Newton’s Second Law:
Sovereign Wealth Funds’
Progress on Climate Change
Introduction

For the third year, the International Forum of Sovereign Wealth Funds (IFSWF) and the One Planet Sovereign Wealth Fund (OPSWF) Network have collaborated on a comprehensive annual survey of sovereign wealth funds’ attitudes towards climate change and their actions to mitigate its effects, finance the energy transition and fund technologies that will help the world adapt to a warmer climate.

In the first two surveys, we concentrated on understanding sovereign wealth funds’ attitudes towards climate change and their investment beliefs on the issue. In our 2021 survey, we reported that sovereign wealth funds had made significant progress in integrating climate change into their investment approach over the previous year. They had adopted relevant policies, sought out talent, educated their stakeholders, improved their communication with stakeholders and engaged more broadly with international investor communities on the topic.

The results of our 2021 climate change survey and both IFSWF’s and OPSWF’s interactions with their sovereign wealth fund members over the last twelve months have revealed a greater implementation of climate-change policies and the adoption of a range of tools across both organisations’ memberships. Many have developed a deeper engagement and understanding of climate change's impact on their investments and risk profile, while impact-orientated investments continue to grow.

Consequently, this year we took a slightly different approach to the survey. Instead of looking at investment beliefs, we focused more on the policies and practical steps sovereign wealth funds are taking to implement their climate-change policies. Such an approach makes the survey more relevant to our respective members and provides a better representation of where sovereign wealth funds are in this shift of investment practice. The new format also enabled us to provide more granularity on their implementation of climate-change-related standards.

As a result, where relevant, we have made as close a comparison as possible to the results from previous years to illustrate the progress sovereign wealth funds have made.
About the Survey
For this project, we distributed a survey to 48 sovereign wealth funds, primarily members of IFSWF and OPSWF. Thirty-five institutions (73%) responded. These responses represent the views of 40% of the world’s 90 sovereign wealth funds.\(^1\)

While the survey was anonymous – we do not know which institutions completed it – the distribution list included all the world's largest sovereign wealth funds with total assets under management of approximately $7 trillion, over 90% of the total, according to IFSWPs database.

Readers should also note that we distributed the survey to the same populations of sovereign wealth funds (IFSWF members and OPSWF members) and received one more response (35). For clarity and comparability, we have calculated most percentages against the total number of respondents by year. Therefore, we believe that the results are reliably comparable year-to-year.

As shown in the chart below, respondent institutions broadly represented the total distribution of sovereign wealth funds (by geography and by mandate).

---

**Figure 1: Overview of Respondents**

<table>
<thead>
<tr>
<th>Region</th>
<th>Stabilisation or hybrid</th>
<th>Economic Development and Diversification</th>
<th>Intergenerational Savings/Foreign Exchange Diversification</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Asia (Middle East)</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Europe</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>East &amp; Southeast Asia</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Africa</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Oceania</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North America</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central &amp; south Asia</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Latin America</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IFSWF-OPSWF Climate Change Survey 2022

---

\(^1\) IFSWF Annual Review 2021 (ifswfreview.org)
This year, we designed the study to reflect sovereign wealth fund actions rather than their stance towards climate change. Therefore, some questions differed from those asked in previous years or had other options for the respondents to answer. Like last year, the survey comprised 15 questions that covered a sovereign wealth fund’s investment mandate, how it integrates climate change into its investment process, its views on decarbonisation and net zero and its approach to reporting and collaboration around climate change.

As in previous years, to have a holistic view of how sovereign wealth funds approach climate change and to avoid bias in the results, we encouraged funds that do not consider the issue to also complete the survey. However, they were only asked to complete the first part of the questionnaire, as the remaining questions were not relevant to them. Their inclusion in the dataset enables us to understand the degree to which the sovereign wealth fund community have embraced climate-related issues.

As with all primary research, some methodologies used in questionnaires are not perfect and might result in collecting some biased answers. For instance, Likert scales are subject to distortion from several causes: Avoidance of using extreme response categories (central tendency bias); Agreeing with statements as presented (acquiescence bias); Attempt to portray the respondent’s organisation in a more favourable light (social desirability bias). Please note, that in some of the charts, the values don’t add to 100% due to rounding.
The Winds of Change
In Full Flow: Sovereign wealth funds mainstream climate change,² our report on IFSWF and OPSWF’s 2021 climate change survey, revealed the significant progress sovereign wealth funds had made in considering climate change in their investment process over the previous twelve months.

Given such rapid advances, in 2022, we expected to see a levelling off of this process and perhaps less dramatic trends. However, even in the aftermath of the COVID-19 pandemic and the on-going conflict in Ukraine, sovereign wealth funds continue to prioritise integrating climate-related issues into their investment process and understand the impact of climate change on their investments.

