The New Threat to EV Charging Stations—What's Next?

A Winter's Worst-Case Scenario

Imagine it's the dead of winter, and you arrive at an EV charging station with your electric vehicle's battery at about 25%. To your dismay, you find all the charging cables have been cut. You drive to the next nearest charging station, now with your battery down to around 10%, only to discover that the same vandalism has occurred there. What do you do?

Snip, Snip, Gone! The Cable Crooks Are on the Loose

This scenario underscores why the EV charging industry is innovating to prevent such stressful situations and ensure that owning an electric vehicle doesn’t lead to delays or disappointment.

Thieves are increasingly targeting EV charging stations across the United States and right here in Alberta, Canada, stripping expensive copper wiring from the cables as copper prices continue to rise. These thefts not only render charging stations unusable but also create significant hurdles for automakers striving to encourage EV adoption.

Innovating to Protect EV Charging Infrastructure

This is why companies like Next Charging and Ezfill (Nasdaq: EZFL) are at the forefront of developing solutions. With

the help of cutting-edge inductive power systems, innovative EV charging techniques, and effective bidirectional wireless power transfer, they're leading the charge in utilizing wireless technology to provide both static and dynamic wireless charging.

The High Cost of Vandalism

In Alberta, repairing a vandalized EV charging station can cost upwards of CAD $6,000—a significant expense, especially when anti-EV critics are already vocal about tax subsidies for green initiatives. How Does Next Charging Work? (See 'Diagram 1' below)

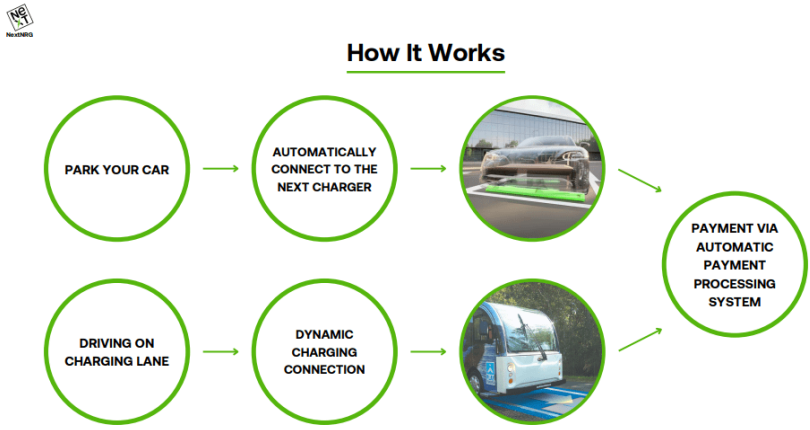


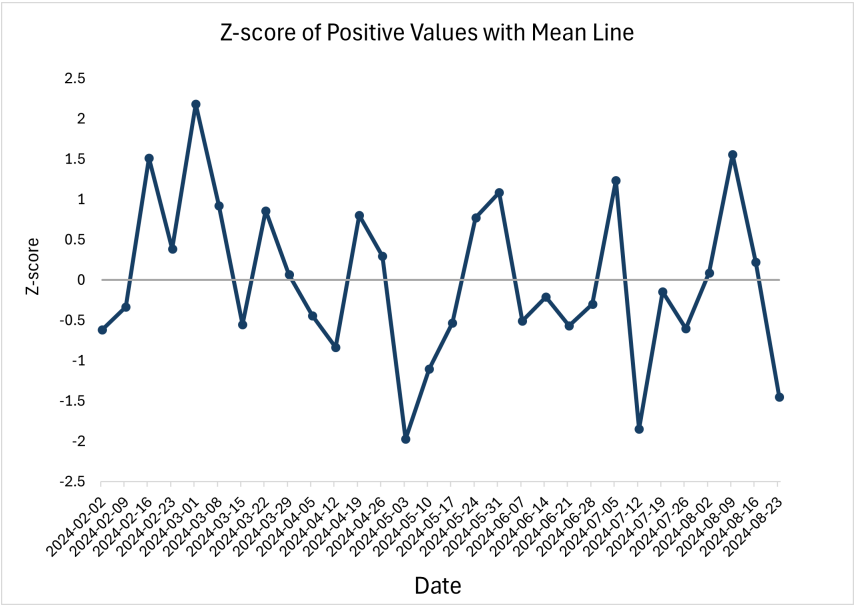
Diagram 1

The Competitive Landscape

Currently, the wireless EV charging space includes players like Electreon, InductEV Inc., Plugless Power Inc., and a few others. However, Next Charging's technology stands out for its dynamic, bidirectional, and high power density charging capabilities. Both EZFL (Next Charging) and Electreon are publicly traded companies, positioning them as key innovators in the evolving EV market.

