

USE CASE

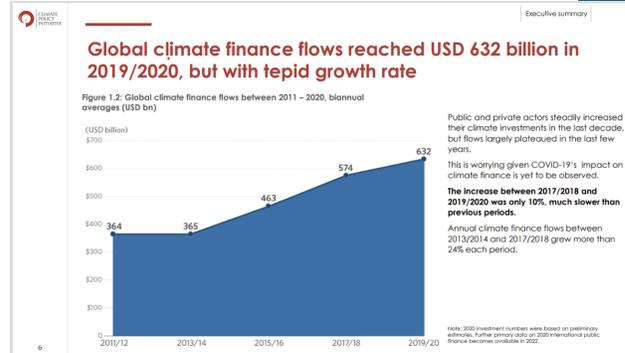
# Capital Markets

# The Area of Need

As capitalism evolves to address the needs of all stakeholders – people, community, climate and sustainability - new risks and measurements of those risks must be identified and the financial markets will develop to support the resilience and sustainability of our world economies.

The global capital in-flow to climate investments reached over \$600B in 2020, doubling in size over the past 7 years.

Sustainability is now hitting the financial “bottom line” through ESG evaluations that score credit risk for financing and investment. This means that how well a company addresses sustainability directly affects availability and cost of capital - the lifeblood of a corporation. In parallel, ESG funds need to make consistent, quantitative assessments on a comparative basis. Every portfolio company needs a consistent means of evaluation.



# The Problem

While the market pressures are many, the practical tools are few. Today, there is no standard that would provide for quantitative and comparative water quality measurement. Corporate sustainability programs have no way of measuring their progress from year to year, or even day to day. They also are unable to compare their water quality conditions with cohort companies. And because there is no standardized tool or method, they have no means of making a quantitative expression of their water quality impacts and improvement for annual Sustainability and ESG reporting. Nor can they easily assess the water quality risk of locating in certain areas.

Data gaps and data chaos related to antiquated data warehousing (siloeing) and inconsistent taxonomy frustrate the capital flow toward its intended mission to invest in sustainable climate mitigation or adaptation strategies and to mitigate risks related to climate change.

## Urgency

Capital markets and financial services professionals require actionable data to create financial products and services for the movement of capital to climate finance. The pressing motivator was pronounced at the COP 26 meeting in Glasgow: all organizations and governments must implement actions to achieve net-zero climate strategies.



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# The Solution

How does True Elements water quality data factor into climate resiliency?

Climate is best understood from a local to global perspective rather than global to local. True Elements gives a state, local and hyper local view of water quality and the contributors to those conditions. We gather information about weather, agricultural practices, discharge permits and other events that impact water quality and quantity.

The water cycle drives the carbon cycle. Since the two are intrinsically tied to one another, water data leads to carbon and soil data, which gives a vivid picture of the impact on environment, as well as the **future** impact, with our AI forecasting.

True Elements, through its patented approach to gathering and normalizing data, has turned data chaos from siloed unusable information into federated climate data management. Though the adoption of data mesh approach this distributed data can be queried to allow for on-demand, real-time climate insights, as well as forecasts.

## Users

Fixed Income Market Makers, Insurance Underwriters, Reinsurance Sovereign Wealth Funds, Municipal Finance, Asset Managers, ESG and Climate Reporting Entities, Corporate Finance

## Examples

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### Reinsurance Industry

*History:* 30 years ago, Hurricane Andrew -worst hurricane in history - hit South Florida, causing \$25 Billion in damage and leading to innovation in the insurance market. Goldman Sachs hired data engineers to extract hurricane weather data to develop an index to price and trade “CAT Bonds” (short for catastrophe bonds). This led to the creation of the global reinsurance industry (insurance for insurance agencies) with a market cap of \$658 billion. (See Swiss Re Wikipedia)

*Fast Forward to 2021:* \$145 Billion in damages related to climate disasters – all water related – too much, too little water in the climate

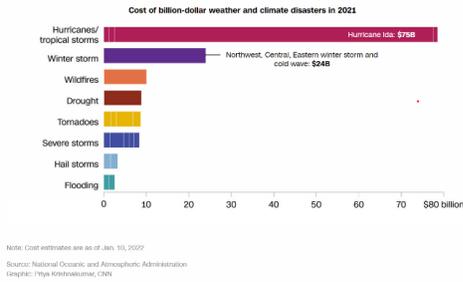
An historic deep freeze that crippled Texas. A deadly hurricane that wreaked havoc from the Gulf Coast to the Northeast. A record-shattering heat wave and historic drought in the West. And a devastating, out-of-season tornado outbreak that tore through towns in the Central and Southern US.



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# Examples (cont'd)

The 2021 storms, drought, floods and wildfires resulted in more than 20 \$1B events.