Over the last three years, our surveys have revealed how sovereign wealth funds have embraced the issue of climate change. In 2022, a third of our respondents reported that they had adopted a climate-change strategy since our first report in 2020. The issue is also becoming more formalised as part of their mandate. In 2021, only 9% of respondents said that “addressing the effects of climate change [was] part of [their] mandate”. However, 65% said that while climate change issues were “not strictly part of our mandate” but did consider it when investing. A year later, 91% of our respondents said that they believed addressing climate change was consistent with their mandate, while 74% said it was actively part of their mandate.

---

² These figures may not be directly comparable because in 2022, the survey had a simple yes/no response. In 2021, we offered a third option “It is not strictly part of our mandate, but we do take climate change into consideration when investing.”
We have also observed a change in the motivations for sovereign wealth funds to include climate-related criteria in their investment process. In 2021’s survey, half of the respondents said they had decided to consider climate change in their investment decisions because it was “the right thing to do” rather than for any financial benefit. Only 23% believed doing so would improve long-term returns or reduce risk. However, fast forward to 2022, and 60% of respondents told us that they integrated climate change considerations into the investment process to minimise risk and improve long-term returns, with 40% saying it was “the right thing to do”.

Although we didn’t ask this question in 2020, it is notable that, at the time, only 43% of respondents agreed that it was likely that considering climate-related issues would have a positive impact on their long-term returns.

These data points suggest that since October 2021, sovereign wealth funds’ understanding of climate change’s impact on investment returns has changed significantly. Today, most sovereign wealth funds believe that integrating climate change considerations into their investment process will improve their risk-adjusted return on investment.
This finding echoes the results of another study we undertook in 2022 that examined sovereign wealth funds’ approach to social issues. In that project, we discovered that many savings-focused sovereign wealth funds have strictly followed their mandate of investing solely on financial grounds – as enshrined in the Santiago Principles – while distancing themselves from the politics or position of their government stakeholders. While traditionally, these sovereign wealth funds considered many environmental, social and governance (ESG) issues to be non-financial matters and, therefore, the preserve of public policy rather than relevant to their investment mandate. Increasingly, sovereign wealth funds align with the view of the broader market that ESG is financially material and that incorporating ESG considerations, such as climate change, into investment and risk management processes is necessary to fulfil their mandates.¹

The evolution of sovereign wealth funds’ approach to climate change also reflects how global attitudes to climate and environmental issues have changed over recent years. We interviewed several IFSWF members for this research. We asked them whether international policy negotiations, such as those at the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP), influenced their strategy around climate change. Overall, they told us that their stakeholders usually engaged in these negotiations and that they were largely guided by their government’s policy. One fund told us they had produced a report on COP27 but that while they were “monitoring the policy negotiations, the results aren’t directly impacting our investment strategy because we already have policies. They have an indirect influence, but not a direct one.”

The results from our survey supported this anecdotal evidence. When we asked whether they would adopt a net-zero target, 22% of our respondents said they had a formal net-zero target. A further 25% are considering one, and 30% have other quantitative climate change targets, which – considering the evidence from the answers to the “other” category, which explicitly mentioned national targets, interviews for this study and our research on social issues⁴ – are often aligned with their government’s targets, particularly those funds that invest at home. For example, India’s National Infrastructure Investment Fund (NIIF) aligns with India’s national commitments and guidelines. Another respondent from West Asia highlighted that strict adherence to net zero was more challenging because their country was a fossil fuel producer. This last comment highlights the difficulties sovereign wealth funds, particularly those from oil-producing countries, can have with squaring international financial market norms and expectations around climate change with their governments’ policy positions, which may not align with these expectations.

That said, our study also revealed that financial market expectations and local policy environments might be coming closer together as government stakeholders’ attitudes towards acting to mitigate climate change are becoming more positive. In 2020, 18% of respondents said that one of the biggest obstacles to integrating climate change into their investment process was that their stakeholders did not think it was an important issue, while 11% said their mandate did not permit them to do so. In 2022, we saw a marked decline in such opposition, with more respondents suggesting more practical challenges to implementing their climate change strategy. Only 11% of respondents are still struggling with organisational buy-in.

---

³ What the S in ESG means for Sovereign Wealth Funds, IFSWF, 2022
⁴ In our survey on social issues 59% of respondents told us that they were either aligned with their national strategy or used it as a general reference for guiding their ESG considerations. What the S in ESG means for Sovereign Wealth Funds, IFSWF, 2022
In addition to these policy changes, we have also noticed a distinct softening of sovereign wealth funds’ attitudes towards divestment on environmental grounds. Previously, many sovereign wealth funds opposed this practice. However, while the proportion\(^5\) of sovereign wealth funds that actively divest from companies has remained the same, at approximately 11% over the last three years, the proportion of respondents that said that they would not consider divesting from a company declined from 23.5% to 5.7%. Equally, we also note a greater tendency towards engaging with companies and thus revealing their views on climate change to an external audience. In 2020, half of the respondents said they would engage with portfolio companies on environmental issues. In 2022, 65.7% said they would engage if the company did not produce positive environmental outcomes or had a negative ecological impact.

