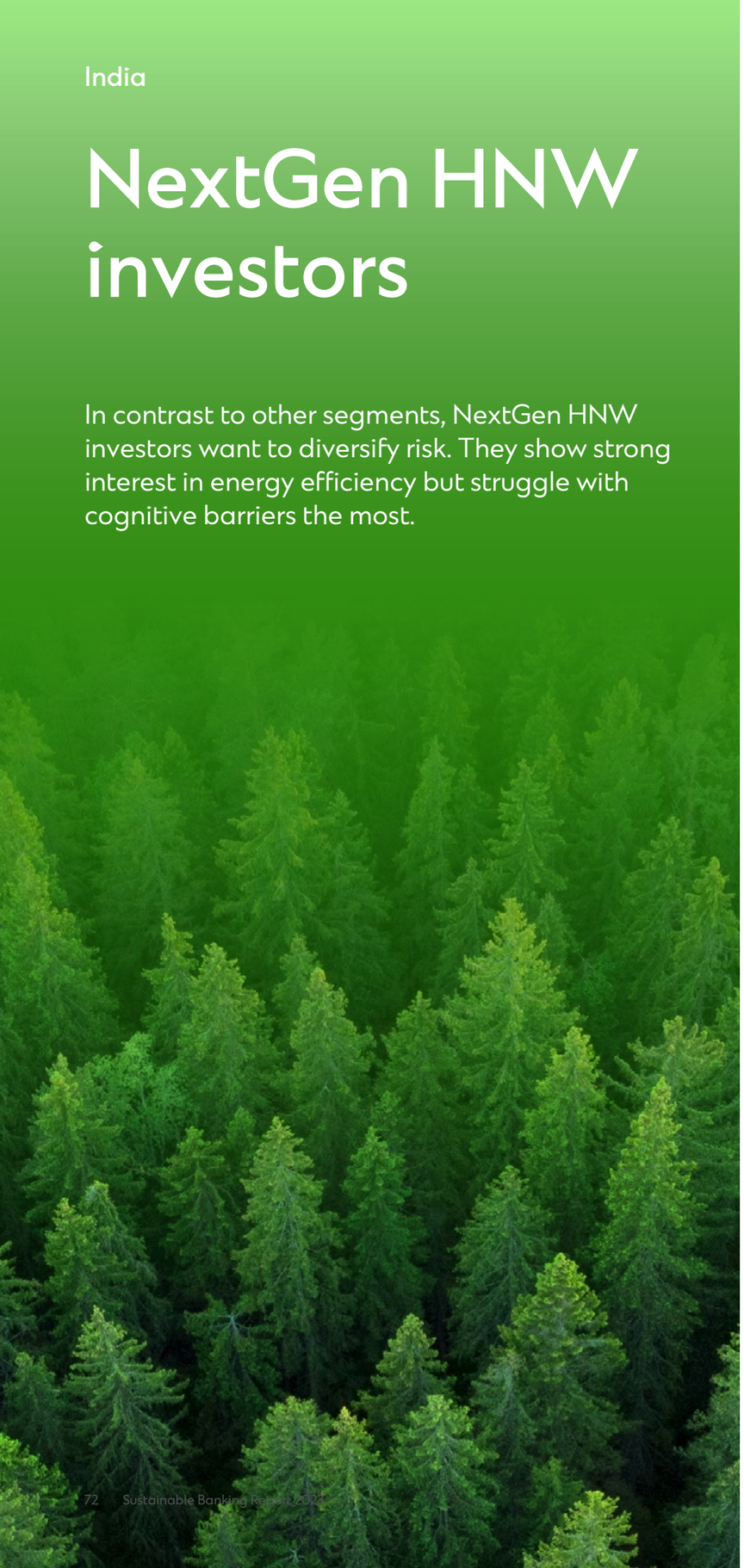
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

India

NextGen HNW investors

In contrast to other segments, NextGen HNW investors want to diversify risk. They show strong interest in energy efficiency but struggle with cognitive barriers the most.



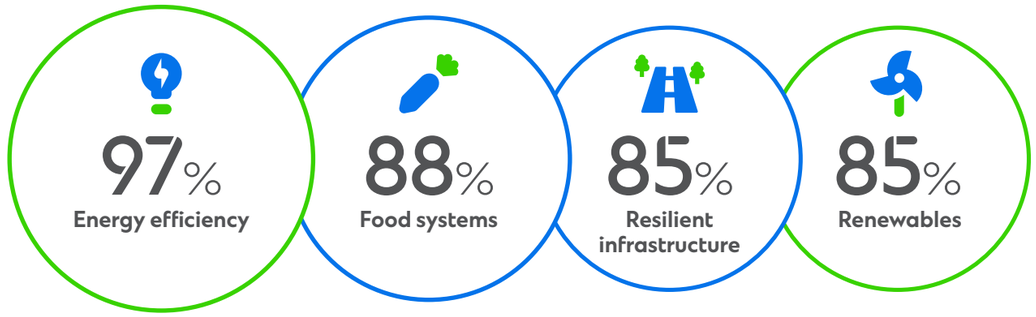
Motivations[1]

In contrast to the other two segments, NextGen HNW investors in India primarily want to reduce their portfolio risks through climate investing.

- Reduce portfolio risks
- Personal values
- Positive impact

Themes of interest[2]

The NextGen HNW segment in India shows the highest interest for energy efficiency amongst all markets and segments, expressing almost universal interest for this theme. Compared to the other HNW segment, NextGen HNW express higher interest for themes across mitigation and adaptation.

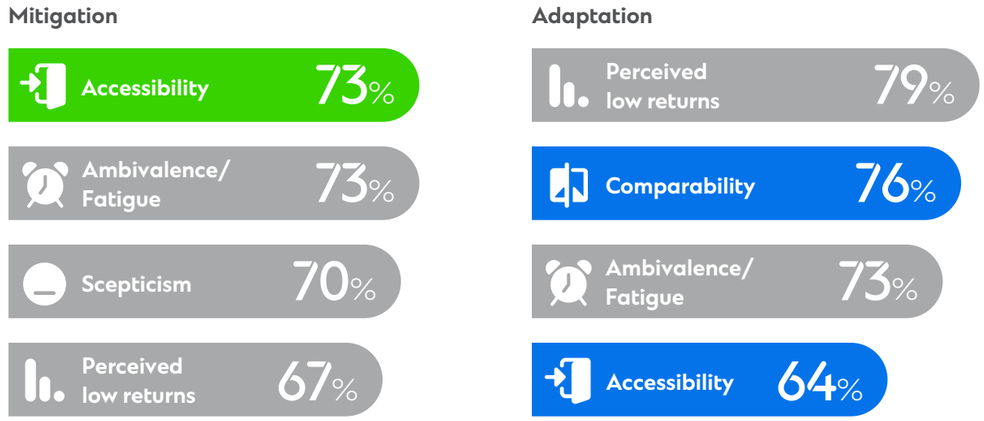


Mitigation Adaptation

Barriers to investing[3]

For the NextGen HNW segment, cognitive barriers pose the biggest challenges to investing in mitigation. Among the top four barriers in mitigation, three of them – ambivalence or fatigue, scepticism, and perceived low returns – are cognitive.

NextGen HNW are the most concerned about low returns in adaptation – unlike the other two investor segments, who were more concerned with risks. Comparability is also one of the top barriers.



Technical barriers Cognitive barriers

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2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Activation market

Kenya

One of the largest capital markets in Africa, gaining momentum in renewable energy and biodiversity conservation.

Economy

Nominal GDP: USD116.3 billion (2022)

Forecast real GDP growth: 5.2% (CAGR 2022-2030)

Wealth

Net personal wealth: USD171.7 billion (2021)

CAGR: 11.2% (2021-2030)

Top climate themes

Renewables: Geothermal power and hydrogen to shape the future

Biodiversity: Wildlife and habitat conservation are important pillars of sustainable growth

With one of the region's largest capital markets, Kenya is a key investment hub in East and Central Africa. It has made significant progress in green finance and its Vision 2030 emphasises the importance of climate change in future development.

Kenya is already a regional pioneer in renewables. Working towards a 2050 net zero goal, several new projects in geothermal and wind power have been announced to expand the market's renewable energy capacity, where geothermal power will likely see the most growth. To support Kenya's ambitious target of 100 per cent clean energy by 2030, the government is also developing a green hydrogen energy strategy.

With nearly half of its GDP derived from natural resources, Kenya is also prioritising the preservation of its rich wildlife and biodiversity. Wildlife and their habitats are central to Kenya's local tourism industry. As part of its Vision 2030, the government launched BIODEV2030, a biodiversity-focused initiative launched to reduce anthropic risks arising from non-timber cultivation, overfishing and infrastructure development.

Given the interest among local investors, there is high potential for retail capital to flow into renewables and biodiversity.

of investors in Kenya are interested in climate themes[1]

of investors in Kenya want to increase capital flows towards climate[2]

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation

4 USD billion

Renewables	931 USD million
Energy efficiency	761 USD million
Carbon capture & storage	743 USD million
Sustainable forestry	731 USD million
Energy storage	646 USD million
Circular economy	641 USD million

Potential for adaptation

3 USD billion

Biodiversity	840 USD million
Resilient infrastructure	781 USD million
Food systems	772 USD million
Blue economy	605 USD million

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

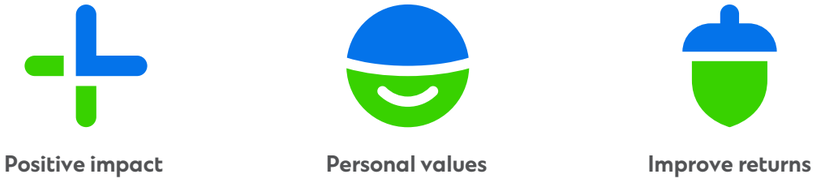
Kenya

Affluent investors

Affluent investors are driven by potential positive impact their investments can have, and mostly interested in mitigation themes. Technical barriers pose the biggest challenges to climate investing.

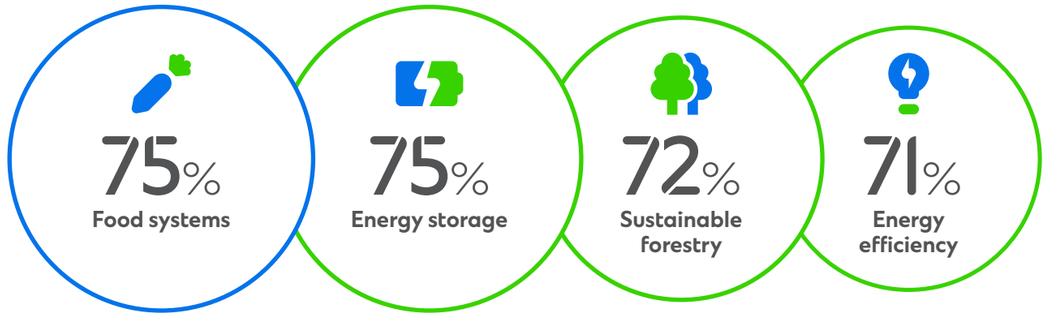
Motivations[1]

Affluent investors in Kenya are the most motivated by the potential to do good through climate investing, followed by alignment to their personal values and improved investment returns.



Themes of interest[2]

Apart from food systems, this investor segment expresses high interest in mitigation themes: energy storage, sustainable forestry and energy efficiency.

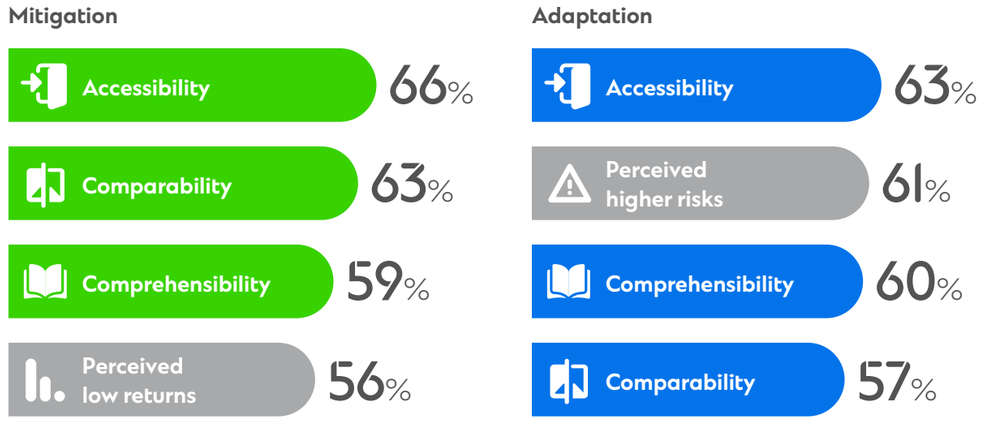


Mitigation Adaptation

Barriers to investing[3]

For Affluent investors in Kenya, technical barriers – accessibility, comparability, comprehensibility – hold them back from investing in both mitigation and adaptation.

Besides these, investors are also concerned about the financial returns of climate investments. They are particularly concerned about returns when investing in mitigation and risks in adaptation.



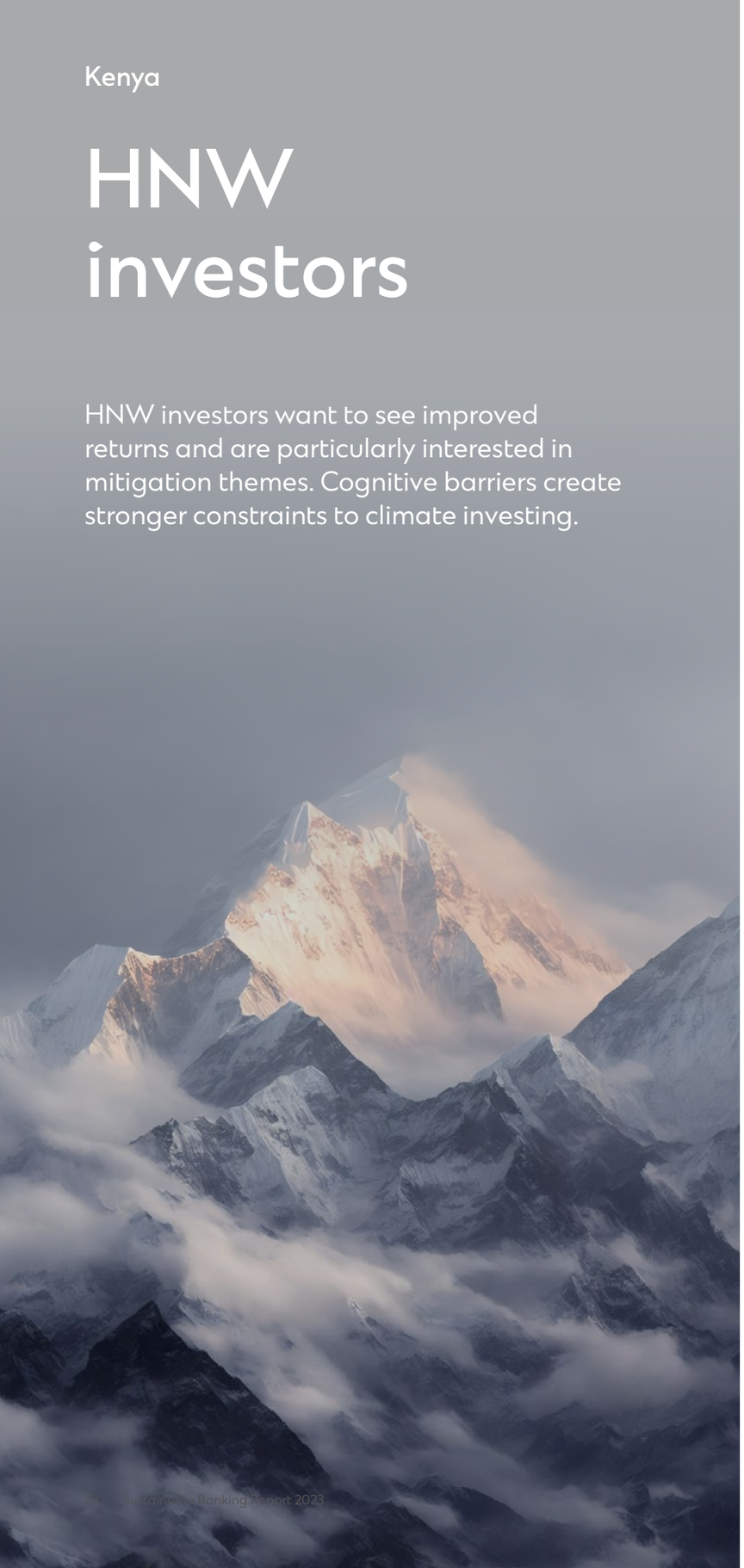
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Kenya

HNW investors

HNW investors want to see improved returns and are particularly interested in mitigation themes. Cognitive barriers create stronger constraints to climate investing.