Release: The Index of Carbon Sentiment (TICS)

Overall, the The Index of Carbon Sentiment (TICS) report continues to showcase ample interest in the commodity and green initiatives. The z-score analysis highlights several peaks, with significant positive deviations occurring in early March and mid-August. It’s worth noting, there was a significant decline of roughly 11.95% from August 16th to August 23rd, 2024, marking one of the sharpest drops during this period. Net-net, conversations around the carbon market remains rampant.



Z-score of Positive Values with Mean Line

About The Index of Carbon Sentiment (TICS):

The Index of Carbon Sentiment (TICS) is a weekly sentiment analysis of the carbon market, with a single question: What is the sentiment of social media participants on ‘Twitter’ regarding the carbon market?

Utilizing a Python script with keyword(s) related to the carbon market (e.g.,

‘Voluntary Carbon Markets’) and measuring weekly sentiment from posts and comments within the last seven (7) days (e.g., ‘Monday – Sunday’). Thereinafter, utilizing Microsoft Power BI to analyze posts and comments based on three (3) sentiments: positive, neutral, or negative.

The key finding is that Natural Language Processing (NLP) is an excellent and inexpensive tool to gauge and build a confidence barometer, comprehending collective viewpoints about carbon market participants, while monitoring for varying thought patterns and overall awareness of the emission offset market, as the call to lower carbon emissions amongst and above triple helix groups accelerates globally.
While many surveys are conducted by industry groups and private consulting firms semi-annually or annually, carbon market participants can now access the weekly TICS report to measure whether

amongst or above triple helix groups remain optimistic or pessimistic regarding the carbon markets.

Karbon Offsets aims to provide the ‘positive sentiment’ indices report publicly on the Karbon Offsets ‘Research Analysis’ page and on the ‘Opinion/News’ page weekly, while the weekly aggregate of ‘neutral’ and ‘negative’ sentiments report and overall qualitative data will remain on the ‘Data Portal’ subscription page. For the first month, all three sentiment scores will be publicly available.

TICS REPORT POSITIVE AND NEGATIVE FACTORS

Frequency: Weekly

Units: Percent

Merits of TICS report: The report’s dynamic and timely (weekly) analysis offers more frequent insights compared to traditional semi-annual or annual

surveys, providing a view of varying thought patterns and overall awareness of the emission offset market.

Lag Factor: Not greater or less than seven (7) days

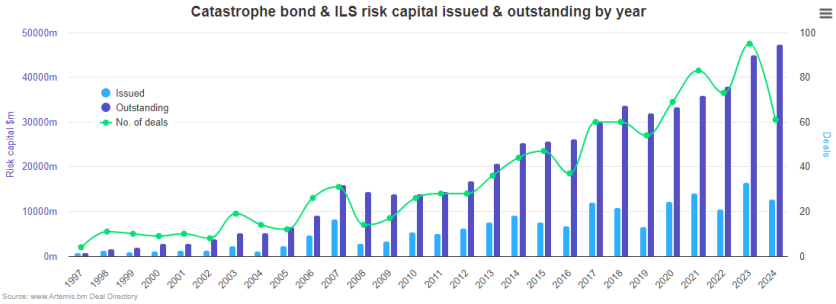
Indicators to Monitor: Equal weighting of aggregated negative and neutral sentiment and/or positive sentiment below neutral reading.

Revision Factor: None

Negatives of TICS report: The report’s drawback lies within its small data sample set, although, on aggregate, it surpasses other widely available semi-annual or annual reports and surveys. The total post and comments sample size varies weekly.

Why is Brookmont launching a Cat Bond ETF now?