Figure 4: Would you divest on environmental grounds? Comparison 2020-22 (grouped by year)

<table>
<thead>
<tr>
<th>2022</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Only if engagement did not produce outcomes</td>
<td>34.3%</td>
<td>Only when there is a negative environmental event</td>
<td>31.4%</td>
</tr>
<tr>
<td>Yes we have done</td>
<td>11.4%</td>
<td>We would not consider divesting</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2021</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>We prefer to engage with portfolio companies on these issues</td>
<td>50%</td>
<td>Yes, we divest from carbon-intensive companies</td>
<td>11.8%</td>
</tr>
<tr>
<td>No, we neither divest nor engage</td>
<td>34.3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2020</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>We prefer to engage with portfolio companies</td>
<td>45.5%</td>
<td>Yes, we divest from carbon-intensive companies</td>
<td>12.1%</td>
</tr>
<tr>
<td>No, we neither divest nor engage</td>
<td>31.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


5 The question about divesting was designed differently in 2022. For example, respondents had four options, one more than the previous years, therefore changing the proportions of answers. For this reason we have used the percentage over the total number of respondents, as this is more comparable to the previous years. It should also be acknowledged that in previous years we had one less response. The values do not add to 100% because some respondents didn’t answer the question.
The Age of Implementation
As sovereign wealth funds increasingly embrace climate-friendly investment criteria, they are also acting and becoming more sophisticated in the range of tools they implement.

For example, in 2020, only 23% of respondents had carbon footprinted their portfolio. This proportion had risen to 34% the following year. In 2022, we looked for more granularity and discovered that 51.8% of respondents had either carbon footprinted their entire portfolio or had done this for specific areas of their portfolio.

Moreover, the survey results also suggest that this process was the goal for many respondents, with 51.9% saying that they were in the process of carbon footprinting their whole portfolio, which is a painstaking and long-term process. The challenges of carbon footprinting might explain why the largest proportion of respondents (a third) told us that they had already carbon footprinted specific areas of their portfolio, as this could be a step on the way to undertaking the process for all their assets. Our interviews support this inference. One sovereign wealth fund told us their near-term plans were to “complete the estimation of the carbon footprint of our investment portfolio, with a focus on direct private and public investments.” Another said that they were “improving our portfolio carbon footprinting drawing on our internal data analytics team and trying to automate data collection cross unlisted and listed assets.”
Figure 5a: Have you assessed the climate risks in your portfolio? (2022)

<table>
<thead>
<tr>
<th>Analysis Type</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon footprint of whole investment portfolio</td>
<td>33.3%</td>
<td>48.1%</td>
<td>18.5%</td>
</tr>
<tr>
<td>Carbon footprint of specific areas of portfolio</td>
<td>24.0%</td>
<td>20.0%</td>
<td>56.0%</td>
</tr>
<tr>
<td>Climate scenario analysis</td>
<td>15.4%</td>
<td>38.5%</td>
<td>46.2%</td>
</tr>
<tr>
<td>Assessment of decarbonisation portfolio companies</td>
<td>23.1%</td>
<td>57.7%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Assessment of physical risk and opportunities</td>
<td>30.8%</td>
<td>42.3%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Transition risk assessment from climate change</td>
<td>26.9%</td>
<td>34.6%</td>
<td>38.5%</td>
</tr>
</tbody>
</table>

Figure 5b: Have you assessed the climate-related risks and opportunities in your portfolio? (Comparison between 2020 and 2021)

<table>
<thead>
<tr>
<th>Analysis Type</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon footprinting, or carbon intensity analysis</td>
<td>23.0%</td>
<td>42.3%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Climate scenario analysis</td>
<td>16.6%</td>
<td>41.6%</td>
<td>37.5%</td>
</tr>
<tr>
<td>Climate stress testing</td>
<td>12.5%</td>
<td>37.5%</td>
<td>45.8%</td>
</tr>
<tr>
<td>Green or low-carbon portfolio analysis</td>
<td>19.2%</td>
<td>50.0%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Stranded assets/ value at risk</td>
<td>15.3%</td>
<td>30.7%</td>
<td>50.0%</td>
</tr>
</tbody>
</table>

Source: IFSWF-OPSWF Climate Change Surveys, 2020, 2021 and 2022
This year’s survey included a more comprehensive range of tools to assess the climate impact of portfolios than we have provided in previous years. We did so to reflect the wider variety of methodologies available to sovereign wealth funds and to have more granular information on their implementation.