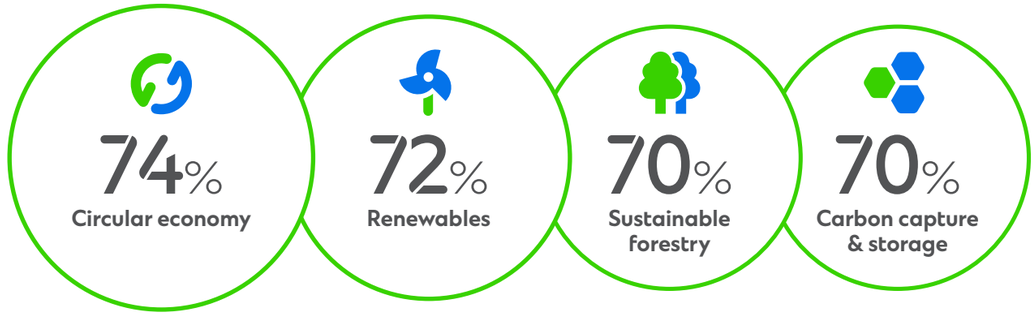


Motivations[1]

HNW investors place greater emphasis on improved investment returns than positive impact, compared to Affluent investors. Similar to the Affluent segment, a deciding factor is whether their investment choices reflect their personal values.

Themes of interest[2]

For HNW investors, the top four themes are all related to mitigation, with the circular economy ranking the highest.

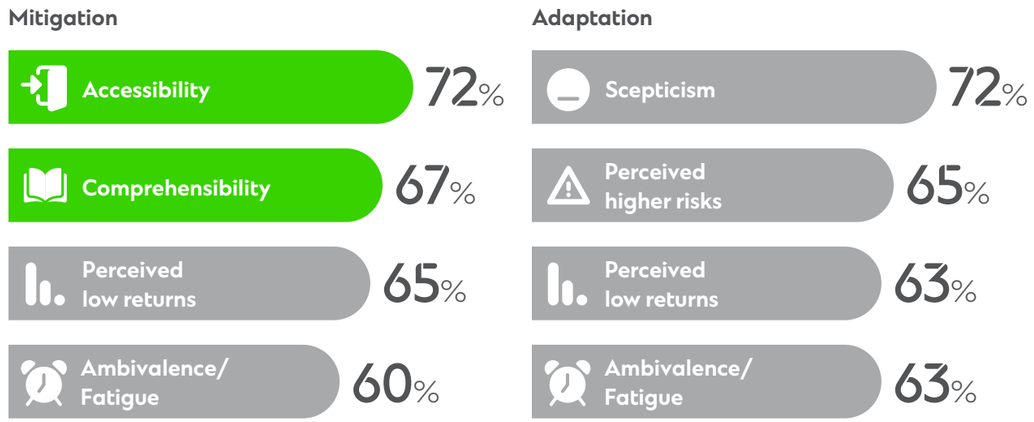


Mitigation Adaptation

Barriers to investing[3]

For mitigation, accessibility and comprehensibility emerge as the top two barriers to investing, followed by perceived low returns and ambivalence or fatigue.

Where HNW investors experience a mix of technical and cognitive barriers investing in mitigation, cognitive barriers pose a more significant challenge for investing in adaptation, with scepticism and perceived higher risks emerging as the top two barriers.



Technical barriers Cognitive barriers

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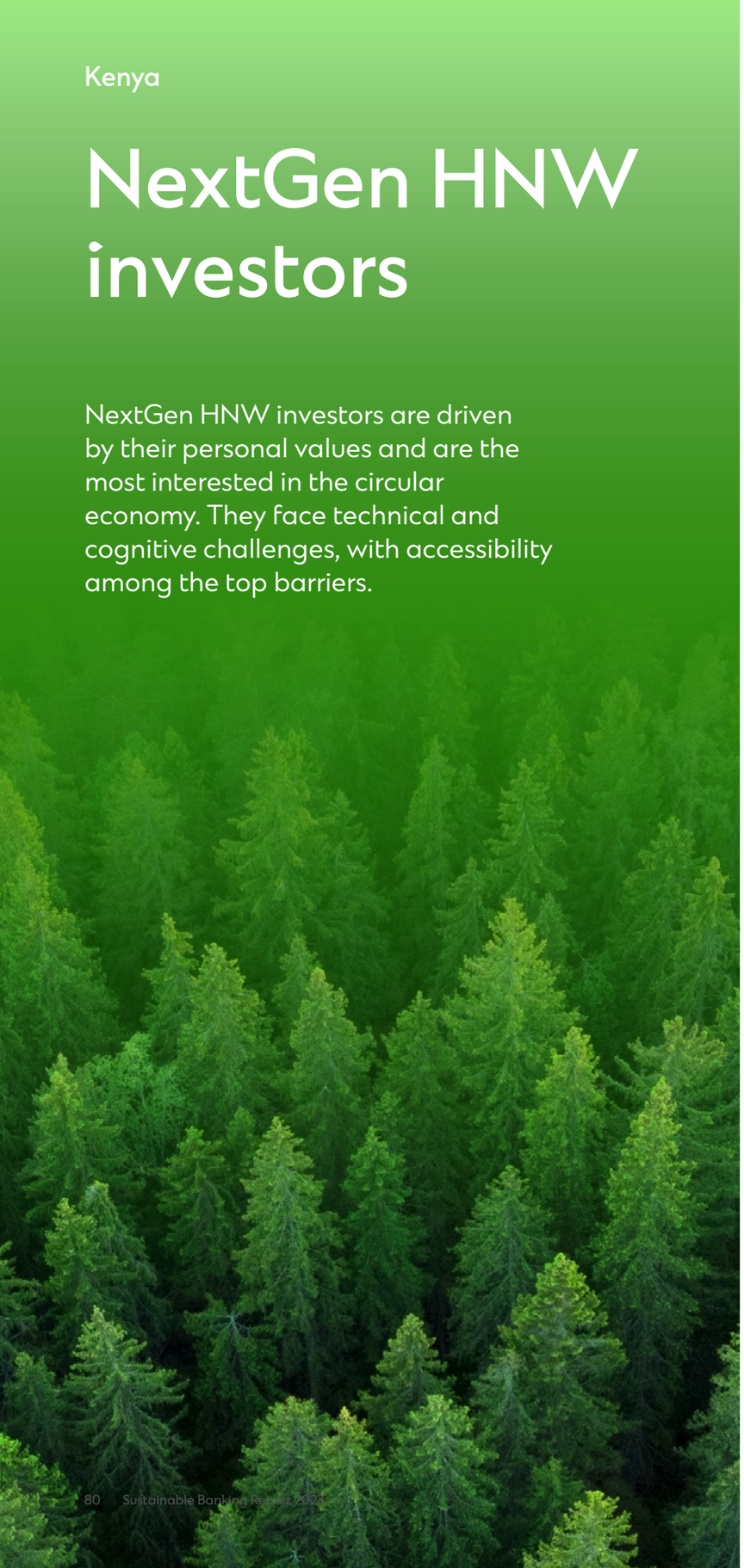
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Kenya

NextGen HNW investors

NextGen HNW investors are driven by their personal values and are the most interested in the circular economy. They face technical and cognitive challenges, with accessibility among the top barriers.

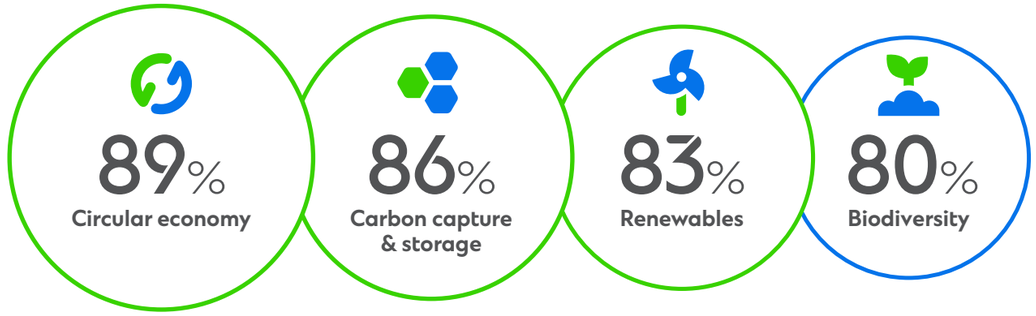


Motivations[1]

NextGen HNW investors prioritise personal values more than the other two investor segments. In contrast to HNW investors, they value positive impact more than improved returns.

Themes of interest[2]

Similar to HNW investors, NextGen HNW investors also express very high interest in the circular economy.

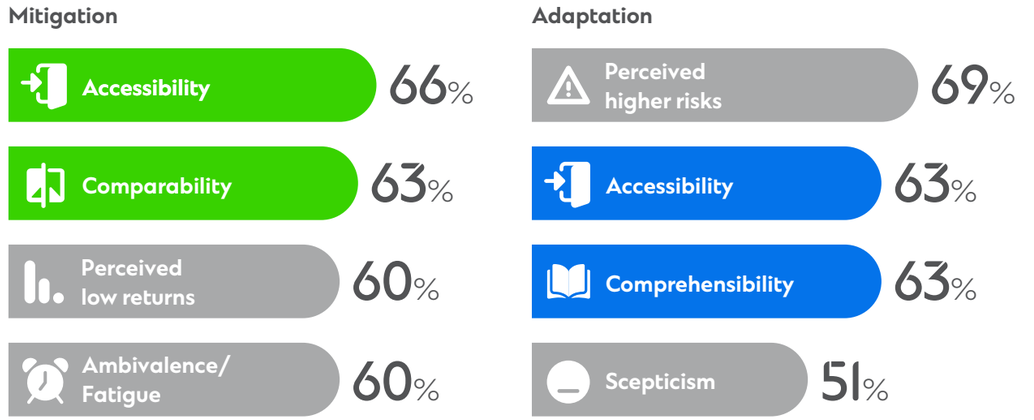


Mitigation Adaptation

Barriers to investing[3]

For mitigation, accessibility and comparability emerge as the top two barriers. Similar to the other HNW segment, NextGen HNW investors are concerned with perceived low returns and feel ambivalent or fatigued toward climate investing.

For adaptation, investors worry about perceived higher risks of climate-themed investing. In contrast to the HNW segment, NextGen HNW investors are also more affected by technical challenges – accessibility and comprehensibility.



Technical barriers Cognitive barriers

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2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Activation market

Malaysia

A market with high levels of biodiversity where climate-resilient infrastructure and marine and forestry conservation will gain increasing importance.

Economy

Nominal GDP: USD406.5 billion (2022)

Forecast real GDP growth: 4.0% (CAGR 2022-2030)

Wealth

Net personal wealth: USD511.4 billion (2021)

CAGR: 7.1% (2021-2030)

Top climate themes

Resilient infrastructure: Flood prevention and coastal protection to shape infrastructure development

Biodiversity: Protecting marine and forestry ecosystems will be of priority

To build a sustainable investing ecosystem, Malaysia launched the Sustainable and Responsible Investment Roadmap for the Malaysian Capital Market. The Bank Negara Malaysia has also published the Climate Change and Principle-based Taxonomy for the finance sector to classify climate projects, which can boost retail investor confidence and broaden the climate product universe.

Prone to flash floods, Malaysia is looking to increase coastal protection by incorporating climate change factors into the design of adaptation projects. In the 12th Malaysia Plan, the government has also allocated more funding for flood mitigation and coastal protection efforts. Going forward, adaptation will be focused on nature-based solutions, such as increasing water retention capacity and implementing resettlement programmes for floodplain areas. Resilient infrastructure is one of the themes with most retail potential.

With rich natural endowments, Malaysia is one of the most biodiverse markets. The government is dedicating efforts to protect local biodiversity, and investors also express strong interest in this theme. Through its National Policy on Biological Diversity 2016-2025, Malaysia has committed to preserve at least 20 per cent of inland areas and 10 per cent of coastal and marine areas by 2025. Measures have included marine and forestry conservation initiatives, as well as seed gene banks to protect endangered species.

of investors in Malaysia are interested in climate themes[1]

of investors in Malaysia want to increase capital flows towards climate[2]

17 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation

9 USD billion

Renewables	1.8 USD billion
Energy efficiency	1.6 USD billion
Energy storage	1.6 USD billion
Circular economy	1.5 USD billion
Carbon capture & storage	1.3 USD billion
Sustainable forestry	1.2 USD billion

Potential for adaptation

8 USD billion

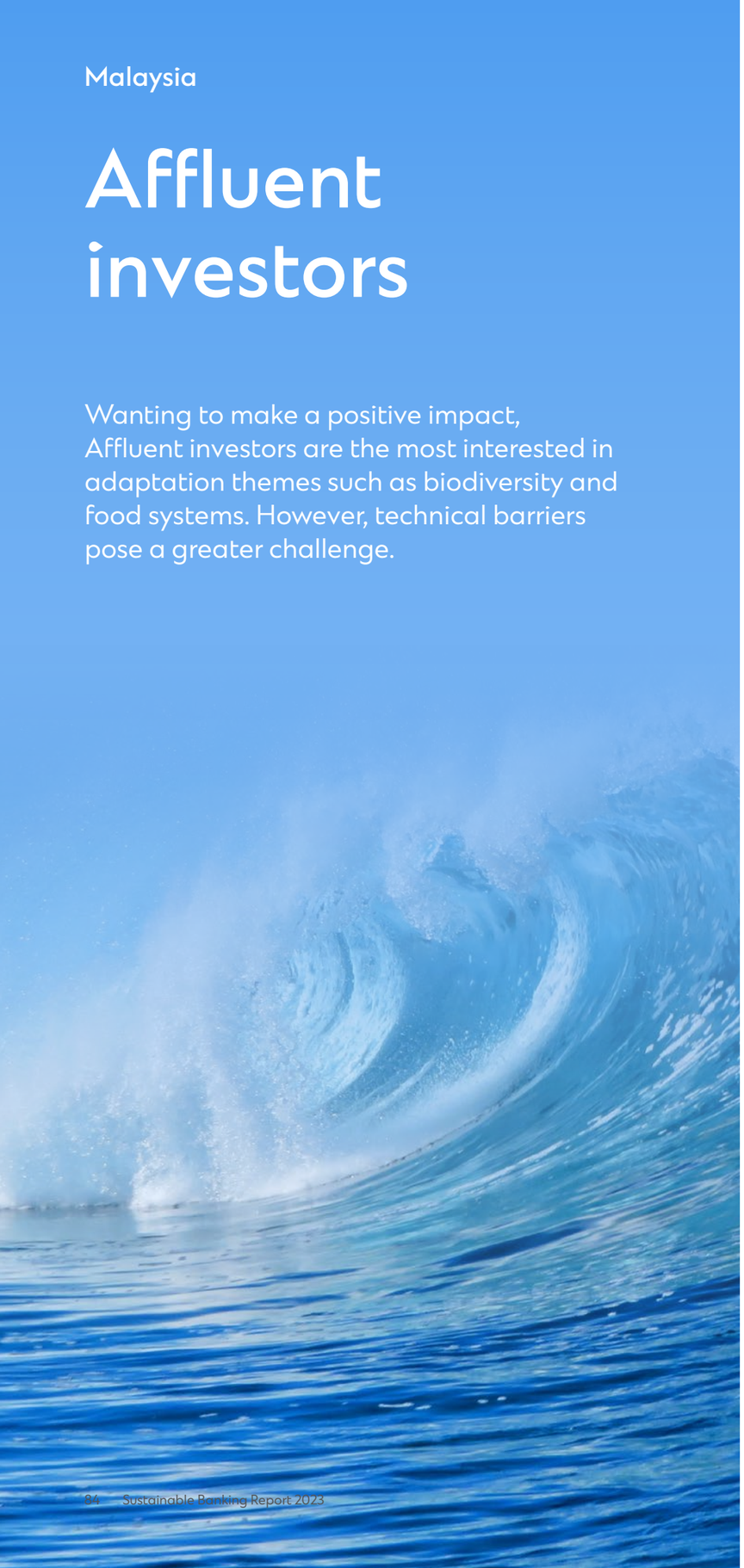
Resilient infrastructure	2.1 USD billion
Biodiversity	2.0 USD billion
Food systems	1.7 USD billion
Blue economy	1.7 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Malaysia

Affluent investors

Wanting to make a positive impact, Affluent investors are the most interested in adaptation themes such as biodiversity and food systems. However, technical barriers pose a greater challenge.