In approximately 72 days, Brookmont Capital Management, a specialist in dividend equities, will launch the first-ever Catastrophic Bond ETF in the United States. Trading under the ticker symbol ‘ROAR,’ this soon-to-launch ETF will be listed on the New York Stock Exchange (NYSE), granting retail investors access to catastrophe bonds (see Chart 1), which are typically available only to institutional investors.



(Chart 1)

Key Features of the ROAR ETF

Based on Brookmont's Catastrophic Bond ETF preliminary prospectus, the ETF aims to offer an actively managed exchange-traded fund (ETF) that will invest close to 80% of its net assets in catastrophe bonds. It aims to generate income through interest payments from catastrophe bonds while focusing on preserving capital by carefully selecting bonds and other insurance-linked securities (ILS).

Market Timing and Federal Reserve Policies

With the S&P 500 up 17.73% year-to-date and markets pricing in a Federal Reserve rate cut in September, is launching a Cat Bond ETF now the right move? Yes! Diversifying a portfolio beyond credit risk, the ROAR ETF will provide retail investors with access to 'event risk' catastrophe bonds, primarily associated with hurricane risks in Florida. This

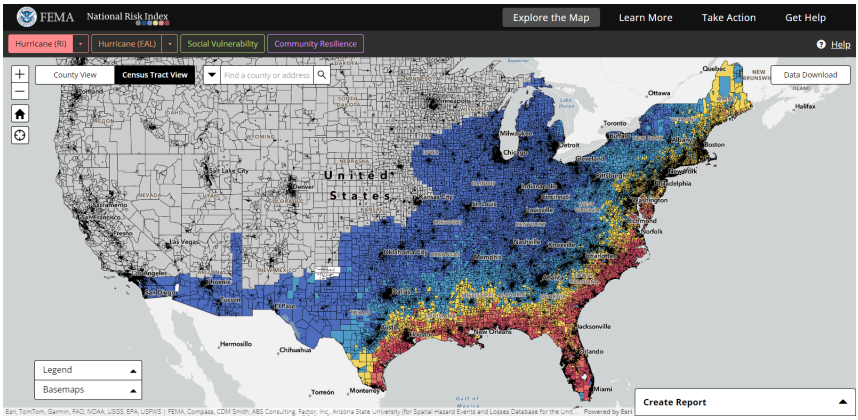
focus leverages the higher availability and market proportion of these investments compared to other perils.

In addition, Cat Bonds tend to have a monthly interest rate adjustment and act as variable rate bonds, providing returns that are calculated using the rate on a one-month T-bill plus a spread. Hence, they adjust upward in line with increases in short-term rates, which typically result from inflation. Whether invested in the ROAR ETF or not, retail investors will have access to answers and sentiment reflected in the price of the ROAR ETF.

Environmental, Social, and Governance (ESG) Considerations

While markets await the expense ratio or fee associated with the ETF to be announced. Retail investors should keep note that the southeastern region of the United States is rated by the Federal Emergency Management Agency (FEMA) National Risk Index as 'very high' for

hurricane risk, especially in Florida, Texas, and Georgia (see Chart 2).

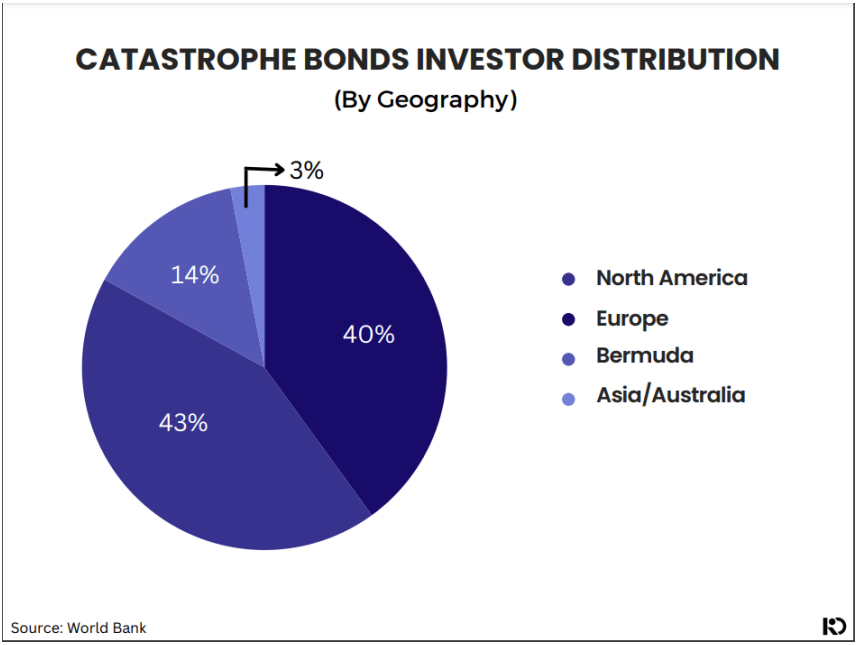


(Chart 2)