Although carbon footprinting was the most popular way for sovereign wealth funds to assess their climate impact, we also recorded significant interest in undertaking climate scenario analysis. The uptake of this tool increased from 17% in 2020 to 24% in 2022. More sovereign wealth funds have also started assessing physical risks and opportunities of climate change: 57.7% said they were undertaking this process, and 23.1% that they had already done so. Similarly, 42.3% of those responding to the question said they were currently assessing transition risks in their portfolios, and 30.8% had already done so. These risk-based assessments indicate sovereign wealth funds are deepening their understanding of the financial impact that climate change can have on their portfolios.

As sovereign wealth funds progress in holistically integrating climate considerations into their investment decision-making, they have found that accurate climate data is essential. However, while respondents have consistently ranked data availability as the greatest obstacle to implementing their climate change strategy, in 2022, over three-quarters of sovereign wealth funds cited this as the biggest challenge, up from 39.4% in 2020. In our interviews, we continued to hear complaints about commercially available climate change data containing estimates, which created an unknown level of uncertainty when scaled up to a portfolio level.

One sovereign wealth fund told us, “A fundamental barrier exists in measuring, managing, and mitigating the climate impact of our portfolio due to the struggle to access reliable and accurate climate data. This is particularly acute in the private equity market funds space, where 75% of GPs (general partners) currently do not provide emissions data of their portfolio companies.” Another sovereign fund told us that obtaining data from portfolio companies had become more difficult since the COVID-19 pandemic, “Companies still can’t work out their scope three emissions. Given the current economic circumstances, many are just trying to survive, and emissions data slips down the priority list.” A third interviewee told us that they were “researching the carbon market as a whole and measuring the climate risk in alternative investments – private equity and infrastructure – but this is harder to quantify.”
Figure 6: What are the biggest obstacles to integrating climate change in your investment process? (Select all that apply)
Comparison 2020-22

We struggle to find reliable data on which to base decisions
- 2022: 77.8%
- 2021: 58.8%
- 2020: 39.4%

We struggle to find suitable climate-aligned opportunities that meet our investment criteria
- 2022: 29.6%
- 2021: 32.4%
- 2020: 18.2%

We have not experienced any material obstacles
- 2022: 22.2%
- 2021: 14.7%
- 2020: 18.2%

It is difficult to find and attract talent and expertise
- 2022: 22.2%
- 2021: 14.7%
- 2020: 6.1%

We struggle with organisational buy-in
- 2022: 11.1%
- 2021: 11.7%
- 2020: 39.4%

Other
- 2022: 11.1%
- 2021: 20.6%
- 2020: 12.1%

Source: IFSWF-OPSWF Climate Change Surveys, 2020, 2021 and 2022
As sovereign wealth funds invite more public scrutiny of their climate change approach, they also require their asset managers to be more accountable in implementing climate-related policies. In 2020, only 36% of respondents said they expected visibility on (but didn’t specifically ask about) their asset managers’ approach to climate change. In 2022, 54% of respondents reported that they asked their asset managers to outline their approach, and 31% said that they requested specific information on climate change, up from 24% who expected their asset managers to produce a sustainability report in 2020.

While this may not seem like a significant uplift, we should highlight that in the 2020 survey, the question was about expectations rather than specific requirements, while in 2022, we asked about specific requests.

**Figure 7a: Do you expect your asset managers to report on their climate change policy? (Select all that apply) 2022**

- We request our asset managers to outline their approach to climate change or ESG: 70%
- We request them to provide specific climate change/ESG metrics of our assets: 41%
- We don’t request them to report on climate metrics, but this is something we value: 26%
- We include specific climate change provision in our contractual agreements with our asset managers: 15%
- We request them to report on our assets using TCFD: 7%
- We request firmwide reporting based on TCFD: 7%
- We don’t request any climate-related reporting from our asset managers: 4%

**Figure 7b: Do you expect your asset managers to report on their climate change policy? (Select all that apply) 2020**

- We have no specific requirements, but we do expect visibility on their climate change approach: 29%
- We have no climate change specific reporting requirements: 27%
- We expect them to produce a sustainability/responsible investment/CSR report: 20%
- We expect them to use GRI/UN Global Compact or similar reporting standards: 15%
- We expect them to apply TCFD standards: 10%

*Source: IFSWF-OPSWF Climate Change Surveys, 2020 and 2022*
Equally, as sovereign wealth funds become more experienced at assessing energy-transition-related investment opportunities and other low-carbon investment prospects, they are increasingly finding it hard to source suitable investments that meet their investment criteria in this space. The proportion of respondents that cited the lack of appropriate climate-related deal flow as a significant obstacle to implementing their climate change strategy has increased from 18.2% in 2020 to almost 30% in 2022. This trend may reflect sovereign wealth funds’ growing interest and their ability to assess such opportunities and the increasing competition for energy-transition-related investments over the past twelve months. Our survey suggests that sovereign wealth funds favour climate-related investments in developed countries’ private equity and real assets. When asked in a series of interviews for this study, all the interviewees believed that the conflict in Ukraine would encourage European countries to hasten the renewable infrastructure build-out. One sovereign wealth fund told us that “the current Russia-Ukraine crisis... will help offset the geopolitical push to promote gas as part of the transition rather than having to be leap-frogged.”