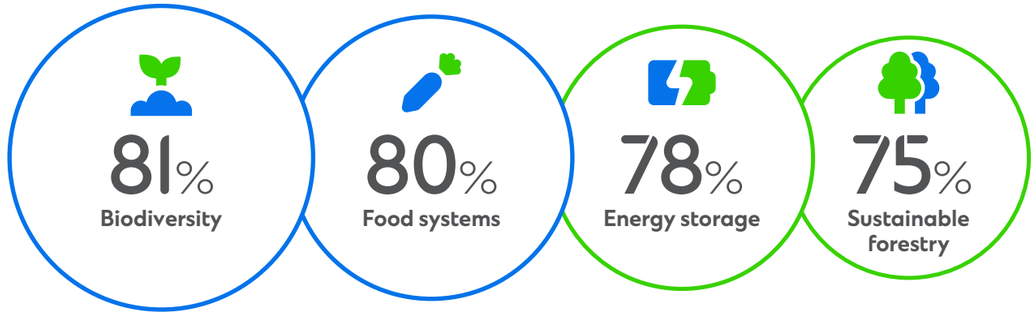


Motivations[1]

Affluent investors in Malaysia are mostly driven by the positive impact they can have through climate investing. They are also looking for opportunities to reduce their portfolio risk and are motivated by social norms.

Themes of interest[2]

Affluent investors are interested in a mix of mitigation and adaptation themes, with biodiversity and food systems the top two themes of interest.



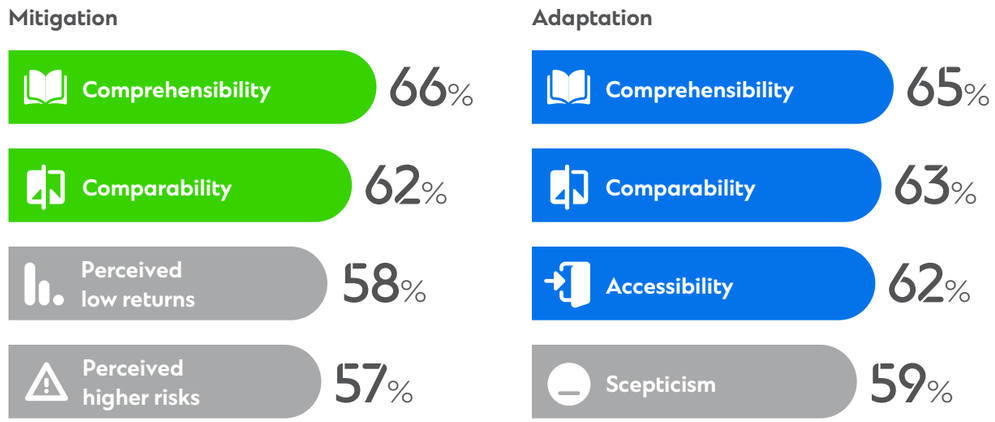
Mitigation Adaptation

Barriers to investing[3]

Comprehensibility and comparability are the two biggest challenges for Affluent investors in Malaysia to invest in climate mitigation and adaptation.

For mitigation, Affluent investors face a confluence of technical and cognitive barriers, due to complex information on climate investments and concerns about the risk and return rates.

For adaptation, scepticism and technical barriers hold investors back.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Malaysia

HNW investors

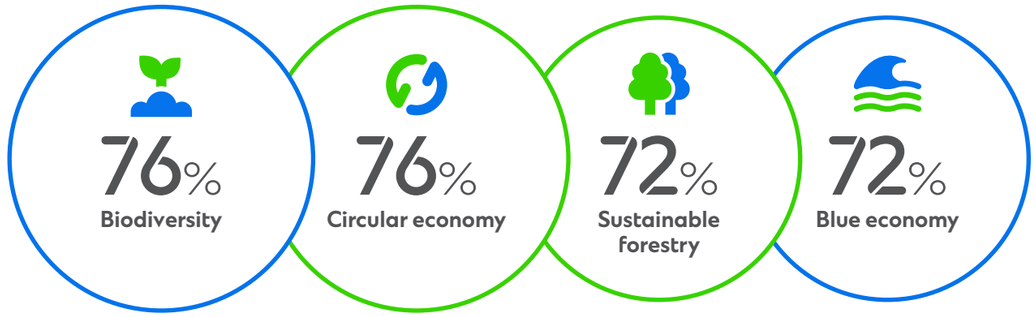
HNW investors are motivated by improved returns and are the most interested in biodiversity and the circular economy. Scepticism and accessibility are the top barriers for mitigation and adaptation.

Motivations[1]

Through climate investments, HNW investors want to improve their investment returns, align to social norms and personal values.

Themes of interest[2]

Similar to Affluent investors, HNW investors also express high interest in biodiversity, and are equally interested in the circular economy.

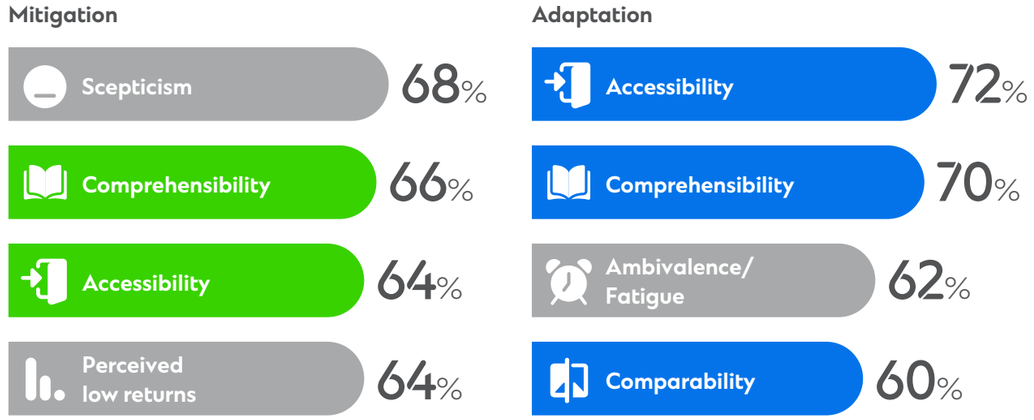


Mitigation Adaptation

Barriers to investing[3]

HNW investors are the most sceptical towards investing in mitigation, and are also concerned about the performance of these investments. Aside from cognitive barriers, HNW investors are also constrained by technical challenges, such as comprehensibility and accessibility.

Similar to Affluent investors, the HNW segment reports high technical barriers when investing in adaptation, with accessibility posing the greatest challenge. HNW investors are also more ambivalent towards investing in adaptation.



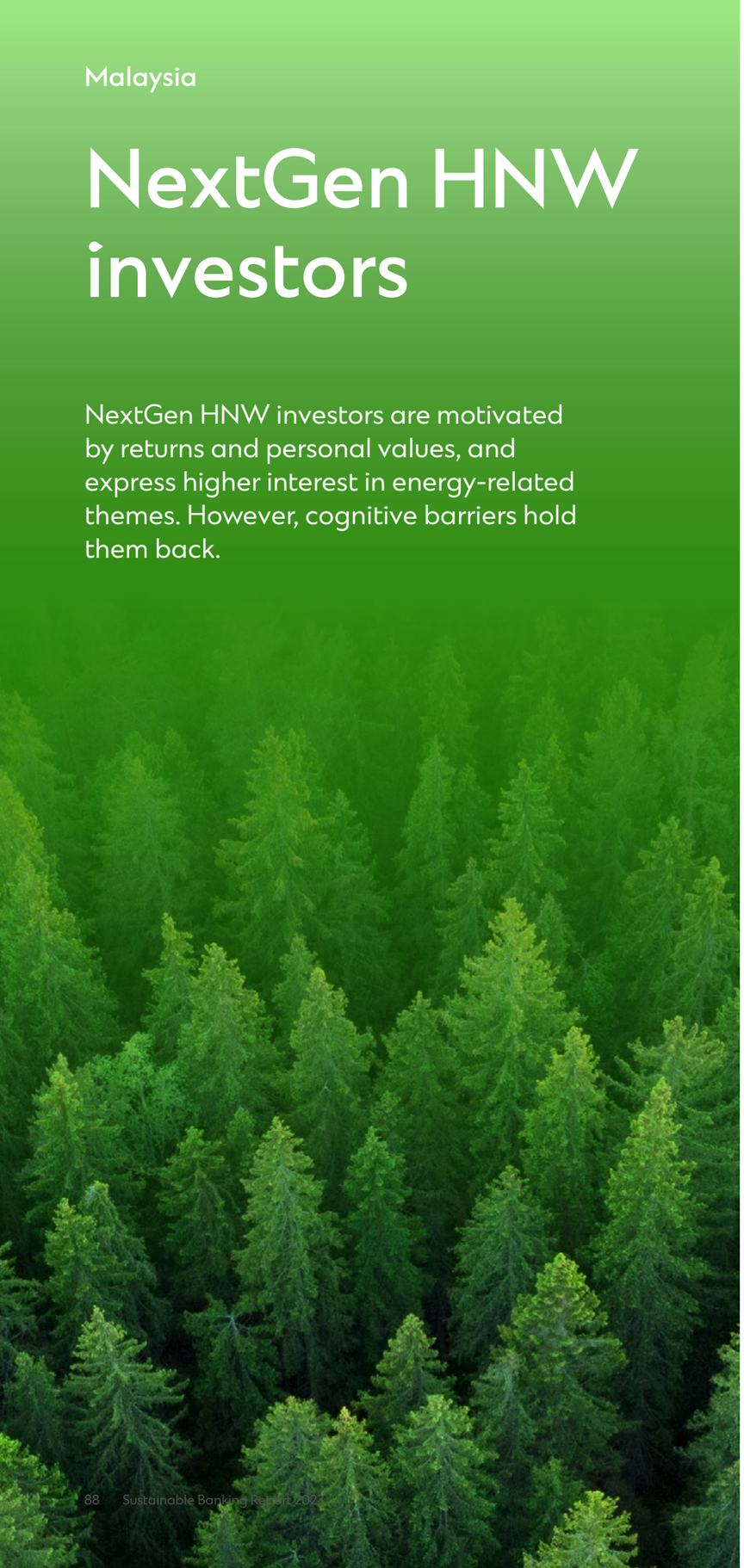
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Malaysia

NextGen HNW investors

NextGen HNW investors are motivated by returns and personal values, and express higher interest in energy-related themes. However, cognitive barriers hold them back.



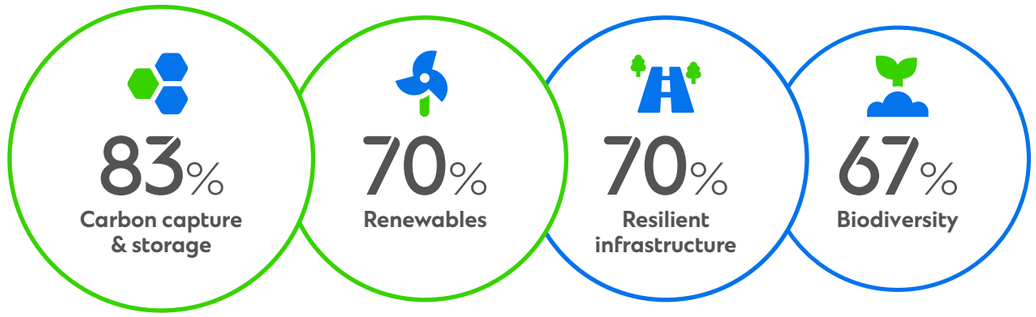
Motivations[1]

Similar to the HNW segment, NextGen HNW investors are also strongly motivated by improved investment returns, but place greater emphasis on their personal values.

- Improve returns
- Personal values
- Reduce portfolio risks

Themes of interest[2]

NextGen HNW investors are particularly interested in energy-related themes, with more than 80 per cent expressing interest in solutions such as carbon capture and storage, and 70 per cent in renewables.

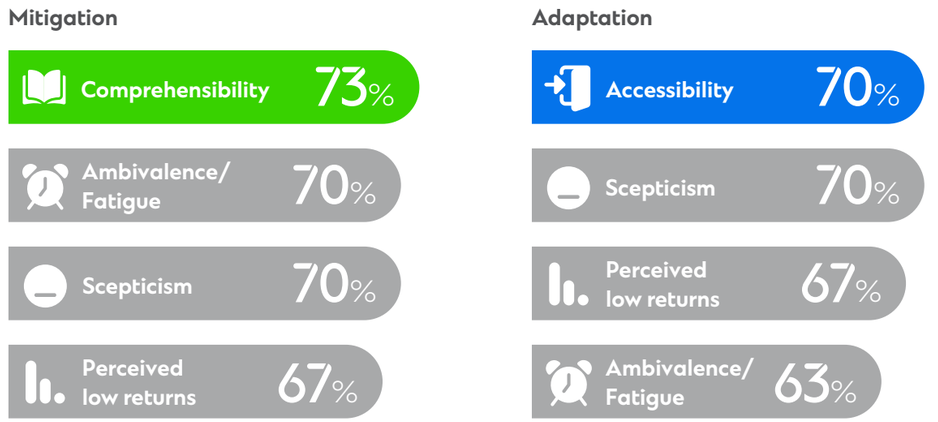


Mitigation Adaptation

Barriers to investing[3]

For NextGen HNW investors, the top barriers are overwhelmingly cognitive – which differentiates this segment from the other two. Ambivalence, scepticism and concerns about returns are common barriers for mitigation and adaptation.

Comprehensibility and accessibility are the top barriers overall for climate investing in general.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Activation market

Nigeria

A fast-growing market that could tap on renewable energy to meet increased energy demands and drive growth.

Economy

Nominal GDP: USD477.6 billion (2022)

Forecast real GDP growth: 4.0% (CAGR 2022-2030)

Wealth

Net personal wealth: USD1.5 trillion (2021)

CAGR: 15.7% (2021-2030)

Top climate themes

Renewables: Vast potential in renewables, such as biomass, solar and wind

Energy storage: Residential battery storage and lithium batteries could see future growth and help manage variabilities in supply

Nigeria's Energy Transition Plan sets the pathway for achieving carbon neutrality by 2060. To achieve universal access to electricity and fulfil its climate pledges, the West African economy will need to rapidly expand its low-carbon energy production.

According to the International Renewables Energy Agency, Nigeria has vast untapped potential in renewables, ranging from solar, wind, hydro and biomass. It is estimated that Nigeria could meet 60 per cent of the population's energy demand by 2050 through a mix of renewable energy sources, given sufficient investments and enabling policies. A ramp-up of electrification will also be necessary to facilitate decarbonisation in major sectors, such as buildings, industry, transport and agriculture.