For environmental, social, and governance (ESG) investors or those sustainability-conscious investors looking to hold a security aimed at fostering climate resilience and hedging their portfolio against the effects of natural catastrophes, it would be wise to research and monitor Brookmont's Catastrophic Bond ETF as it lists in the next 73 days. After all, it's not every day you get to invest in hurricanes without getting wet!

Investor Distribution by Geography

Also, see Chart 3 for a detailed breakdown of Catastrophe Bonds Investor Distribution by Geography. The chart shows that 43% of the investments come from North America, 40% from Europe, 14% from Bermuda, and 3% from Asia/Australia. This distribution brings to light the significant global interest in catastrophe bonds and the regional variations in investment preferences.



(Chart 3)

Google’s AI Team is Actually Driving Countries Toward Their NDC Targets!

Is it time to revisit Google Green Light? Pre-COVID-19, it was possible to smell clean air at a zebra crossing without being consumed by the tailpipe emissions of an idling vehicle at a traffic light. With the state of office spaces looking as empty as the recent U.S. Presidential debate without an audience, managers are looking to fill desks with bodies again. As those desks quickly get filled, so does the once quiet street for those

living and working around busy cities. Hence, just maybe, Google Green Light can grant pedestrians a breath of fresh air—again. Oh! While helping cities meet their net zero targets.

Google is in the driver's seat, aiming to do just that by leveraging machine learning algorithms and a plethora of data to help make red lights green when you, the driver, would prefer them to be. By analyzing traffic patterns, vehicle speeds, and congestion points, Google is using AI to optimize and adjust the timing of traffic lights in real-time.

The whole initiative essentially decreases idle times, cuts down travel durations, and ultimately lowers emissions – yes, lowers emissions. The process takes on a few challenges in executing this goal:

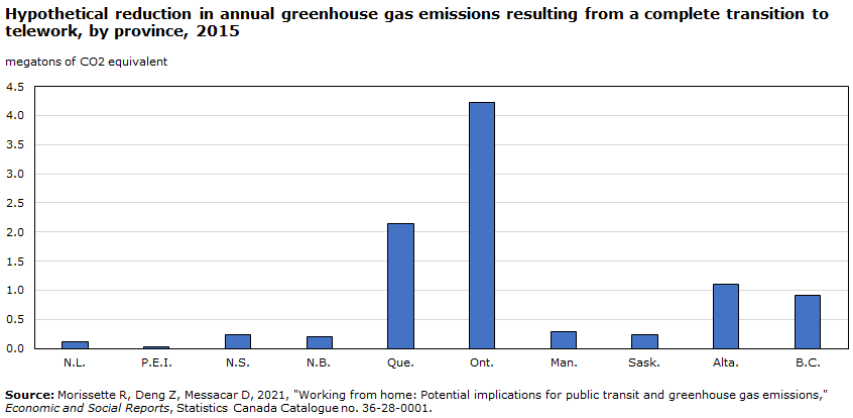
Data Collection: Through collecting data from various sources such as traffic cameras, sensors, and smartphones, the system gathers real-time information about traffic conditions.

Machine Learning Algorithms: The AI processes this data to predict traffic flows and identify patterns. It then essentially takes the insights to increase the timing of traffic lights.

Adaptive Control: Traffic lights are then adjusted dynamically based on real-time data, improving traffic flow and reducing stop-and-go driving that contributes to higher emissions.