Despite the challenges of obtaining quality carbon emission data for unlisted assets, it is in these asset classes that sovereign wealth funds’ attention is increasingly focused. In 2020, 42.4% of respondents pursued target portfolio construction for climate-change purposes in private equity and 36.4% in real assets. By 2022, these proportions had risen to 60% and 54%, respectively.
Figure 8: In which asset classes do you pursue portfolio construction for climate-change-related purposes? (Select all that apply) 2020-22

- **Private Equity**
  - 2022: 77.8%
  - 2021: 58.8%
  - 2020: 42.4%

- **Real Assets**
  - 2022: 70.4%
  - 2021: 47.1%
  - 2020: 36.4%

- **Listed Equities**
  - 2022: 33.3%
  - 2021: 32.4%
  - 2020: 27.3%

- **Fixed Income**
  - 2022: 11.1%
  - 2021: 14.7%
  - 2020: 15.2%

- **Financial alternative products**
  - 2022: 14.8%
  - 2021: 11.8%
  - 2020: 15.2%

- **None of the above**
  - 2022: 18.5%
  - 2021: 8.8%
  - 2020: 12.1%

*Source: IFSWF-OPSWF Climate Change Surveys, 2020, 2021 and 2022*
Given the requirement to decarbonise industrialised economies, sovereign wealth funds’ interest in green assets in the Americas and Europe is important, suggesting that they can be significant financers of the energy transition. Indeed, we observe sovereign wealth funds investing substantial sums in renewable energy in IFSWF’s sovereign wealth fund investments database. The total these institutions invested in 2022, which includes investments via platforms, joint ventures and asset managers, reached an all-time high of $8.6 billion, over four times the amount invested only two years before ($2.3 billion in 2020); $8.3 billion of this total was accounted for by renewable energy.

The lion’s share of sovereign wealth funds’ investment in renewable energy was in developed markets: $3 billion in Europe, and $2 billion in North America, while global investment platforms collected over $4 billion. Sovereign wealth funds appear to be sourcing the largest projects in developed markets first, where there is the potential to have the most significant impact on reducing global carbon emissions, given these countries are among the largest carbon emitters. They may also be attracted to renewable energy projects in developed markets due to investor-friendly regulatory and tax measures, such as the Inflation Reduction Act in the United States. However, sovereign wealth funds have yet to tap into the financially attractive opportunities available in helping emerging markets develop new low-carbon infrastructure that will enable them to avoid future reliance on fossil fuels as they grow and develop their economies.
Renewable energy, although still very popular among investors, may not necessarily be the only investment choice as sovereign wealth funds become more experienced in the energy transition. The proportion of survey respondents rating this sector as the most attractive in terms of investment opportunities has declined from 77% in 2020 to 62.5% in 2022. Energy storage and efficiency solutions have also become marginally less attractive. However, it is difficult to ascertain at this stage if it is due to too much capital chasing few opportunities and thus increasing valuations or investors cooling off on these subsectors and seeking new opportunities in emerging technologies.

Instead, sovereign wealth funds are showing interest in the emerging sector of green and clean hydrogen, which has the potential to replace liquefied natural gas in the energy system using existing infrastructure. A third of our respondents said that this was one of the most attractive climate-related sectors in which to invest. Perhaps surprisingly, given the challenges of conflict- and climate-change-induced food shortages in the global south, the attractiveness of sustainable agriculture and water management solutions declined between 2021 and 2022.

---

6 This could be due to a survey-design bias, as in 2022 respondents had more sectors to rate, compared to the previous years.

---

**Figure 10: Which markets do you think to have the most attractive financial investment opportunities relating to climate change solutions? Please rate 1 to 5 where 5 is the most attractive (in decreasing order of preference)**

<table>
<thead>
<tr>
<th>Region</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>50%</td>
<td>28.6%</td>
<td>7.1%</td>
<td>14.3%</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>38.9%</td>
<td>33.3%</td>
<td>11.1%</td>
<td>5.6%</td>
<td></td>
</tr>
<tr>
<td>Central &amp; South Asia</td>
<td>26.7%</td>
<td>13.3%</td>
<td>20%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>18.2%</td>
<td>18.2%</td>
<td>18.2%</td>
<td>9.1%</td>
<td>36.4%</td>
</tr>
<tr>
<td>East &amp; South-East Asia</td>
<td>6.3%</td>
<td>25.0%</td>
<td>18.7%</td>
<td>37.5%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Oceania</td>
<td>33.3%</td>
<td>33.3%</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle East</td>
<td>18.2%</td>
<td>18.2%</td>
<td>45.5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: IFSWF-OPSWF Climate Change Survey 2022*
Figure 11: In which climate-change-related themes do you see the best financial investment opportunities? Please rate 1 to 5 where 5 is the most attractive (in decreasing order of preference)