More renewable energy generation will require improved energy storage to manage the variability in power supply. Residential battery storage systems can help homeowners store excess energy, ensuring uninterrupted power supply during power blackouts or grid failures. With large deposits of lithium, the government also plans to scale and domesticate the production of lithium batteries, which could expand opportunities in mining or battery production. With the rapidly developing energy landscape from renewables to storage, investors in Nigeria are keen to increase capital flows into energy-based solutions.

of investors in Nigeria want to increase capital flows towards climate[1]

of investors in Nigeria want to increase capital flows towards climate[2]

94 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation 60 USD billion

Renewables	13.7 USD billion
Energy storage	12.1 USD billion
Energy efficiency	11.5 USD billion
Sustainable forestry	8.9 USD billion
Carbon capture & storage	7.5 USD billion
Circular economy	6.6 USD billion

Potential for adaptation 34 USD billion

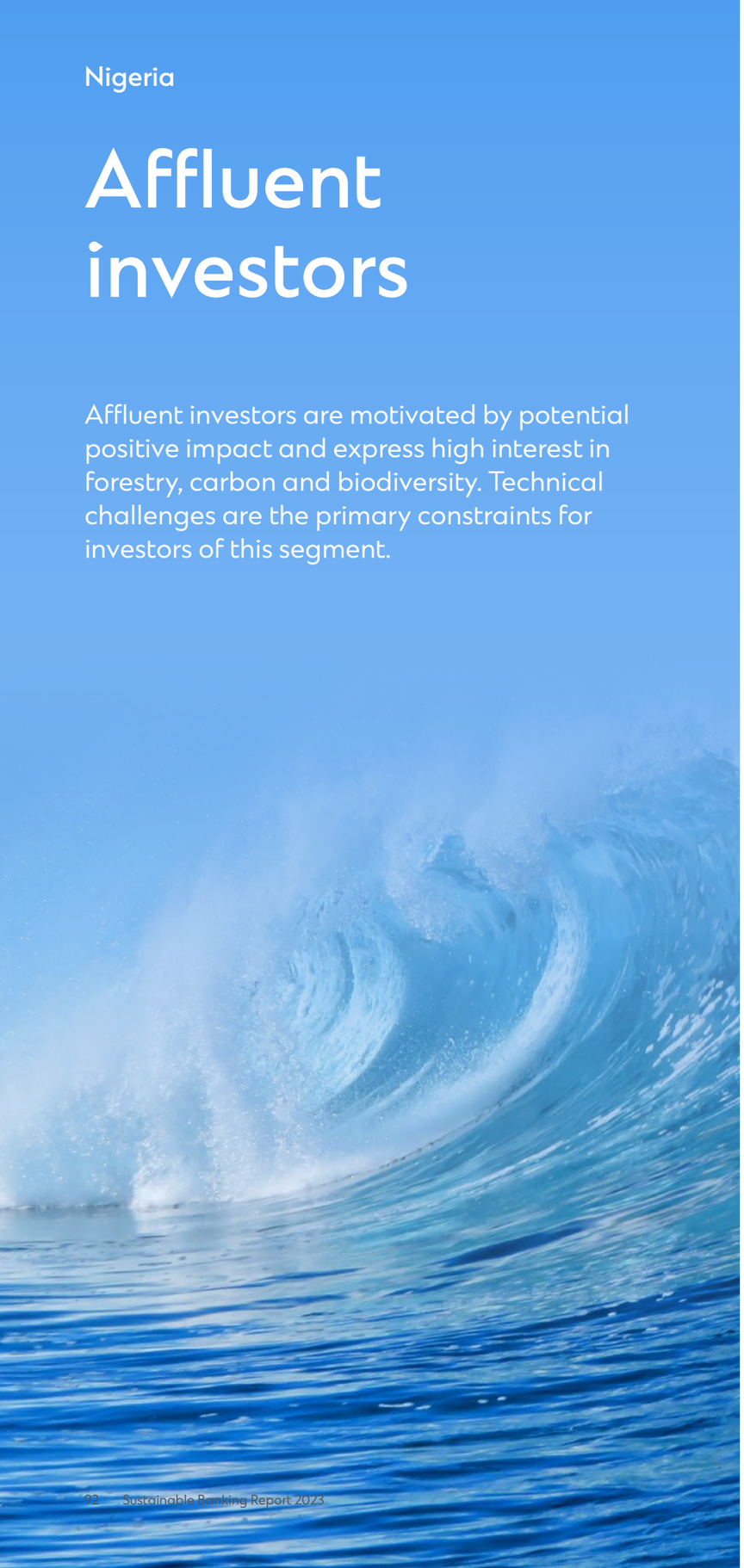
Resilient infrastructure	11.0 USD billion
Blue economy	7.7 USD billion
Food systems	7.6 USD billion
Biodiversity	7.2 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Nigeria

Affluent investors

Affluent investors are motivated by potential positive impact and express high interest in forestry, carbon and biodiversity. Technical challenges are the primary constraints for investors of this segment.



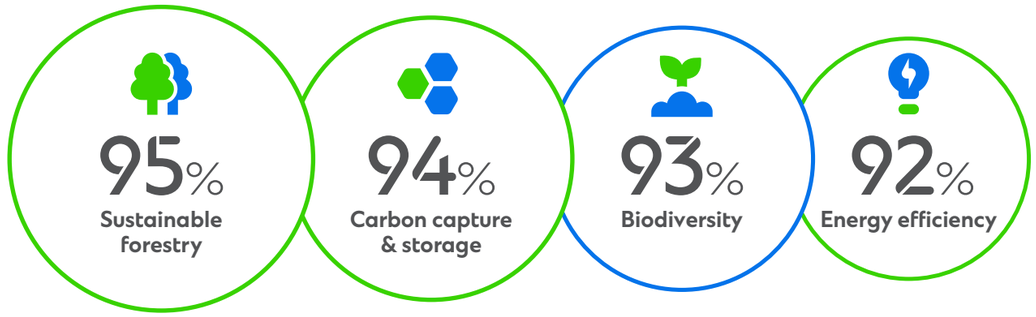
Motivations[1]

Affluent investors in Nigeria want to make a positive impact through their investments. They also want to improve their investment returns and reduce portfolio risks.

- Positive impact
- Improve returns
- Reduce portfolio risks

Themes of interest[2]

Affluent investors express high interest in emerging themes such as sustainable forestry and carbon capture and storage technologies. They are also interested in biodiversity conservation.



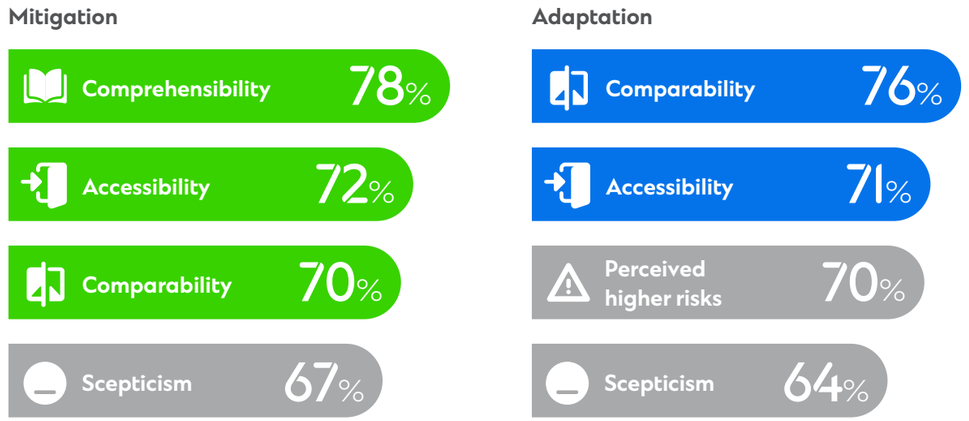
Mitigation Adaptation

Barriers to investing[3]

Affluent investors face the most pronounced technical challenges when investing in mitigation. Close to eight out of 10 Affluent investors in Nigeria indicate comprehensibility as a top barrier.

In contrast, comparability is a top barrier for investing in adaptation. Affluent investors also perceive investments in adaptation to be more risky.

For both adaptation and mitigation, investors are sceptical about the real impact of their investments.



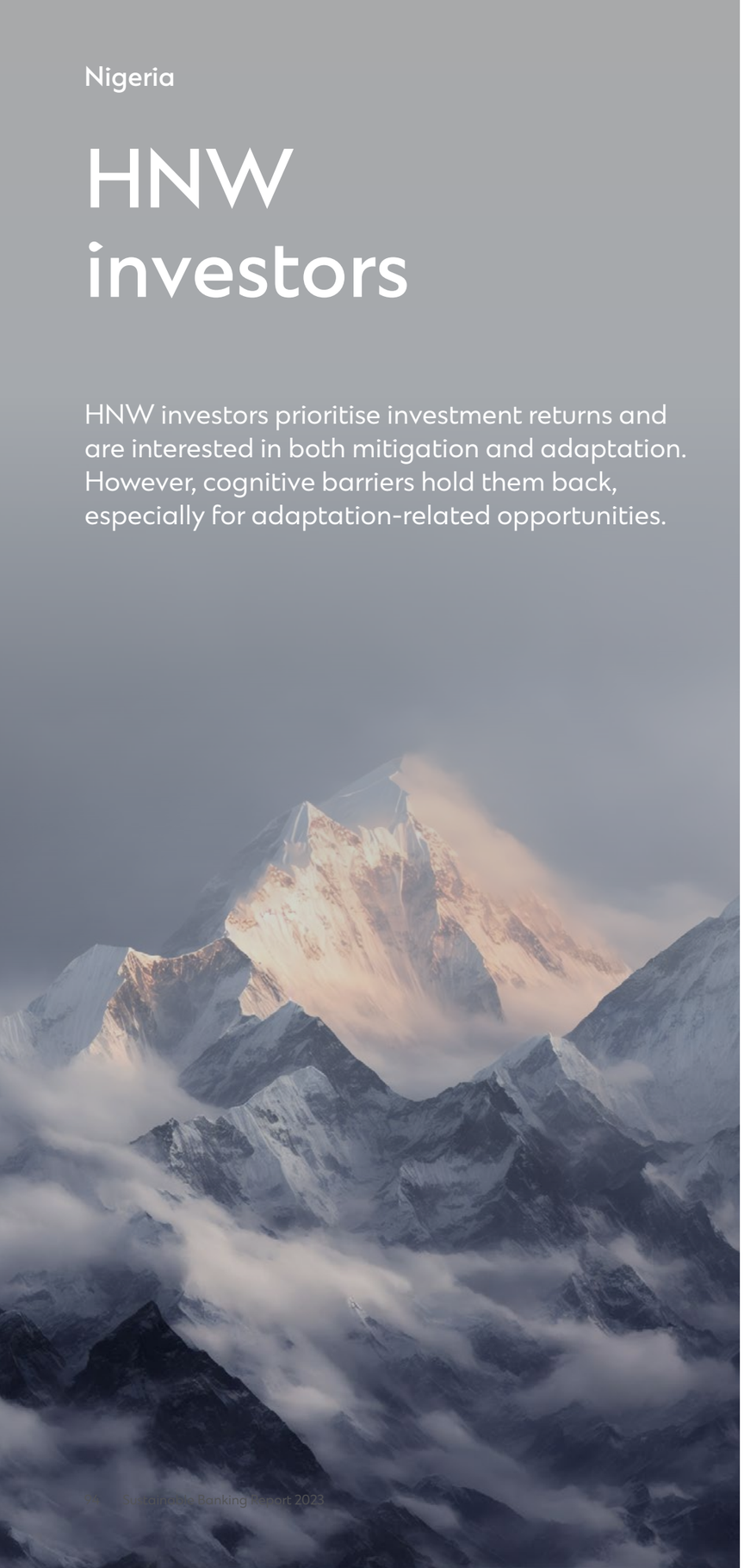
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Nigeria

HNW investors

HNW investors prioritise investment returns and are interested in both mitigation and adaptation. However, cognitive barriers hold them back, especially for adaptation-related opportunities.



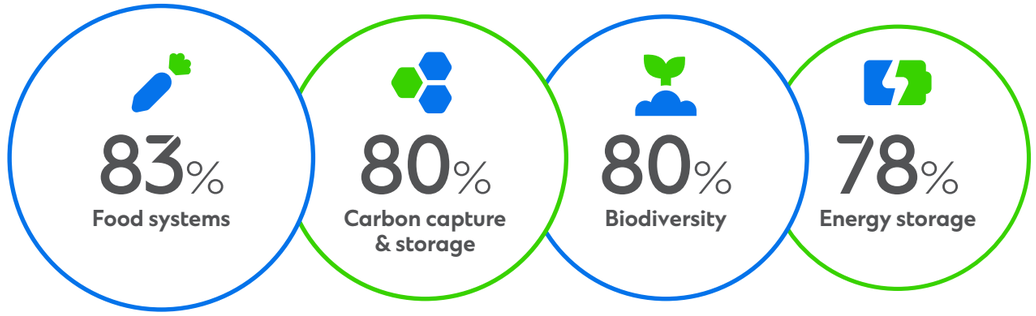
Motivations[1]

HNW investors in Nigeria are mainly motivated by improved investment returns when it comes to climate investing, followed by social norms and personal values.

- Improve returns
- Social norms
- Personal values

Themes of interest[2]

HNW investors are interested in a mix of mitigation and adaptation themes, with food systems ranking on top.



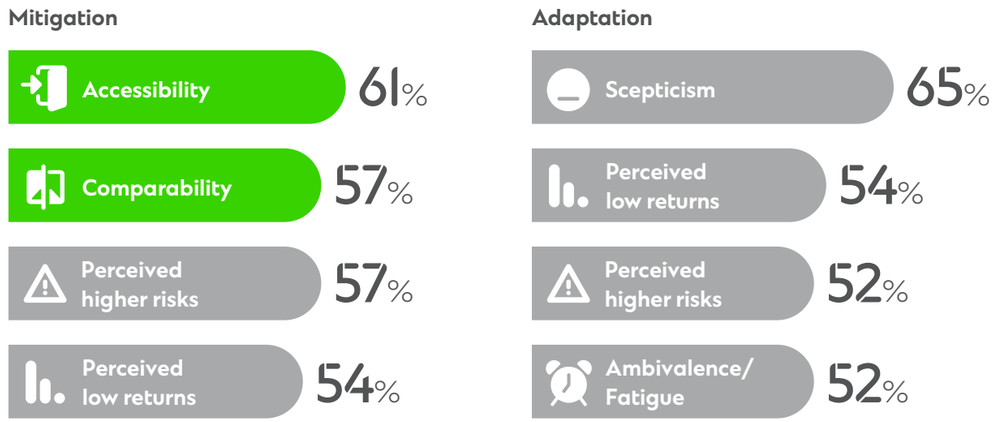
Mitigation Adaptation

Barriers to investing[3]

For mitigation, HNW investors face a combination of technical and cognitive barriers, with accessibility being the top barrier.

However, for adaptation, all major challenges are cognitive in nature. Scepticism is the most pronounced, with close to seven out of 10 HNW investors reporting is as a top barrier.

Overall, HNW investors are less affected by the barriers compared to the Affluent segment.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Nigeria

NextGen HNW investors

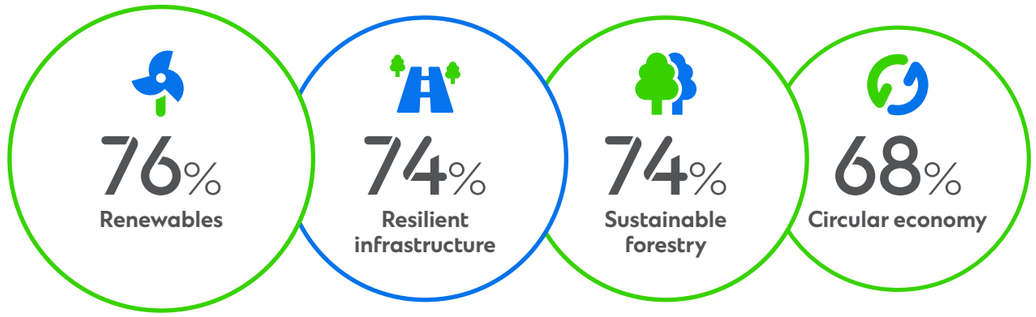
NextGen HNW investors are motivated by potential positive impact and express the highest interest in renewables. Perceived higher risks and scepticism are the top barriers for mitigation and adaptation respectively.

Motivations[1]

Similar to Affluent investors, NextGen HNW investors in Nigeria are the most motivated by the positive impact of climate investing.

Themes of interest[2]

NextGen HNW investor are most interested in mitigation themes, particularly renewables.



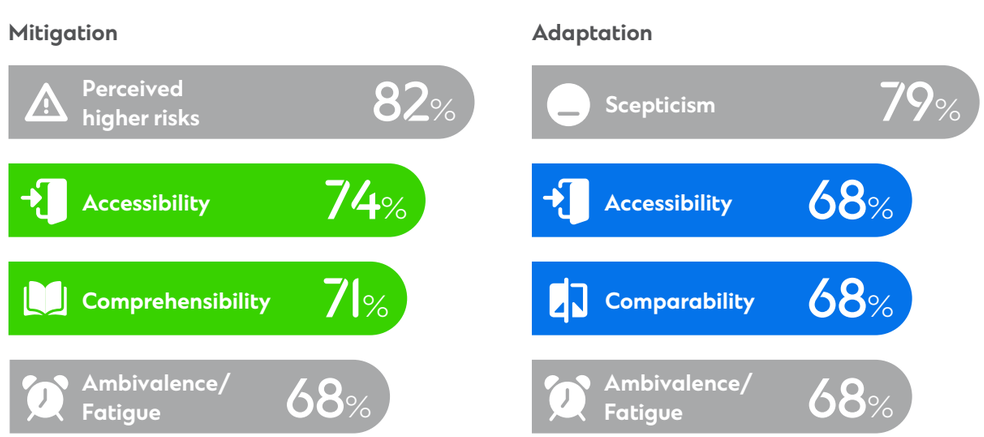
Mitigation Adaptation

Barriers to investing[3]

For both mitigation and adaptation, the top barriers are cognitive. Investors are particularly concerned about risks when investing in mitigation and sceptical about investing in adaptation.

Issues of accessibility and ambivalence are also common for both mitigation and adaptation.

NextGen HNW investors are more impacted by the barriers compared to the HNW segment overall.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Singapore

A top-tier financial centre that could channel global capital flows into efficient energy use and climate-proof infrastructure.