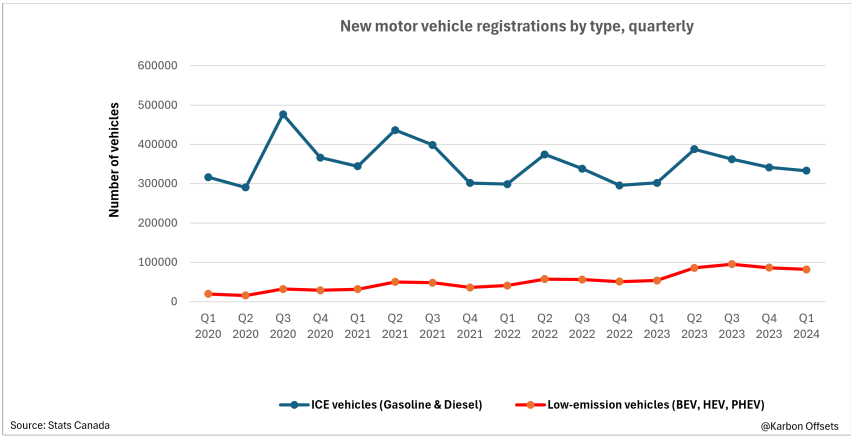
The Labour Force Survey (LFS) data

released January 18, 2024, by Statistics Canada show that in November 2023, just about 20% of Canadians reported working from home. After declining to roughly 30% in January 2022 from roughly 40% in April 2020, this is a massive decrease. On the other hand, as of May 2016, only approximately 7% of Canadians were employed mostly remotely. Though, we may never see everyone in Canada working 100% from home to reduce green house gas emissions (Chart 1), Canada might want to call on Google to help it slash down some emissions in its cities.



(Chart 1)

Apart from tackling emissions, this technology can also aid in reducing electric vehicle (EV) idling time, which drains battery energy when powering auxiliary systems such as heating, air conditioning, and infotainment. Most importantly, it boosts the driving range of electric vehicles as more low-emission vehicles get on the road in Canada (Chart 2).



(Chart 2)

Findings and testimonials from the initiative have shown promising results in traffic efficiency and reductions in

emissions. Cities such as Seattle and Bangalore have reported massive decreases in travel times and congestion, proving the effectiveness of AI in traffic management.

Currently, Google Green Light is situated in four (4) continents and seventy (70) intersections and thirteen (13) cities around the world, ranging from India, Israel, Germany, United Arab Emirates, England and the United States to name a few.

“Green Light has become an essential component of Kolkata Traffic Police. It serves several valuable purposes, contributing to safer, more efficient, and organized traffic flow, and has helped us reduce gridlock at busy intersections. Since November 2022, we have implemented suggestions at 13 intersections. The outcome has been excellent, according to feedback from commuters and traffic personnel,” said

Vineet Kumar Goyal, Commissioner of Police, Kolkata, India.

As more cities across different countries, such as Riyadh, Lagos, and Mexico City, recognize the benefits of this technology, Google Green Light will more rapidly reduce traffic emissions on a global scale, helping us return to the positive aspects of pre-COVID-19 urban life. Additionally, this initiative exemplifies the power of artificial intelligence (AI) in reducing traffic emissions and promoting cleaner cities.

Opinion | Resilient Infrastructure

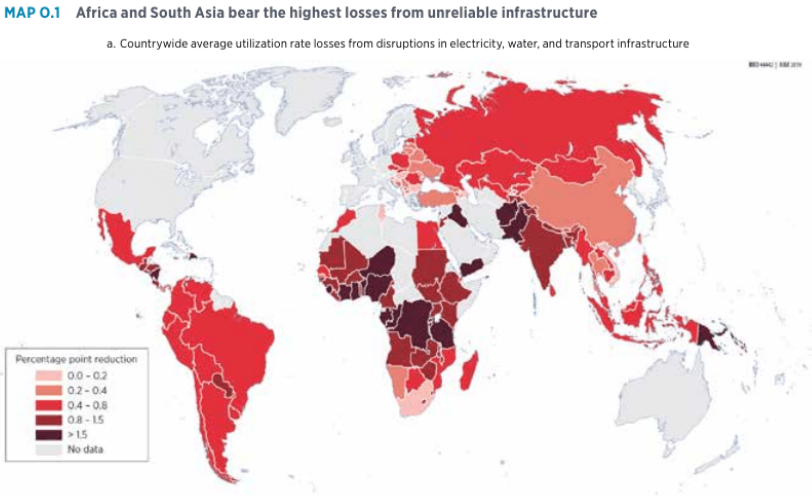
Gains NetZero

Key soundbites:

- Retiring cookstove credits in flood-prone and drought-ridden areas is like putting a Band-Aid on a broken leg.
- The rise of the effective federal funds rate (EFFR) to 5.25%-5.50%, the Catastrophe Bond (CAT Bond) market yields have reached an all-time high of 15.91%.
- We can deck out every coal, oil, and gas power plant with the latest CDR technologies, i.e. carbon capture and storage (CCS) facilities. But when a major flood or storm wipes out entire communities
- Markets shouldn’t have to scream high premiums to hint that investing in resilient infrastructure is a must to cut

down on overall risk and cost.

A 2019 report titled “Lifelines: The Resilient Infrastructure Opportunity” by the World Bank highlights the urgent need to invest in resilient infrastructure (Chart 1) to safeguard approximately US$4.2 trillion.

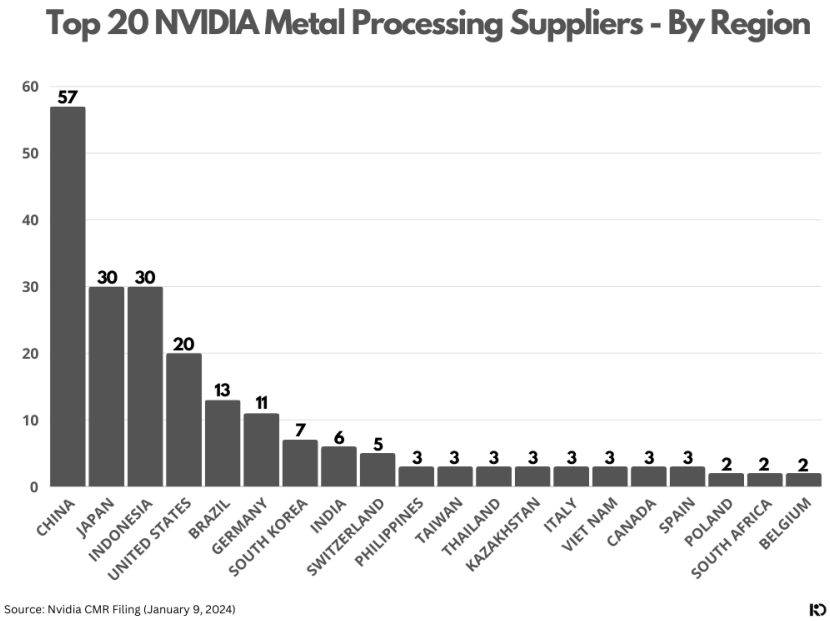


(Chart 1)

South Africa, Nigeria, Egypt, Algeria, Ethiopia, and Morocco together contribute over US$1.5 trillion to Africa’s gross domestic product (GDP), amounting to

nearly half of Nvidia's market capitalization. Meanwhile, countries such as Kenya, Sudan, Niger, the Democratic Republic of the Congo, Angola, Côte d'Ivoire, and Zambia account for an additional US$387 billion of Africa's GDP.

While supply chain (Chart 2) risks and geopolitical risks might be Nvidia's only threats, for Egypt and Zambia, which are the main focus of this opinion piece, and other African countries, poor infrastructure and development risks are exacerbated by floods and droughts, necessitating ample funding considerations.

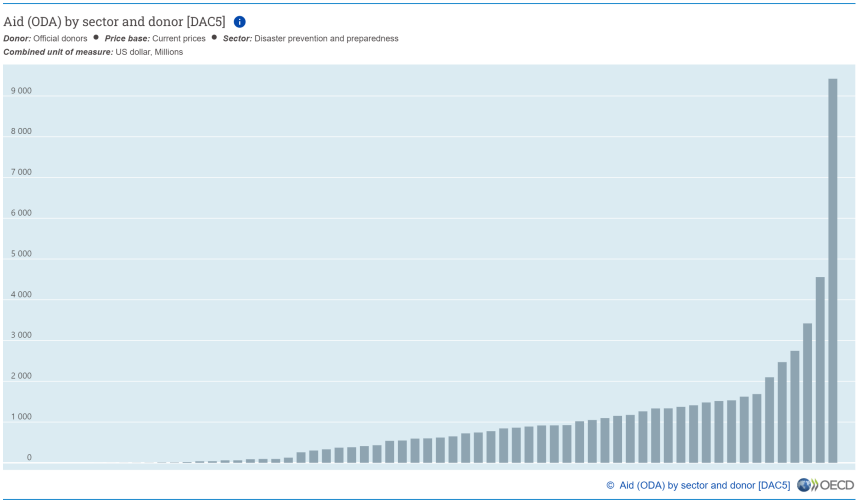


(Chart 2)