<table>
<thead>
<tr>
<th>Theme</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable energy</td>
<td></td>
<td>25.0%</td>
<td></td>
<td></td>
<td>62.5%</td>
</tr>
<tr>
<td>Low-emission transport solutions</td>
<td>17.4%</td>
<td></td>
<td>43.5%</td>
<td></td>
<td>34.8%</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>13.6%</td>
<td></td>
<td>31.8%</td>
<td></td>
<td>45.5%</td>
</tr>
<tr>
<td>Energy storage infrastructure</td>
<td>11.1%</td>
<td>16.7%</td>
<td>44.4%</td>
<td></td>
<td>27.8%</td>
</tr>
<tr>
<td>Emerging technology solutions</td>
<td>15.0%</td>
<td>20.0%</td>
<td>40.0%</td>
<td></td>
<td>25.0%</td>
</tr>
<tr>
<td>Sustainable solutions to industry</td>
<td>9.3%</td>
<td>23.8%</td>
<td>38.1%</td>
<td></td>
<td>23.8%</td>
</tr>
<tr>
<td>Sustainable agriculture and food security</td>
<td></td>
<td>31.8%</td>
<td></td>
<td>27.3%</td>
<td>31.8%</td>
</tr>
<tr>
<td>Clean hydrogen</td>
<td>9.5%</td>
<td>28.6%</td>
<td>23.8%</td>
<td></td>
<td>33.3%</td>
</tr>
<tr>
<td>Forestry and natural capital solutions</td>
<td>16.7%</td>
<td>27.8%</td>
<td>44.4%</td>
<td></td>
<td>11.1%</td>
</tr>
<tr>
<td>Green buildings</td>
<td>5.9%</td>
<td>41.2%</td>
<td>29.4%</td>
<td></td>
<td>23.5%</td>
</tr>
<tr>
<td>Water management solutions</td>
<td>14.3%</td>
<td>38.1%</td>
<td>23.8%</td>
<td></td>
<td>19.0%</td>
</tr>
<tr>
<td>Catastrophe insurance and other</td>
<td>6.3%</td>
<td>18.8%</td>
<td>56.3%</td>
<td></td>
<td>12.5%</td>
</tr>
</tbody>
</table>

Source: IFSWF-OPSWF Climate Change Survey 2022
Reporting is Key
For external stakeholders, public reporting is key to understanding the action sovereign wealth funds are taking on climate change.

In 2022, they were becoming more transparent and structured in their reporting. The number of sovereign wealth funds claiming they did not report on their climate change strategy decreased from 11 in 2020 and 2021 to only three in 2022. Those that report internally have increased from five to eight. Those that describe their approach in their annual report have risen from six to nine, and those publishing a separate sustainability (or similar) report have jumped from two to nine.

Not only are sovereign wealth funds being more transparent about their approaches to climate change, but they are also being more systematic in their reporting standards.

In 2021, only two of our respondents used “GRI/UN Global Compact/TCFD or similar reporting standards for our publicly available annual report”. In 2022, we were able to be more granular. Seven respondents (29.5%) now report using the Taskforce for Climate-Related Financial Disclosures (TCFD) framework, three (11.1%) use GRI guidelines, and ten respondents (37%) use the OPSWF framework. Other respondents also reported using the UN Global Compact guidelines and following SASB standards.
In addition to more and better reporting, sovereign wealth funds are increasingly publicly committing to standards by joining climate-change or ESG-specific organisations. OPSWF remains the most significant organisation for sovereign wealth funds to join to show their commitment to addressing climate change. In 2022, almost half of our respondents were OPSWF members – perhaps unsurprising, given that we distributed the survey to this membership group.

We also see sovereign wealth funds joining a wide range of other climate-change organisations at a global and regional level. However, apart from OPSWF, no other group has been able to attract a critical mass of these investors. OPSWF’s dominance is likely because its members have a single unifying characteristic – they are sovereign wealth funds. Otherwise, these investors are a diverse group of institutions with a wide range of approaches, mandates and targets. Consequently, they have different needs and requirements from their alliances in this field. That said, the UN Principles for Responsible Investment appear to have expanded its reach into this investor group, almost tripling the proportion of our respondents that are signatories from 5.9% to 14.3%.

Perhaps most notably, the proportion of respondents who were not members of any climate-related organisations has declined from over a quarter in 2021 to just over a tenth, underlining their growing public commitment to supporting climate goals.