Economy

Nominal GDP: USD467.0 billion (2022)

Forecast real GDP growth: 2.6% (CAGR 2022-2030)

Wealth

Net personal wealth: USD1.5 trillion (2021)

CAGR: 5.8% (2021-2030)

Top climate themes

Energy efficiency: Efficiency to drive growth in buildings and transport sectors

Resilient infrastructure: Opportunities from innovative coastal solutions to retrofit technology

Under its Green Plan 2030, Singapore is targeting net zero by 2050. Recognising the financial sector's critical role in this transition, the Monetary Authority of Singapore announced the Finance for Net Zero Action Plan in April 2023, which aims to mobilise capital flows to support Singapore's and more broadly, Asia's decarbonisation.

Efficiency improvements will be an important part of Singapore's low carbon transition. The government aims to promote energy efficiency across multiple industries, including buildings and transport. The government has also raised mandatory sustainability standards for new and retrofit buildings to increase energy performance.

As a highly urbanised coastal city, Singapore's government emphasises climate-resilient infrastructure for greater adaptability, which investors also recognise as a priority. The island is developing innovative coastal protection solutions that leverage man-made and natural elements to combat rising sea levels, erosions and floods. When it comes to residential infrastructure, the Singapore Green Building Master Plan 2030 aims to green 80 per cent of new buildings by 2030. This would open up significant opportunities along the infrastructure supply chain, from raw materials to equipment and technology. Our survey reveals that investors in Singapore are keen to allocate their capital towards energy efficiency and infrastructure efforts.

of investors in Singapore are interested in climate themes[1]

of investors in Singapore want to increase capital flows towards climate[2]

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation

26 USD billion

Energy efficiency	5.8 USD billion
Carbon capture & storage	4.5 USD billion
Renewables	4.3 USD billion
Circular economy	4.3 USD billion
Sustainable forestry	3.9 USD billion
Energy storage	3.4 USD billion

Potential for adaptation

17 USD billion

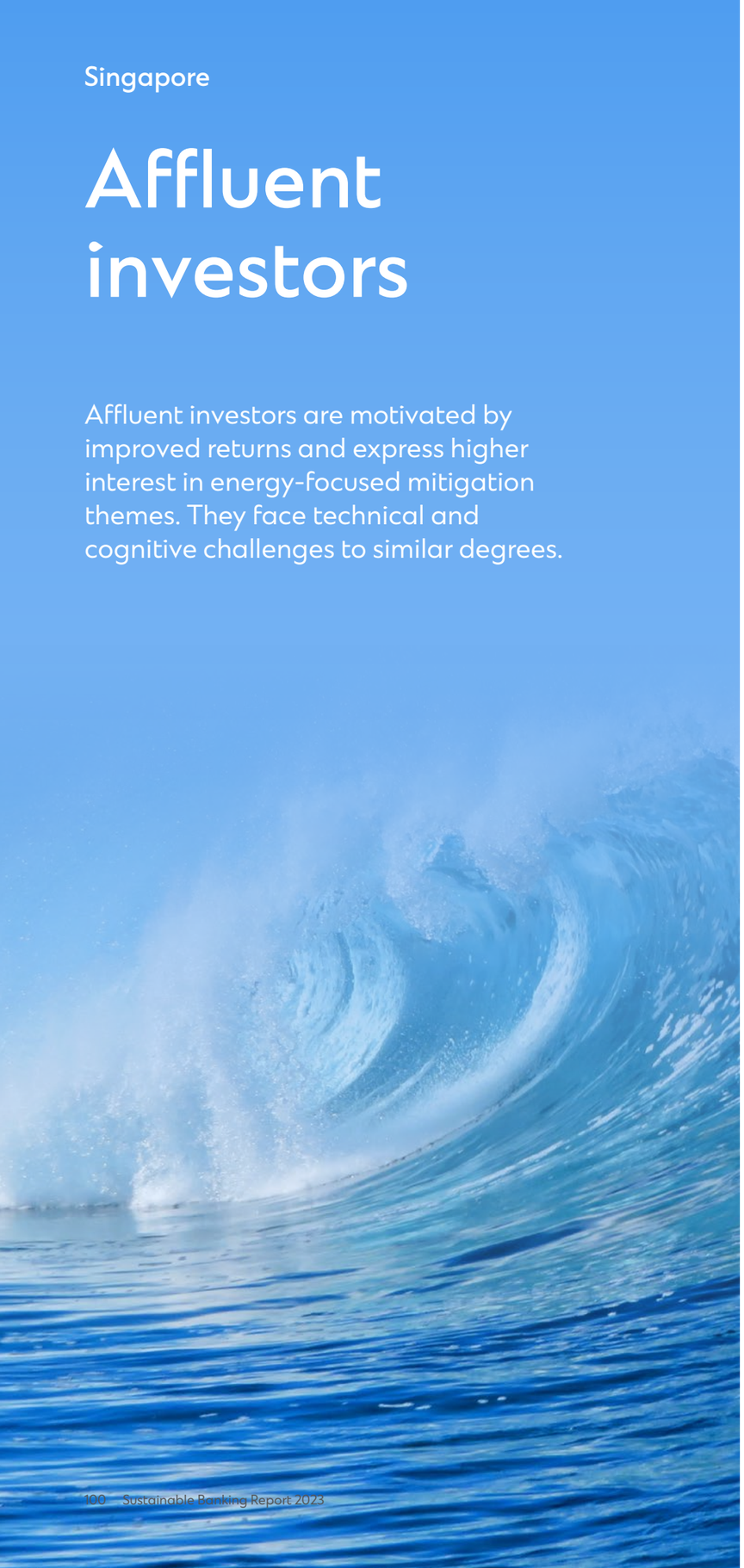
Resilient infrastructure	4.5 USD billion
Food systems	4.5 USD billion
Biodiversity	4.3 USD billion
Blue economy	3.9 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Singapore

Affluent investors

Affluent investors are motivated by improved returns and express higher interest in energy-focused mitigation themes. They face technical and cognitive challenges to similar degrees.

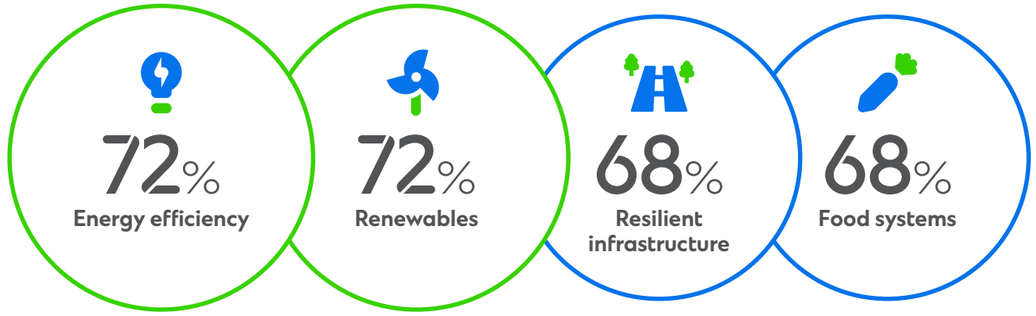


Motivations[1]

Affluent investors in Singapore are primarily motivated by improved investment returns. They also believe that climate investing can make a positive impact and reduce their portfolio risk.

Themes of interest[2]

Affluent investors are interested in both climate mitigation and adaptation, but express a stronger preference for energy-related themes – such as efficiency and renewables.

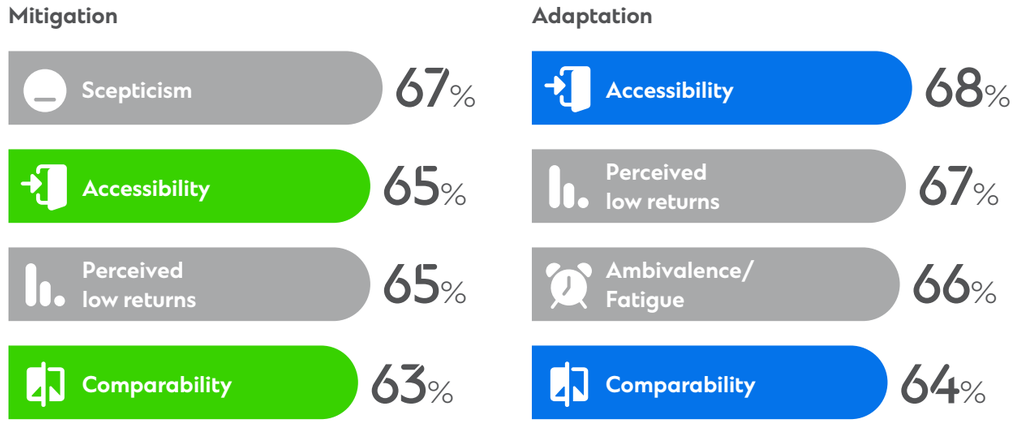


Mitigation Adaptation

Barriers to investing[3]

While accessibility, comparability and low returns are common barriers between mitigation and adaptation, the technical barriers are more pronounced in adaptation.

Affluent investors are most sceptical about greenwashing when it comes to mitigation, but demonstrate more ambivalence or fatigue in adaptation.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Singapore

HNW investors

HNW investors want to reduce their portfolio risks and express interest in infrastructure and the blue economy. Technical barriers pose a bigger challenge, especially for mitigation.

Motivations[1]

HNW investors prioritise reducing their portfolio risks, but also want to make a positive impact and reflect their personal values.

- Reduce portfolio risks
- Positive impact
- Personal values

Themes of interest[2]

Compared to the Affluent segment, HNW investors show more interest in adaptation themes, especially resilient infrastructure and the blue economy.

- 82% Resilient infrastructure
- 80% Blue economy
- 78% Circular economy
- 76% Renewables

Mitigation Adaptation

Barriers to investing[3]

For the HNW segment, accessibility and comparability are common barriers but more pronounced for mitigation. Overall, there is a higher proportion of HNW investors facing barriers, compared to the Affluent segment. For example, 86 per cent of HNW investors indicated accessibility to be a top barrier for mitigation, compared to 65 per cent for Affluent investors.

Affluent investors are ambivalent or fatigued about investing in mitigation, whereas HNW investors express the same sentiment for adaptation.

Mitigation

- Accessibility 86%
- Comparability 76%
- Ambivalence/ Fatigue 70%
- Perceived low returns 62%

Adaptation

- Perceived low returns 80%
- Comparability 72%
- Accessibility 68%
- Perceived higher risks 68%

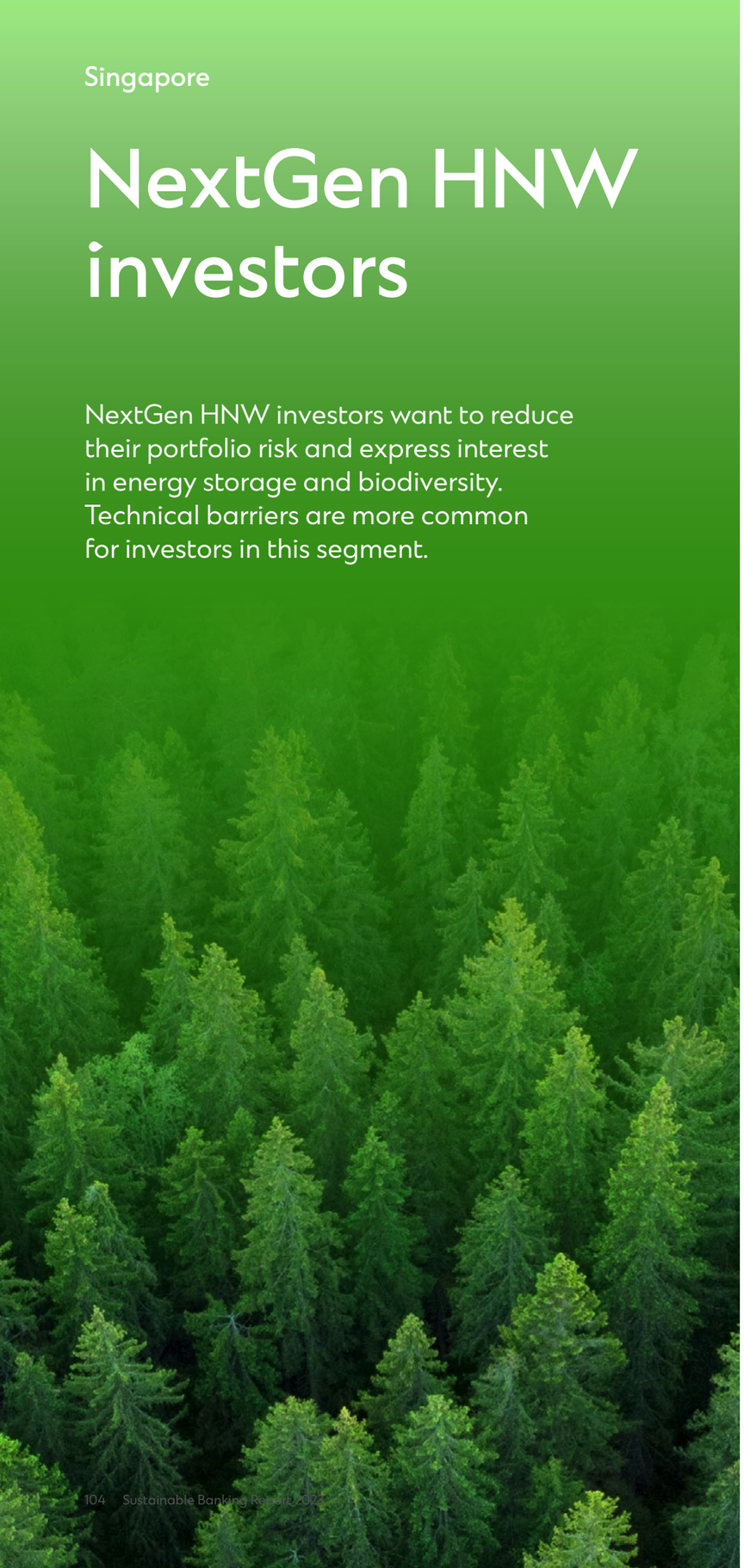
Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Singapore

NextGen HNW investors

NextGen HNW investors want to reduce their portfolio risk and express interest in energy storage and biodiversity. Technical barriers are more common for investors in this segment.



Motivations[1]

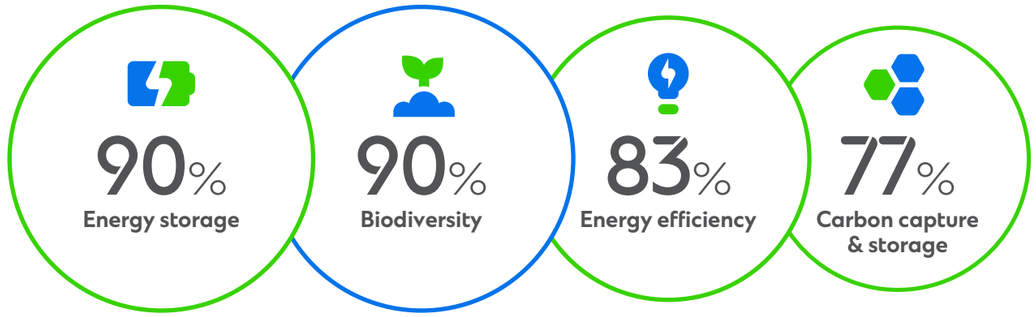
Similar to HNW investors, NextGen HNW primarily want to reduce their portfolio risk.

Unlike the two other investor segments, NextGen HNW investors are also motivated by social norms.

- Reduce portfolio risks
- Social norms
- Improve returns

Themes of interest[2]

Compared to the other two investor segments, NextGen HNW express higher interest in climate themes, with nine out of 10 NextGen HNW investors interested in energy storage or biodiversity.

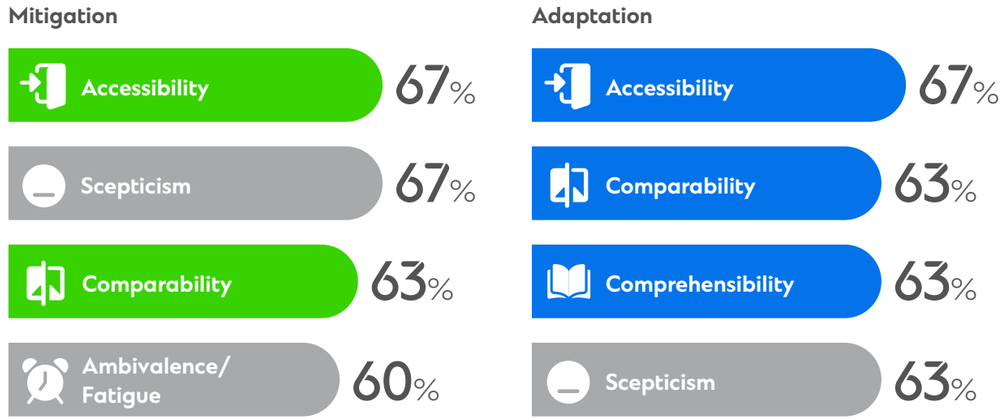


Mitigation Adaptation

Barriers to investing[3]

NextGen HNW investors face a mix of cognitive and technical challenges for mitigation. However, technical barriers are more pronounced for adaptation.