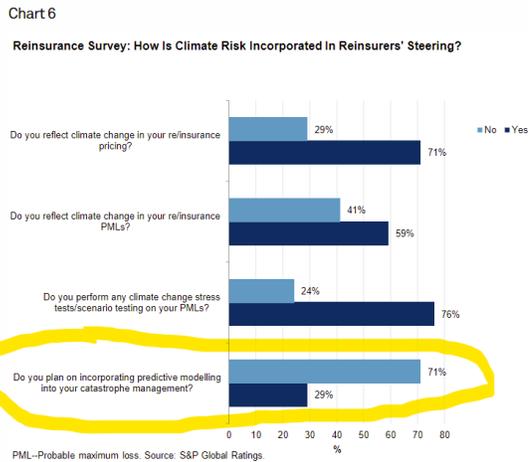
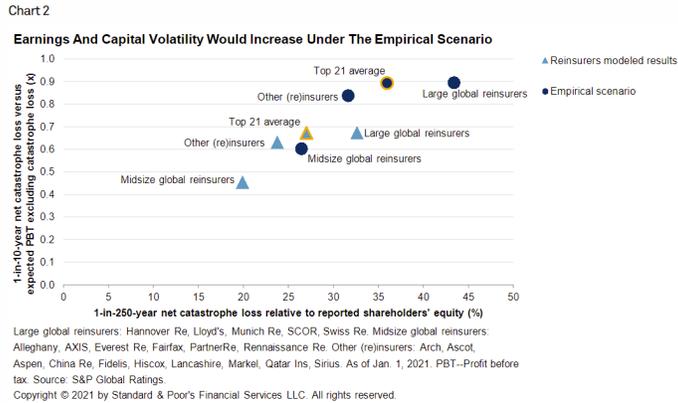
## Too Big To Fail – Managing the Downside Risk for Reinsurers

According to S&P, global reinsurers are grappling with the risk of being downgraded due to not being able to accurately price risk related to catastrophic climate related events. If re/insurers are not properly accounting for the impact of climate change in their catastrophe modeling and pricing today, it could lead to significant unexpected volatility in their earnings and capital. The result will be pricing corrections that could have implications for the cost of reinsurance purchased by primary writers, thereby hitting their profitability and risk profiles as well.

True Elements data insights is a key input for re-insurers to incorporate into predictive modeling for catastrophe management. This ability to use True Elements data to more accurately model climate risk could lead to reinsurers and insurers ability to maintain earnings and profits despite 1 in 10 year losses occurring more frequently from catastrophic climate events.

New Property & Casualty Product: “Acts of God”

Re-insurance: Climate Re



# Examples

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## Sovereign Wealth Funds (SWF) Eventual Net Zero Commitment

With True Elements' climate data indices, SWF's could make and monitor investments to provide leadership in the net zero commitments made by banks, asset managers, insurers and trusts at the COP 26 conference. The 90-plus sovereign-wealth funds in the world oversee more than \$9.7 trillion in assets. Their influence is significant.

SWFs are uniquely positioned to make long-term investments. Shifting the global economy from "brown" to "green" requires changes on the scale of another industrial revolution. SWFs have the financial clout and investment horizon to drive the transition to a low-carbon economy and can reap massive returns by creating new markets or entering them early.

Countries like Norway, and Abu Dhabi, France, Ireland, New Zealand and Singapore, could lead a global SWF movement toward net-zero commitments. If they do, other funds with large investment teams may soon follow. Those with fewer resources would, one hopes, be close behind them.

Most SWFs were established as savings vehicles for future generations. Their investments should be contributing to the conservation of the climate that those generations will live in. Failure to be part of the solution will ensure those generations not only have grounds to complain about the weather but increasingly come to fear it. The Intergovernmental Panel on Climate Change's recent report makes clear that 2021's burst of extreme weather events results from rising average temperatures. Each fraction of a degree of warming will bring greater rainfall, higher rises in sea levels and more intense droughts and wildfires.

The report is equally clear that dramatic action must occur. Financial institutions must contribute and support the development of solution programs and their implementation. Against this background, a group of large Asset Owners formed the UN-convened Net-Zero Asset Owner Alliance.

This alliance is not only committed to net-zero but to GHG reduction already by 2025, and it is actively working on sector pathways and on defining transformation plans together with various companies. Yet, sovereign-wealth funds (SWF) are still the exception in this alliance and altogether only very few of them have set net-zero targets. The world, therefore, has yet to tap into the power of one of its most significant financial resources. The 90-plus sovereign-wealth funds in the world oversee more than \$9.7 trillion in assets. Their influence is significant.



## Examples

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### New Financial Products and Markets: Water Derivative for Carbon Markets/ Replacement for Green Bonds

With True Elements data insights and indices, trading desks can be created to hedge the carbon markets, create climate ETF's based on water, or replace "green bonds" which have failed to provide the liquidity for securities based on climate risk.

#### *Carbon Markets*

The value of the global carbon market is \$272 Billion (2020) according to Refinitiv. Whether is it a carbon compliance market or voluntary carbon credit market, how carbon offset and allotment levels are valued and determined? Monitoring emissions and reductions can be challenging without a source of data and interconnected reporting on how to measure carbon emissions. The Biden administration has increased the interest in the carbon markets. To make these markets less regional, there needs to be standardized, normalized data regarding carbon emissions.

#### *Green Bonds*

Green bonds work just like any other corporate or government bond. Borrowers issue these securities in order to secure financing for projects that will have a positive environmental impact, such as ecosystem restoration or reducing pollution. Investors who purchase these bonds can expect to receive interest payments as the bond matures. In addition, there are often tax benefits for investing in green bonds.

According to the Climate Bonds Initiative, the issuance of green bonds reached \$269.5 billion in 2020. The United States was the largest player, with \$50 billion in new issuances. The same analysis found that the cumulative issuance of green bonds had reached over \$1 trillion.

The success of the green bond market has been debated and arguably not well-respected by institutional investors. Without proper climate metrics associated with these bonds, they are unlikely to be credible as a climate finance instrument.



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