Figure 13: Do you use market standards and framework guidance in your climate change reporting? (Select all that apply)

<table>
<thead>
<tr>
<th>Standard/Framework</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Planet Sovereign Wealth Fund (OPSWF)</td>
<td>37.0%</td>
</tr>
<tr>
<td>TCFD</td>
<td>22.2%</td>
</tr>
<tr>
<td>GRI</td>
<td>11.1%</td>
</tr>
<tr>
<td>UN Global Compact</td>
<td>3.7%</td>
</tr>
<tr>
<td>Other</td>
<td>7.4%</td>
</tr>
</tbody>
</table>

Source: IFSWF-OPSWF Climate Change Survey 2022
Progress
Since 2020, the sovereign wealth funds that responded to our survey have reported significant progress in their understanding of the detrimental effect climate change may have on their long-term returns and how they monitor their impact. They have also become more transparent, requiring better reporting from their asset managers and portfolio companies and now produce more information on how they approach the issues.

Nevertheless, they still report significant barriers to their progress, particularly in gathering data on climate impact from portfolio companies (particularly unlisted firms) and asset managers. Without accurate data, it is difficult for sovereign wealth funds and other investors to understand their risk exposure to climate change accurately and their portfolio’s contribution to carbon emissions. While it is true that sovereign wealth funds can request this information, it is also important to not to over burden these companies and asset managers by standardising the data requested.

To improve the situation, OPSWF has developed the One Planet Climate Disclosure Guidance for private markets and agreed to encourage all private-market asset managers to estimate and report the carbon footprint of their portfolio companies by year-end 2023.

We also note the ongoing difficulties for sovereign wealth funds in balancing their government owners’ stance on climate change with those of international financial market norms. However, our interviews with sovereign wealth funds and survey results suggest that these positions are increasingly aligned and that stakeholder opposition to considering climate considerations in their investment decisions has declined considerably.

Finally, we observe that sovereign wealth funds are optimistic that the current geopolitical and economic environment is conducive to driving the energy transition and the development of renewable energy infrastructure. As this sector becomes more mainstream and valuations in renewable energy increase, sovereign wealth funds may look at a broader range of opportunities related to climate rather than the laser-like focus on renewable energy infrastructure that we have seen in previous years.
In 2020, we set out six challenges to sovereign wealth funds:

1. **Adopt and implement climate-related policies.**
2. **Seek out the appropriate talent and expertise.**
3. **Explore board member and executive education.**
4. **Use metrics** to show not only climate impact (i.e. success in reducing carbon exposure) but also comparable returns and risk reduction.
5. **Communicate to all stakeholders** the strategic importance of climate.
6. **Partner with peers and international initiatives** to share experience and generate greater leadership from within the sovereign wealth fund community.

In 2022, we have observed progress across all six challenges.

1. Our survey reveals the proportion of sovereign wealth funds with a formal climate-related policy has increased from 24% in 2020 to 71% in 2022. They have also actively implemented these policies. For example, in 2022, 51.8% of respondents had either carbon footprinted their entire portfolio or had done this for specific areas of their portfolio, an increase from 23% in 2020.

2. As sovereign wealth funds focus on implementing their climate change policies, they continue to staff up to deepen their expertise. However, finding this talent is becoming harder. The proportion of sovereign wealth funds reporting recruiting talent and expertise as a significant obstacle to implementing their climate policy has increased from 6.1% in 2020 to 22.2% in 2022.

3. Sovereign wealth funds are reporting less opposition from stakeholders to adopt climate-friendly initiatives, with only 11% saying they struggle with organisational buy-in, down from 24% in 2020.

4. Our 2022 survey shows a marked increase in sovereign wealth funds adopting quantitative targets to measure their climate impact: 52.1% of respondents report having a formal net-zero target or other quantitative climate change targets. In 2020, 54% of respondents used neither metrics nor targets to assess their climate change strategy. As we noted in 2021, however, access to reliable data continues to be a challenge for sovereign wealth funds adopting metrics. Over three-quarters (77.8%) of respondents reported that finding reliable data on which to base their decisions was a challenge, up from 39.4% in 2020 and 58.8% in 2021.

5. Sovereign wealth funds have markedly improved their communication about their approach to climate change. In 2022, a third of respondents told us that they produce an individual climate or sustainability report, and another third outlined their approach in their annual report. Only 15.9% do not formally report on their approach – less than half of the 35% saying they did not report in 2021. We have also recorded an improvement in how sovereign wealth funds communicate, with over 70% of respondents now applying formal standards, such as the OPSWF Framework, TCFD or GRI, in their reports. However, as noted in 2021, the challenges around climate change data may continue to hamper public reporting efforts. As better data solutions emerge, we expect more sovereign wealth funds to report publicly on climate change.