Both Affluent and NextGen HNW investors express scepticism toward investing in mitigation. This sentiment is extended to adaptation for NextGen HNW investors.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Realisation market

South Korea

An advanced tech and manufacturing market, leading developments in hydrogen technology and biodiversity conservation.

Economy

Nominal GDP: USD1.7 trillion (2022)

Forecast real GDP growth: 2.4% (CAGR 2022-2030)

Wealth

Net personal wealth: USD8.2 trillion (2021)

CAGR: 3.4% (2021-2030)

Top climate themes

Renewables: Opportunities in solar, wind and hydrogen, including fuel cells

Biodiversity: Strong tech bias can support drone or satellite technology for biodiversity conservation

As a high-tech manufacturing economy, investments to decarbonise South Korea's energy intensive sectors – industrials, buildings and transport – will underpin its transition to a low-carbon economy.

Part of this transition is centred around renewables. South Korea plans to increase its renewable energy mix to 40 per cent by 2034, mainly through solar and wind. Investors echo this sentiment by wanting to allocate capital in renewables. South Korea's advanced technology manufacturing base also bolsters the future growth of its hydrogen industry, including fuel cell battery technology and charging infrastructure.

Biodiversity conservation will also be of priority. As part of its commitments to the Kunming-Montreal Global Biodiversity Framework, South Korea announced its 5th national biodiversity strategy (2024-2028). The plan highlights measures to restore damaged ecosystems and protect areas such as wetlands and islands. It also elaborates on the government's plans to implement a wildlife disease quarantine system to protect threatened species. In the private sector, South Korean companies are increasingly involved in carbon offset projects, and some are taking measures to ensure the sustainable use of natural resources. In addition, investors want to allocate capital to support nature-positive solutions.

of investors in South Korea are interested in climate themes[1]

of investors in South Korea want to increase capital flows towards climate[2]

180 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation 111 USD billion

Renewables	21.6 USD billion
Energy storage	19.3 USD billion
Energy efficiency	18.9 USD billion
Circular economy	17.8 USD billion
Carbon capture & storage	16.7 USD billion
Sustainable forestry	16.2 USD billion

Potential for adaptation 69 USD billion

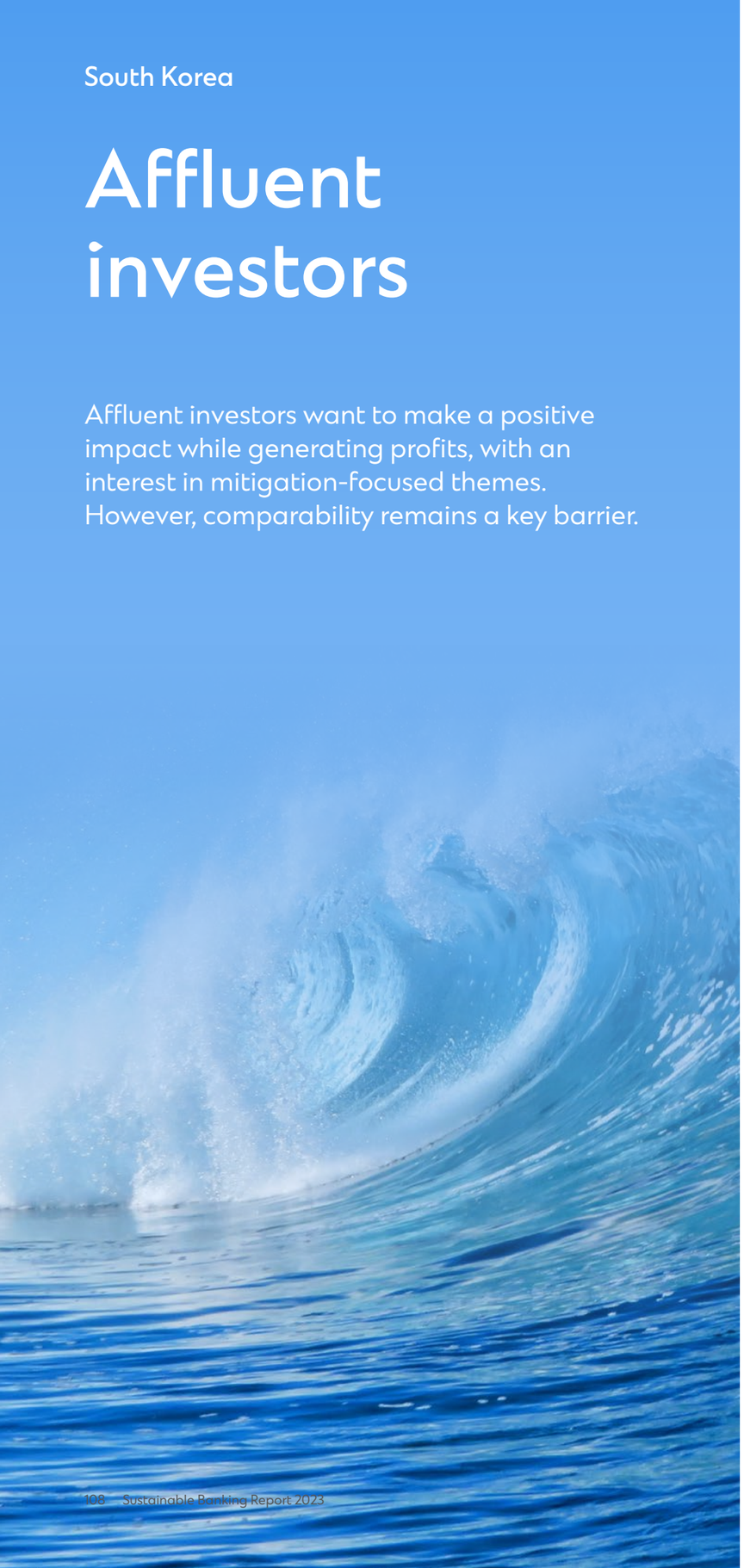
Biodiversity	20.7 USD billion
Resilient infrastructure	18.5 USD billion
Food systems	15.2 USD billion
Blue economy	14.8 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

South Korea

Affluent investors

Affluent investors want to make a positive impact while generating profits, with an interest in mitigation-focused themes. However, comparability remains a key barrier.



Motivations[1]

Affluent investors in South Korea want to make a positive impact through their investments. They also prioritise opportunities that can improve their investment returns and align with their personal values.

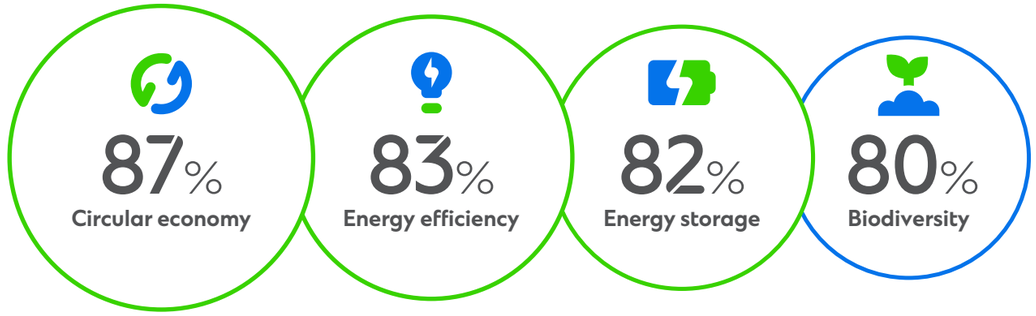
Positive impact

Improve returns

Personal values

Themes of interest[2]

Affluent investors in South Korea are predominantly interested in mitigation themes, such as the circular economy, energy efficiency and energy storage. Biodiversity is the top adaptation theme.



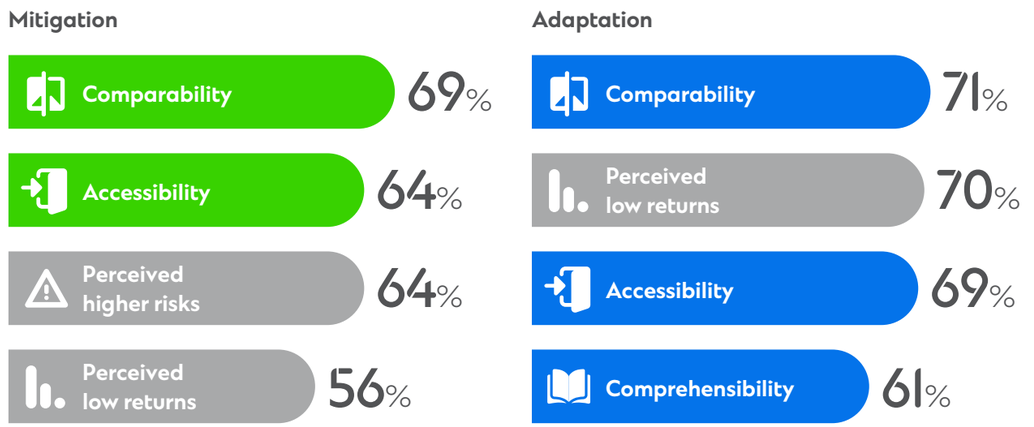
Mitigation Adaptation

Barriers to investing[3]

Overall, the top barriers are slightly more pronounced for investing in adaptation than in mitigation. Affluent investors identify accessibility, comparability and perceived low returns to be common barriers, but found them to be more pronounced in adaptation.

While comparability is the top barrier for both mitigation and adaptation, Affluent investors are more concerned about higher risks in mitigation, as opposed to lower returns in adaptation.

Investors in this segment also report that comprehensibility was a major barrier for adaptation, but not for mitigation.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

South Korea

HNW investors

HNW investors express high interest in climate adaptation and want their investment decisions to reflect their personal values the most. Common barriers they face include accessibility, comparability and perceived higher risks.

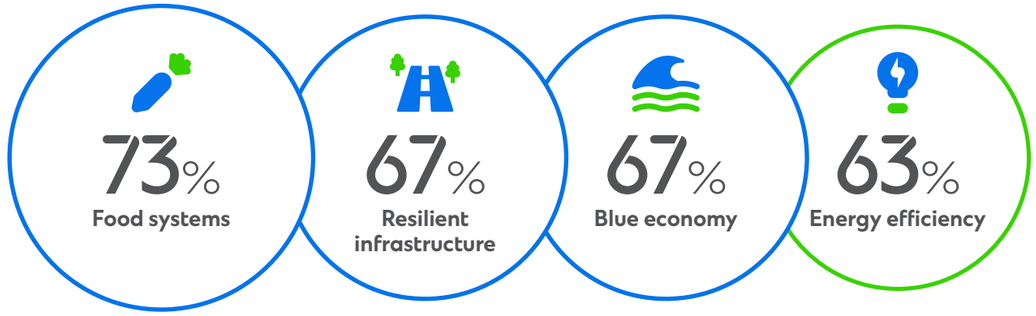
Motivations[1]

HNW investors in South Korea find it important that their investment choices reflect their personal values and abide by social norms. In addition, they believe climate-themed investing can also mitigate their risk exposure.

- Personal values
- Social norms
- Reduce portfolio risks

Themes of interest[2]

In contrast to Affluent investors, HNW investors are more interested in adaptation themes, including food, infrastructure and the blue economy.

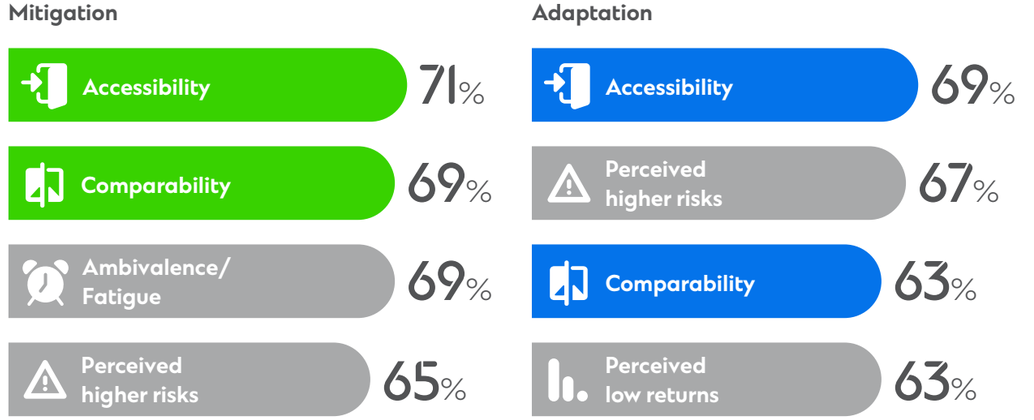


Mitigation Adaptation

Barriers to investing[3]

In contrast to the Affluent segment, barriers are more pronounced in mitigation for HNW investors, with accessibility being the top barrier overall. Comparability and perceived higher risks both concern investors, but the former is more pronounced in mitigation, and the latter in adaptation.

While HNW investors struggle with ambivalence or fatigue when investing in mitigation themes, this is not of concern to investors for adaptation.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

South Korea

NextGen HNW investors

NextGen HNW investors want to make a positive impact while diversifying their risk. Similar to Affluent investors, they are interested in mitigation but face strong barriers.

Motivations[1]

Similar to Affluent investors, NextGen HNW investors prioritise positive impact. In comparison with HNW investors, they place portfolio risk diversification above personal values. Both Affluent and NextGen HNW investors ranked personal values as the third-most important motivation.

- **Positive impact**
- **Reduce portfolio risks**
- **Personal values**

Themes of interest[2]

NextGen HNW investors express the highest interest in energy-related mitigation themes – such as renewables and energy efficiency. There is also strong interest in carbon capture and storage technology and the blue economy.

- **94%** Renewables
- **94%** Energy efficiency
- **81%** Carbon capture & storage
- **81%** Blue economy

Mitigation Adaptation

Barriers to investing[3]

Among all investor segments, NextGen HNW investors experience the lowest challenge in barriers to investing, especially for adaptation. Both Affluent and NextGen HNW investors identify comparability to be the top barrier for mitigation. While Affluent investors worry about risks, NextGen HNW are more sceptical about greenwashing.

NextGen HNW investors also struggle with ambivalence or fatigue when it comes to investing in adaptation; this is in contrast to it being a barrier for HNW investors in mitigation.

Mitigation

- Comparability 66%
- Scepticism 56%
- Comprehensibility 53%
- Perceived low returns 47%

Adaptation

- Accessibility 50%
- Comparability 50%
- Scepticism 50%
- Ambivalence/ Fatigue 50%

Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Realisation market

Taiwan

A technologically advanced market, with a shift to green industries driving opportunities in energy.

Economy

Nominal GDP: USD766.1 billion (2022)

Forecast real GDP growth: 2.8% (CAGR 2022-2030)

Wealth

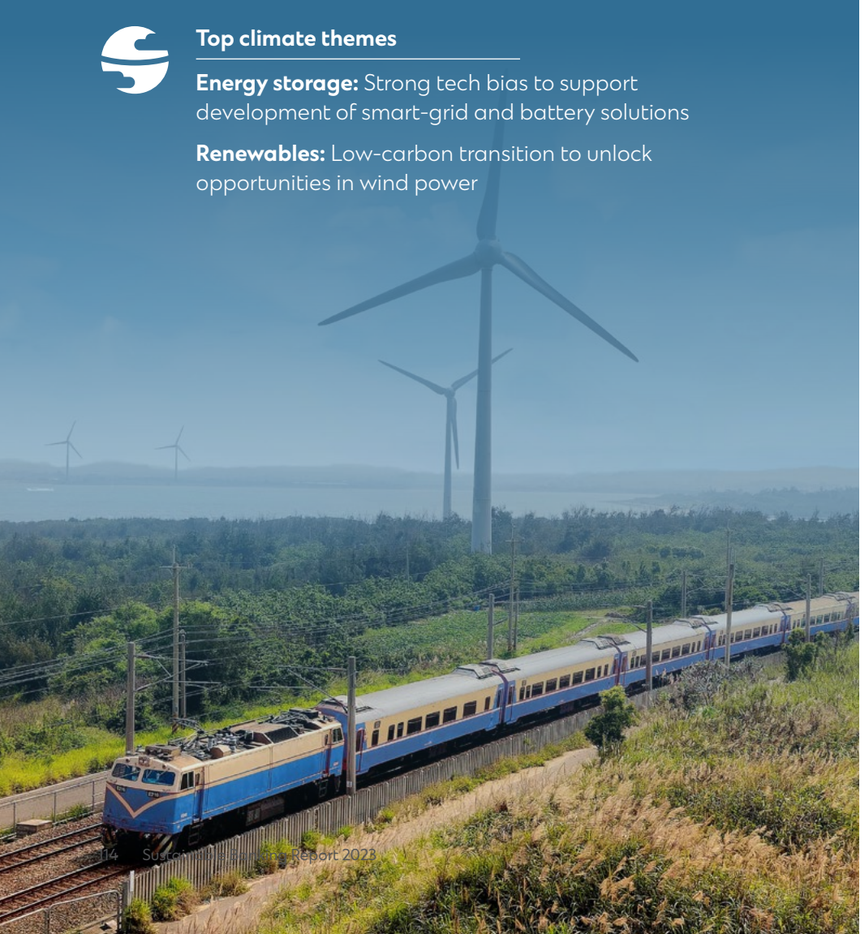
Net personal wealth: USD5.2 trillion (2021)

CAGR: 5.5% (2021-2030)

Top climate themes

Energy storage: Strong tech bias to support development of smart-grid and battery solutions

Renewables: Low-carbon transition to unlock opportunities in wind power



Green investments will be a key aspect of Taiwan's pathway to net zero by 2050. To increase capital flows, the government is promoting a sustainable taxonomy under its Green Finance Action Plan 3.0. The taxonomy includes an integrated ESG data platform and climate risk database for financial institutions and investors to better evaluate climate-related risks of listed companies.

To transition into a low carbon economy, the government aims to reach 20 per cent renewable energy share in total energy mix by 2025, almost doubling the market's renewable energy capacity by 2030. With approximately USD63 billion worth of projects in the pipeline, offshore wind will be a major part of this energy diversification, from infrastructure to ports and vessels, to the manufacture of cables, turbines, generators, operations and maintenance.

Improved energy storage is needed to maintain grid stability and energy regularity given the expected increase in renewable energy generation. Under the umbrella of the 'Green Energy Technology Industry Innovation Promotion Plan', Taiwan is developing smart-grids and energy storage technologies, such as lithium-ion batteries and fuel cells.

Taiwan's shift in policy focus to green industries will drive opportunities in green energy and related solutions, aligned with investor interest to allocate capital to these themes.

of investors in Taiwan want to increase capital flows towards climate[1]

of investors in Taiwan want to increase capital flows towards climate[2]

135 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation

83 USD billion

Energy storage	16.8 USD billion
Renewables	16.4 USD billion
Circular economy	15.0 USD billion
Energy efficiency	14.8 USD billion
Sustainable forestry	10.1 USD billion
Carbon capture & storage	9.5 USD billion

Potential for adaptation

52 USD billion

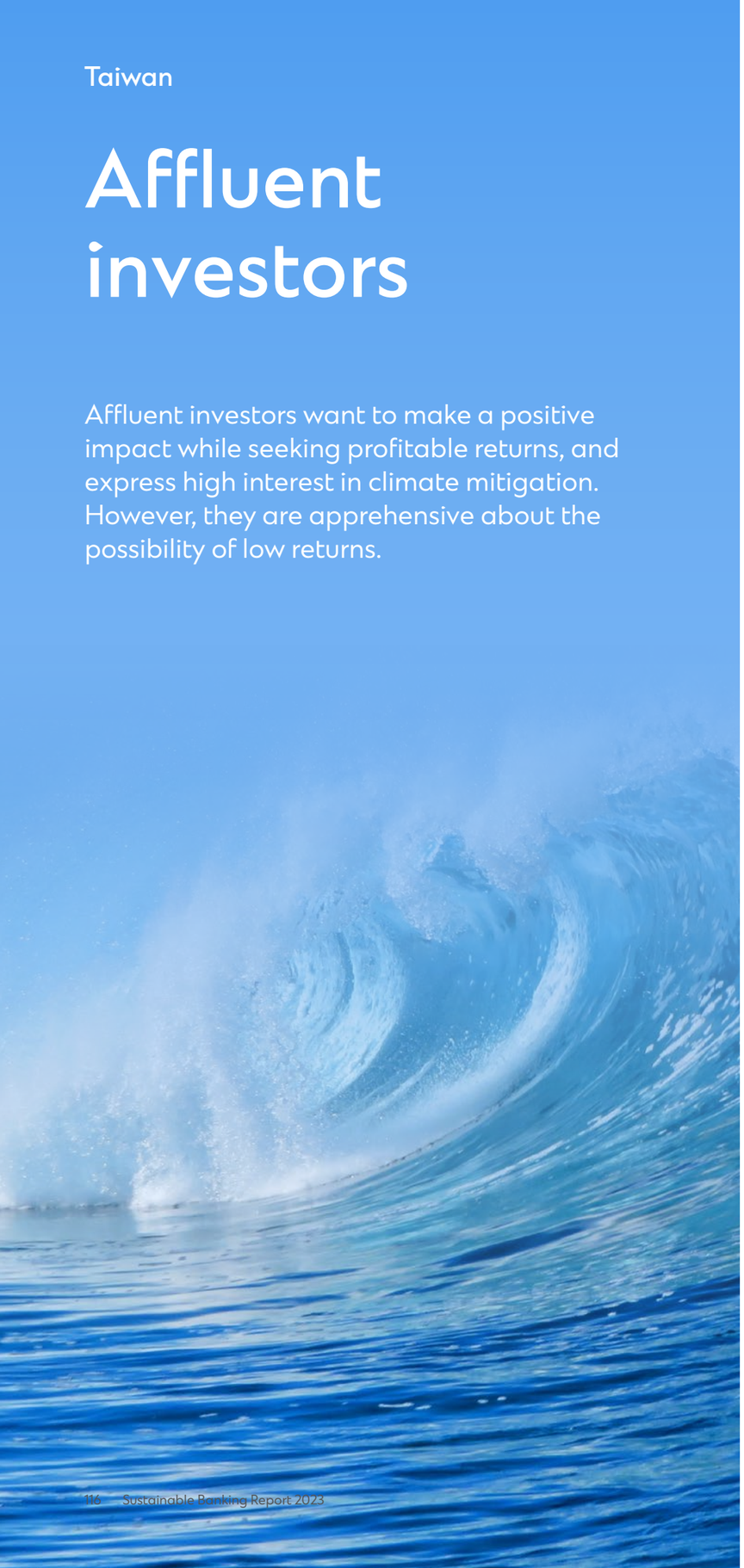
Food systems	16.2 USD billion
Resilient infrastructure	13.9 USD billion
Blue economy	11.5 USD billion
Biodiversity	10.7 USD billion

1. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
2. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.
3. See Appendix for details on methodology.

Taiwan

Affluent investors

Affluent investors want to make a positive impact while seeking profitable returns, and express high interest in climate mitigation. However, they are apprehensive about the possibility of low returns.



Motivations[1]

Affluent investors in Taiwan are mainly looking to make a positive impact, improve their investment returns and reduce their portfolio risks.

- **Positive impact**
- **Improve returns**
- **Reduce portfolio risks**

Themes of interest[2]

Affluent investors are generally interested in mitigation themes, in particular sustainable forestry.

- **85%** Sustainable forestry
- **82%** Energy efficiency
- **82%** Circular economy
- **81%** Carbon capture & storage

Mitigation Adaptation

Barriers to investing[3]

Overall, Affluent investors rank perceived low returns as the top barrier for investing in mitigation and adaptation. However, there is little variance among the top-ranking barrier and the following three. This suggests that individuals in this segment experience a combination of factors inhibiting investment flows, rather than a single barrier.

While accessibility is a common barrier, Affluent investors consider technical challenges to be more significant in mitigation. In contrast, they face more cognitive challenges when it comes to adaptation.

Mitigation

- Perceived low returns 58%
- Accessibility 57%
- Comprehensibility 57%
- Comparability 52%

Adaptation

- Perceived low returns 58%
- Accessibility 57%
- Perceived higher risks 57%
- Scepticism 54%

Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Taiwan

HNW investors

HNW investors are focused on increasing their investment returns and minimising their risk exposure. The top theme of interest is renewables and technical barriers are a significant challenge.

Motivations[1]

Improved returns are a top priority for HNW investors, in contrast to Affluent investors who ranked it second.

HNW investors want their investment choices to reflect their personal values, but it is not their highest priority.

- Improve returns
- Reduce portfolio risks
- Personal values

Themes of interest[2]

HNW investors are the most interested in renewables, but express similarly broad interest in carbon technology, infrastructure and biodiversity.

- 70% Renewables
- 65% Carbon capture & storage
- 65% Resilient infrastructure
- 65% Biodiversity

Mitigation Adaptation

Barriers to investing[3]

HNW investors worry about investment risks in mitigation, similar to Affluent investors when it comes to investing in adaptation. HNW investors are sceptical about investing in mitigation and adaptation, while the Affluent investors are primarily sceptical about adaptation.

HNW investors also identified comprehensibility and comparability as major roadblocks overall.

Mitigation

- Comparability 67%
- Comprehensibility 65%
- Scepticism 63%
- Perceived higher risks 61%

Adaptation

- Comprehensibility 72%
- Accessibility 63%
- Scepticism 63%
- Comparability 59%

Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Taiwan

NextGen HNW investors

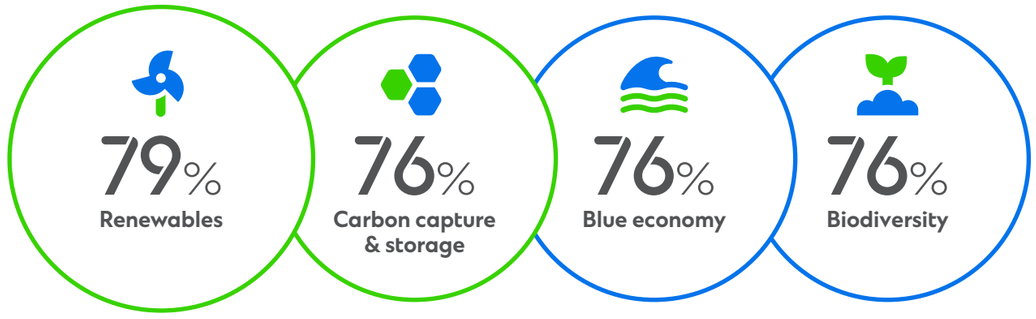
NextGen HNW investors are primarily driven by positive impact and express the highest interest in renewables. Technical barriers pose a significant challenge, with accessibility being the main factor.

Motivations[1]

NextGen HNW investors are motivated by positive impact and improved returns, similar to Affluent investors. However, they also prioritise social norms when making investment decisions, in contrast with the other two investor segments.

Themes of interest[2]

Similar to HNW investors, NextGen HNW investors are primarily interested in renewables, while showing overall interest in both mitigation and adaptation themes. There is little differentiation between the top themes of interest.



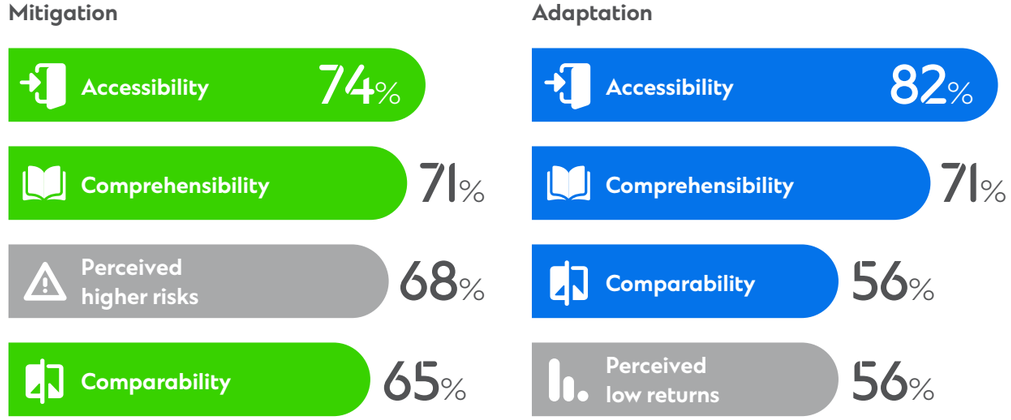
Mitigation Adaptation

Barriers to investing[3]

Unlike Affluent investors, NextGen HNW investors are more inhibited by technical barriers overall, with accessibility being the top challenge when it comes to climate investing. Accessibility is also the most pronounced barrier in adaptation and across all investor segments.

There is more variance among the top-ranking barriers for adaptation, compared to the other investor segments.

Comprehensibility is the second biggest barrier when investing in both mitigation and adaptation, and affects approximately three quarters of NextGen HNW investors in Taiwan.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Connection market

United Arab Emirates

A financial hub that could lead developments in energy storage solutions and adaptation efforts.

Economy

Nominal GDP: USD456.9 billion (2022)

Forecast real GDP growth: 4.2% (CAGR 2022-2030)

Wealth statistics

Net personal wealth: USD1.6 trillion (2021)

CAGR: 4.4% (2021-2030)

Top Climate Themes

Resilient infrastructure: Adaptation planning to be incorporated across sectors

Energy storage: Thermal energy storage systems will be the new frontier

As the host of COP28 and the first Middle Eastern country to pledge net zero emissions by 2050, the UAE could be a regional leader in the fight against climate change.

Historically, hydrocarbon has propelled the UAE's economy but renewables will drive its future growth. The Gulf state plans to invest USD54 billion annually to triple its renewables supply by 2030, with the aim of becoming a global leader in green hydrogen production. The market is also ramping up its energy storage capacity by building new thermal energy storage systems.

The UAE has also plans to incorporate adaptation measures through infrastructure, given its extreme vulnerability to climate change impact. The Ministry of Climate Change and Environment launched the National Climate Change Adaptation Programme with the aim to mainstream adaptation policies by 2025. This could be achieved by incorporating adaptation planning across sectoral policies, such as transport, building, water supply, sanitation and waste management and coastal protection.

Standardised green-labelled financial products can help reduce the risk of greenwashing. Recently, the Abu Dhabi Global Market announced the first sustainable finance framework, which pioneers a harmonised taxonomy across managed portfolios, bonds and sukuks.[1] Robust ESG reporting standards will be conducive to generate greater capital flows into high-potential themes such as resilient infrastructure and energy storage.

of investors in United Arab Emirates are interested in climate themes[2]

of investors in United Arab Emirates want to increase capital flows towards climate[4]

40 USD billion

of potential investor capital for climate mitigation and adaptation[3]

Potential for mitigation **23** USD billion

Energy storage	4.9 USD billion
Energy efficiency	4.7 USD billion
Renewables	3.8 USD billion
Circular economy	3.6 USD billion
Sustainable forestry	3.4 USD billion
Carbon capture & storage	2.9 USD billion

Potential for adaptation **17** USD billion

Resilient infrastructure	5.3 USD billion
Food systems	4.4 USD billion
Blue economy	3.6 USD billion
Biodiversity	3.4 USD billion

1. A sukuk is an Islamic financial certificate, similar to a bond in Western finance, that complies with Islamic religious law.
2. Values reflect the percentage of investors that indicated either 'Interested' or 'Very Interested' in climate investing.
3. See Appendix for details on methodology.
4. Values reflect the percentage of investors that indicated 'Yes' when asked if they thought they could play a larger role in increasing capital flows toward climate investments.

United Arab Emirates

Affluent investors

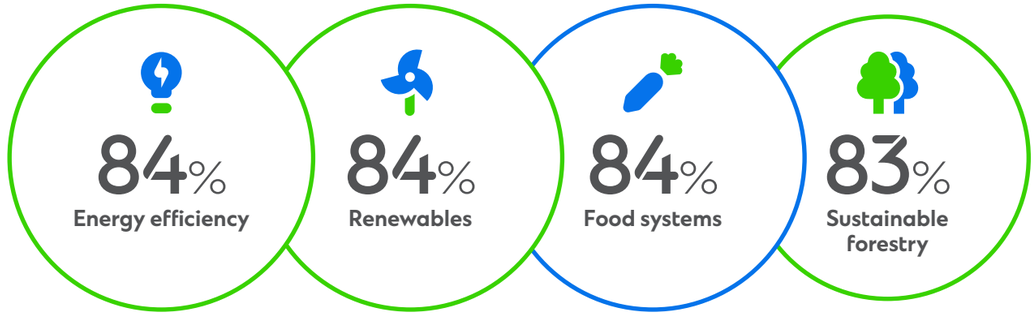
Affluent investors want to make a positive impact and are equally interested in energy solutions and food. They face both technical and cognitive challenges.

Motivations[1]

Affluent investors in the UAE want to make a positive impact. Other factors that contribute to their investment decisions include positive returns and whether the product reflects their personal values.

Themes of interest[2]

Investors in this segment are equally interested in energy efficiency, renewables and food systems.