6. Regarding partnering, sovereign wealth funds increasingly join organisations and alliances that promote climate action, publicly demonstrating their commitment to this goal. Only 11% of our respondents (all of which consider climate change in their investment process) are not members of any grouping, down from 26% in 2021. OPSWF continues to be the most important climate-related organisation for sovereign wealth funds, with 48% of respondents being members of the network.
Acknowledgements

The International Forum of Sovereign Wealth Funds and the One Planet Sovereign Wealth Funds Network would like to thank their members for their participation in this survey and additional interviews. Without their support we would not be able to bring this comprehensive few of their approaches to light.

IFSWF and OPSWF would also like to thank Dr Victoria Barbary, Director of Strategy and Communications at the IFSWF for designing the survey and preparing the text. They would also like to thank Enrico Soddu, Head of Data and Analytics at the IFSWF for all the analysis and data visualisation in this report.

The authors would like to thank Duncan Bonfield, IFSWF Chief Executive, and Lawrence Yanovitch, OPSWF coordinator, for their support in making this project possible.
About the International Forum of Sovereign Wealth Funds (IFSWF)

The International Forum of Sovereign Wealth Funds (IFSWF) is a voluntary organisation of global sovereign wealth funds committed to working together and strengthening the community through dialogue, research and self-assessment.

In 2008, a group of 26 leading state-owned international investors from around the world established the IFSWF’s precursor, the International Working Group of Sovereign Wealth Funds, following discussions with global groups such as the G20, International Monetary Fund and the US Department of the Treasury. The Working Group created a set of Generally Accepted Principles and Practices, known as the Santiago Principles, for sovereign wealth funds’ institutional governance and risk-management frameworks. Following the Kuwait Declaration in 2009, the International Working Group became the IFSWF with the mandate of helping members implement the Principles.

Today, helping members implement the Santiago Principles remains the foundation of the IFSWF’s activity. But the Forum now represents a group of almost 50 sovereign wealth funds from all corners of the globe, with a variety of mandates and at various stages in their development. As a result, IFSWF’s focus has evolved. In addition to encouraging the ongoing commitment to the Santiago Principles, the Forum also undertakes research, facilitates peer assistance exercises and holds workshops and seminars to help members enhance their existing investment capabilities. The IFSWF also undertakes to represent its members to the global financial and policy communities.

Standard Setting

The IFSWF helps foster good governance practices within the membership by enabling members to share their unique experiences of applying the Santiago Principles with each other. By sharing experiences, the Forum helps members to improve their governance and accountability structures and practices. The IFSWF also promotes transparency by encouraging members to report publicly on their experiences of implementing the Santiago Principles.

Knowledge Sharing

The IFSWF seeks to help members raise their expected risk-adjusted returns by regularly bringing our members together to share their perspectives on specific governance, investment and operational issues. We also undertake peer assistance on investment practices, asset allocation and financial risk assessment. The Forum works with academic and practitioner experts to help members fulfil their mandate in an increasingly challenging and complex investment environment.

Representation

The Forum helps represent the views of its members to the wider financial community. It provides a contact point through which members can collaborate with multilateral finance organisations and, where appropriate, engages with the media on issues of interest to the membership.
One Planet Sovereign Wealth Funds was established at the One Planet Summit in December 2017. The objectives of the initiative are to:

- Help mobilise the capital of sovereign wealth funds, to innovate and expand the market for investment opportunities that advance alignment with the goals of the Paris Agreement.
- Accelerate efforts to integrate financial risks and opportunities related to climate change in the management of large, long-term asset pools.
- Leverage the scale and benefits of knowledge-sharing, while preserving flexibility and agility.

On 6 July 2018, the OPSWF founding members published a voluntary framework ("the Framework") outlining principles for sovereign wealth funds to systematically integrate climate change into their decision-making, and how they can collectively support ambitious global climate action.

This Framework includes 12 recommendations based on three guiding principles:

- **Principle 1: Alignment**
  Build climate change considerations, which are aligned with the sovereign wealth funds’ investment horizons, into decision-making.

- **Principle 2: Ownership**
  Encourage companies to address material climate change issues in their governance, business strategy and planning, risk management and public reporting to promote value creation.

- **Principle 3: Integration**
  Integrate the consideration of climate-change-related risks and opportunities into investment management to improve the resilience of long-term investment portfolios.

Following the drafting of the Framework, members committed to continuing to work together to develop and share best practices relating to the implementation of the Framework principles. The One Planet Asset Managers (OPAM), the One Planet Private Equity Funds (OPPEF) initiatives and the One Planet Research Forum have also been established to accelerate efforts in supporting the implementation of the Framework and to support the transition towards more sustainable financial markets.

From 6 founding sovereign wealth funds, the Network has since grown to 43 members, comprising 18 sovereign wealth funds, 17 asset managers, and eight private investment firms, with over $36 trillion in assets under management and ownership. For more information, visit oneplanetswfs.org.