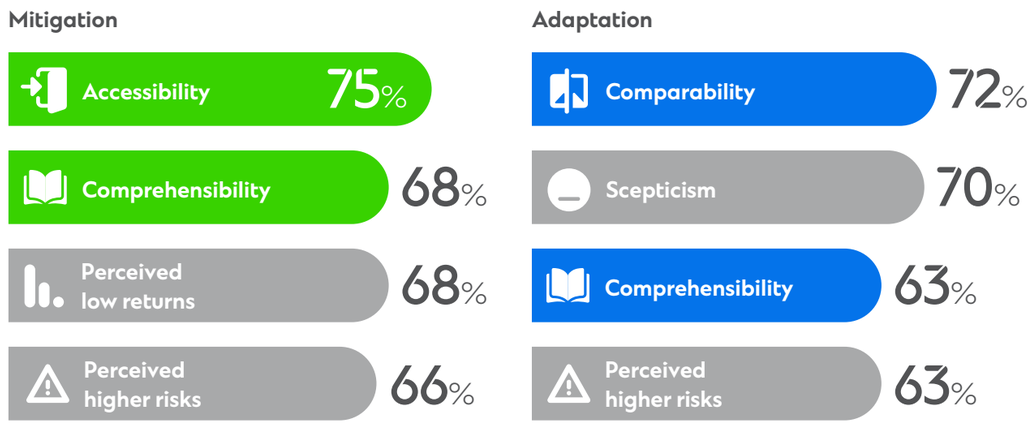
Mitigation Adaptation

Barriers to investing[3]

On average, Affluent investors are hindered by both technical and cognitive challenges. Technical barriers appear more pronounced in mitigation.

While accessibility is the top barrier for mitigation, comparability becomes the main challenge for investing in adaptation themes. Comprehensibility and higher risks are common barriers, but appear more pronounced for mitigation.

Affluent investors worry about low returns in mitigation but in adaptation, maintain greenwashing-related scepticism.



Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

United Arab Emirates

HNW investors

HNW investors are motivated by positive impact and investment returns, with a focus on resilient infrastructure. However, a combination of technical and cognitive challenges hold them back.

Motivations[1]

HNW investors have the same top three motivations as Affluent investors in the market. Positive impact is the most important, followed by returns and personal values.

- Positive impact
- Improve returns
- Personal values

Themes of interest[2]

HNW investors express higher interest in resilient infrastructure, and some interest in energy-related themes.

- 71% Resilient infrastructure
- 67% Renewables
- 67% Energy storage
- 65% Energy efficiency

Mitigation Adaptation

Barriers to investing[3]

While both Affluent and HNW investor identify accessibility to be the biggest challenge in mitigation, HNW investors found that comprehensibility was more pronounced in adaptation, as opposed to comparability for Affluent investors.

Both the Affluent and HNW investor segment considered scepticism to be a major obstacle in adaptation as well. While both segments agree that higher risks was a concern for mitigation, HNW investors demonstrate high levels of ambivalence or fatigue when it comes to climate investing.

Mitigation

- Accessibility 77%
- Perceived higher risks 69%
- Comprehensibility 67%
- Ambivalence/ Fatigue 67%

Adaptation

- Comprehensibility 79%
- Scepticism 71%
- Perceived low returns 71%
- Ambivalence/ Fatigue 63%

Technical barriers Cognitive barriers

1. Investors within this segment indicated this as their top motivation for climate investing.
2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

United Arab Emirates

NextGen HNW investors

NextGen HNW investors are motivated by positive impact and personal values, with stronger preference for mitigation themes overall. Technical barriers pose a greater challenge for investing in mitigation but less so for adaptation.

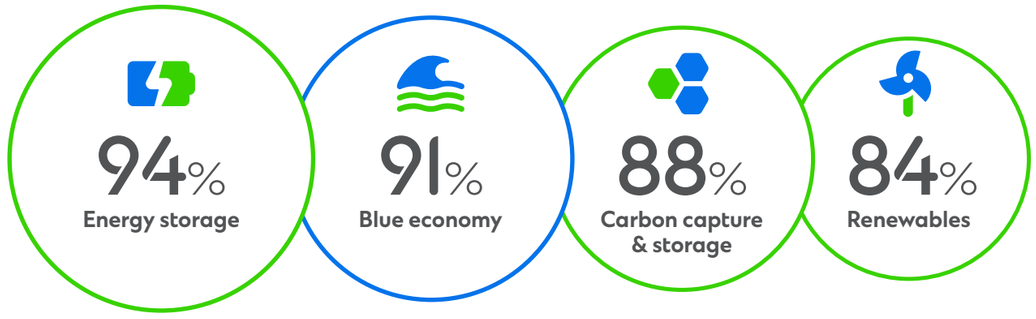
Motivations[1]

While NextGen HNW investors also prioritise positive impact, they place more emphasis on their personal values than the Affluent or HNW segments. NextGen investors also want to invest in climate to reduce their portfolio risks.

- Positive impact
- Personal values
- Reduce portfolio risks

Themes of interest[2]

Overall, NextGen HNW investors express more interest in mitigation-related themes.



Mitigation Adaptation

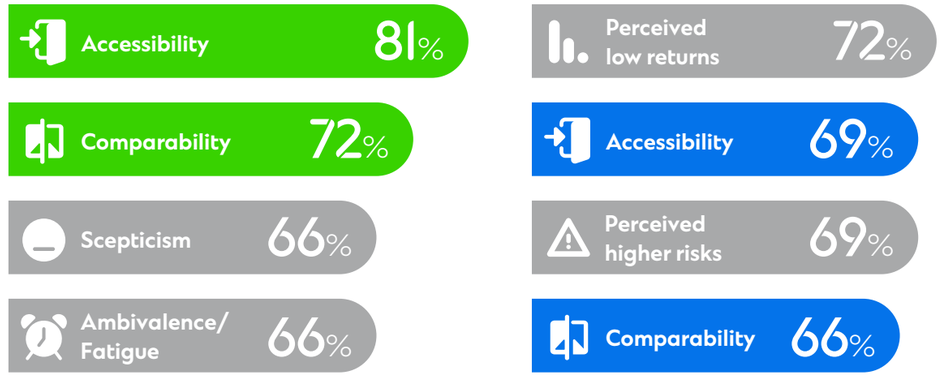
Barriers to investing[3]

Technical barriers are more pronounced for NextGen HNW investors in mitigation, while cognitive barriers pose more of a challenge in adaptation.

While all three segments identify accessibility to be the biggest challenge in mitigation, it is the highest for NextGen HNW investors. Similar to HNW investors, NextGen HNW investors express ambivalence or fatigue towards investing in mitigation.

In contrast to Affluent and HNW investors who only identified one or the other, NextGen investors highlighted both lower returns and higher risks as holding them back from investing in adaptation.

Technical barriers Cognitive barriers



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2. Values indicate the percentage of investors within the segment that indicated 'Yes' when asked if they were interested in the respective theme.
3. Percentages reflect the share of investors indicating that the respective barrier applies to at least one of the top three themes in mitigation and adaptation. For details on the definition of the barriers, please see Appendix.

Appendix

I. Report methodology

This report, commissioned by Standard Chartered and prepared by PwC Singapore, provides a view on the role retail investors could play in increasing capital flows towards climate mitigation and adaptation across 10 key markets in Asia, Africa and the Middle East – Mainland China, Hong Kong, Taiwan, South Korea, Singapore, Malaysia, India, the UAE, Nigeria and Kenya. To support the insights of this report, we conducted a survey among 1,800 individuals across 10 markets and three investor segments.

The report is based on an analysis of qualitative and quantitative, as well as historical and forecast data from various sources. Net personal wealth, GDP, and the sustainable assets under management in advanced economies were used to form an estimation of the combined retail sustainable investment potential of USD8.2 trillion across the 10 key markets by 2030. This figure is further apportioned to climate mitigation and adaptation themes based on investors' average ideal portfolio allocation to the themes. All forward-looking retail capital potential dollar amounts are meant to communicate the potential of retail investors in these given markets only, and neither constitutes a projection or forecast, nor investment or portfolio advice.

The report highlights survey insights on investor interest and allocation across six mitigation themes: renewables, energy efficiency, energy storage, carbon capture and storage, sustainable forestry and the circular economy; and four adaptation themes: climate-resilient infrastructure, food systems, biodiversity and the blue economy. The report also features insights on investor motivations, familiarity with climate mitigation and adaptation, and the barriers that hold them back from climate investing. It also includes survey insights on the likelihood investors would use certain sustainable banking products in the future, as well as provides detailed insights of each market and investor segment's motivations and interests.

II. Investor segments

The investors surveyed were classified into three segments: Affluent, High-Net-Worth (HNW) and Next Generation High-Net-Worth (NextGen HNW) based on the dollar value of their financial liquid assets and age bracket:

- **Affluent:** investors with USD100,000 – USD5 million in financial liquid assets
- **HNW:** investors with over USD5 million in financial liquid assets and above 42 years old
- **NextGen HNW:** investors with over USD5 million in financial liquid assets, between 25 and 42 years old

III. Definition for barriers

Technical barriers

- **Accessibility** – Difficulty in accessing climate investments. For example, due to a lack of available opportunities or ability to make these investments
- **Comprehensibility** – Difficulty in understanding what constitutes climate investments. For example, due to complex language or lack of comprehensive information
- **Comparability** – Difficulty in comparing between climate investment options or against traditional asset classes. For example, due to a lack of climate investment benchmarks or a lack of standardisation among diverse climate assets

Cognitive barriers

- **Perceived low returns** – Perceptions that climate assets have lower returns compared to traditional asset classes
- **Perceived higher risks** – Perceptions that climate assets are riskier investments compared to traditional asset classes
- **Ambivalence/fatigue** – General disinterest towards climate investing. For example, due to a deluge of climate information that does not resonate with individuals
- **Scepticism** – Doubtfulness of publicly reported climate data and the real environmental impact of climate investments. For example, due to greenwashing and lack of regulatory oversight and enforcement

IV. Global share of sustainable fund assets and net personal wealth by region

The share of global sustainable fund assets under management was extracted from Morningstar's 'Global Sustainable Fund Flows Report Q2 2023' report, which featured data from Morningstar Direct. In the report, sustainable fund assets under management are defined as open-ended funds and exchange-traded funds that, by prospectus or other regulatory filings, claim to focus on sustainability, impact or environmental, social and governance factors.

The share of global net personal wealth was extracted from the World Inequality Database, where net personal wealth is defined as the sum of housing assets, business assets, financial assets and other non-financial assets, and subtracting liabilities from the total.

Both indicators have been extracted for the regions identified below. Europe, North America and the Rest of World are defined as follows:

Europe	Andorra	Germany	Latvia	Portugal
	Austria	Gibraltar	Liechtenstein	The Russian Federation
	Belgium	Greece	Lithuania	Slovenia
	Bulgaria	Guernsey	Luxembourg	Spain
	The Czech Republic	Iceland	Malta	Sweden
	Denmark	Ireland	Monaco	Switzerland
	Estonia	Isle of Man	Netherlands	The United Kingdom
	Finland	Italy	Norway	
	France	Jersey	Poland	
North America	Canada	The United States		
Rest of World	Australia	Indonesia	Malaysia	South Korea
	Hong Kong	Japan	New Zealand	Taiwan
	India	Mainland China	Singapore	Thailand

Appendix

VI. Retail investor potential for climate: Estimation methodology

1. Forecast Net Personal Wealth (NPW) for selected 10 key markets using ordinary least squares linear regression
   - **Extract historical and forecasted GDP data and historical NPW data:** GDP (1995 to 2030f) from Fitch Solutions; NPW (1995 to 2021) figures from World Inequality Database (WID) in local currency units (LCU) for all markets.
   - **Regression Analysis:** regress GDP (x) and NPW (y) data from 1995 to 2021 per market to derive regression parameters: Y-intercept (c) and slope (m) .
   - **Estimate NPW in 2030 using regression equation:** $NPW_{2030f} = m\ (GDP_{2030f}) + c$
2. Calculate advanced economies' retail sustainable investing asset weight relative to combined NPW
   - **Assumptions:** Sustainable investing is nascent across the 10 key markets, so there is a lack of historical data. The hypothesis in this analysis is that by 2030, retail sustainable investing adoption – i.e. retail sustainable investing asset value weighted by NPW – in these 10 markets could potentially reach the same level as advanced economies in 2020.
   - **Extract 2020 and 2012 sustainable investing asset value data and NPW figures to establish benchmark:** Sustainable investing asset value extracted from the GSIA GLOBAL SUSTAINABLE INVESTMENT REVIEW 2020; NPWs are extracted in LCU for all developed nations included in the reports, from WID.
   - **Convert NPW in LCU to USD:** using the 2021 average LCU/USD exchange rates for all conversions to eliminate fluctuations in NPWs due to exchange rates.
   - **Calculate retail sustainable investing in USD dollar amount:** multiply total sustainable investing asset value by the share of retail sustainable assets reported in the GSIA reports for each respective year
   - **Calculate retail sustainable investing relative to total NPW for each market:** divide step 4 by step 3 (aggregated average is 4.13%)
3. Calculate retail sustainable investing potential in across the 10 key markets by benchmarking to the level of retail sustainable investing adoption in advanced economies
   - **Convert NPW 2030f of each of the 10 markets from LCU to USD:** using 2021 average LCU / USD exchange rate for all conversions to eliminate fluctuations in NPWs due to exchange rates
   - **Calculate retail sustainable investing potential of each market:** multiply NPW2030f of each market by the retail sustainable investing percentage (4.13%) to arrive at the retail sustainable investing dollar figure potential for each market respectively
   - **Sum retail sustainable investing potential of 10 markets:** equals total retail sustainable investing potential of USD8.2 trillion
4. Calculate the retail potential for climate investing across the 10 key markets through a bottom-up approach using primary data on investors' allocation preference
   - **Assumption:** if investors can invest in the climate themes according to their preferences, notwithstanding real world constraints such as risk-return considerations or accessibility, the USD8.2 trillion could be fully apportioned based on investors' reported ideal portfolio allocation percentages.
   - **Leveraging data from our survey, we gauge two levels of allocation preferences:**
     1. The share of an investor's sustainable portfolio that is allocated to climate strategies versus non-climate strategies.
     2. The share of an investor's climate portfolio that is allocated to each of the 10 themes across mitigation and adaptation.
   - Multiplying 1 and 2, we arrive at how much investors' sustainable portfolios, which has a combined potential of USD8.2 trillion across the 10 markets, are allocated to each of the climate themes in percentage terms.
   - Based on a bottom-up approach, we first calculate the retail capital potential in dollar terms for each of the 10 markets, based on their sustainable investment potential in the dollar amount and the aggregated allocations in percentage terms to the climate themes. Next, we sum the country-level dollar amount to arrive at an aggregate figure of USD3.4 trillion across the 10 mitigation and adaptation themes in selected markets across Asia, Africa and the Middle East.

Disclaimer:
Unlocking the full retail climate investing potential across the 10 markets will depend on several factors – including favourable economic, monetary and macro conditions, an abundant supply of viable climate investment opportunities, both domestically and globally, as well as robust sustainability reporting and disclosure systems and a developed financial market infrastructure.

1. Favourable economic and macro conditions: business cycle fluctuations would inevitably impact capital flow, as investment returns are linked to the health of the global economy. Recessions typically see capital flows toward safer assets such as treasuries, as opposed to riskier investments, including climate assets. Tighter monetary policy environments across major economies could also affect asset prices and returns, and reduce the relative return attractiveness of climate instruments relative to sovereign debt instruments. Macro instabilities that are geopolitical in nature, could also impact investor confidence and cast a pessimistic outlook and lead to a reduction in investment flows.
2. Abundant supply of viable climate investment opportunities: investment decisions are often influenced by home bias – an investor's preference to invest primarily in domestic assets rather than diversifying through foreign investments. Therefore, an ample supply of viable domestic and global climate investment opportunities would also be important. This is however highly dependant on national climate policies and developmental priorities, as well as regulations governing retail investments.
3. Robust sustainability reporting and disclosure systems: climate investing remains a relatively new type of investment. To assuage investor concerns about 'greenwashing' and facilitate greater retail capital flow toward climate investing, robust sustainability regulatory and disclosure mechanisms must be in place. Developed financial market infrastructure will also enable greater secondary trading of climate assets and reduce the liquidity risk of investments.

Key sources

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- World Economic Forum, reports, 2022
- World Inequality Database (WID), database, 2023[2]

1. All historical and forecasted GDP data were obtained from Fitch Solutions, 2023 and were extracted on 17 August 2023.
2. All net personal wealth data were obtained from WID and were extracted on 17 August 2023, based on latest available data for each market.

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