Official Development Assistance

In 2022, official development assistance (ODA) disbursed for ‘disaster prevention and preparedness’ was solely US$6.99 million by private donor Bill & Melinda Gates Foundation. Other private donors such as the Conrad N. Hilton Foundation, Open Society Foundations, and the

Rockefeller Foundation barely allocated US$0.6 million. Overall, ODA for disaster prevention and preparedness in 2022 was roughly US$9,423.07 million (Chart 3).



(Chart 3)

The Need for Resilient Infrastructure

Africa urgently needs help in safeguarding its overall GDP, which is vulnerable due to poor infrastructure and development risks. Delays in addressing these issues increase inflationary

pressures, potentially leading to political risks such as currency risk, social unrest, uprisings, and coups. Uncertainty and volatility create opportunities for bad actors to exploit crises.

It is essential for Global North leaders and the masses of the Global South to urge African leaders and media groups to shift their broadcasting language from "climate change" to "flood and drought" mitigation, restoration, and adaptation. Without this focus, flood and drought-prone areas will continue to shrink some African countries' GDP through fiscal spending and political risks.

Urban Growth and Flood Risks

A 2023 publication titled "Global Evidence of Rapid Urban Growth in Flood Zones Since 1985" showcases that 41% of the Egyptian population is at risk of

flooding. Despite the push for carbon credits and climate initiatives, the immediate risk of floods and droughts remains a pressing concern.

We can deck out every coal, oil, and gas power plant with the latest CDR technologies, i.e. carbon capture and storage (CCS) facilities. But when a major flood or storm wipes out entire communities and shatters allocated funds made to erected CCS facilities, what have we, the climate activists and carbon removal policy advisors, really achieved in protecting those communities from CO2 emissions? It's like installing a fancy security system in a house that's about to be swept away by a tsunami.

As much as I dream of carbon credits rocketing to the moon, let's get real: retiring cookstove credits in flood-prone and drought-ridden areas is like putting a Band-Aid on a broken leg. How many lives are we actually saving, or is it

just profits over people?

Recent Initiatives

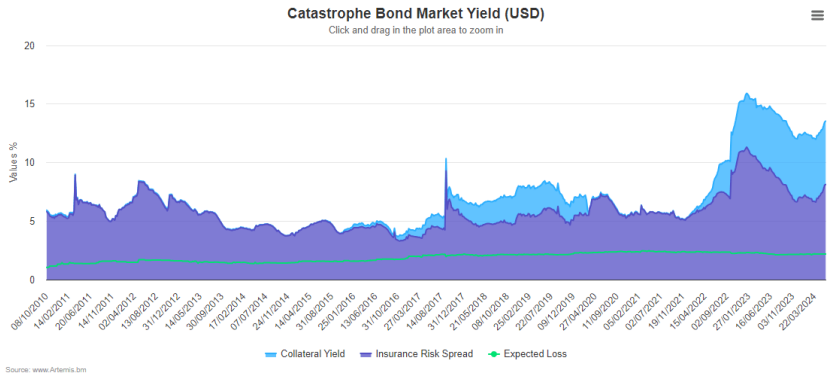
Recently, Zambia and the World Bank BioCarbon Fund Initiative for Sustainable Forest Landscapes inked an Emission Reductions Purchase Agreement (ERPA). This agreement will help communities in Zambia's Eastern Province tackle forest conservation and climate-smart agriculture. It will also enhance local livelihoods by making clean cooking accessible and promoting sustainable charcoal production. The agreement will grant Zambia up to US$30 million for proven reductions of 3 million metric tons of CO_2e from 2024 to 2029.

Initiatives such as the World Bank BioCarbon Fund Initiative for Sustainable Forest Landscapes are essential for Africa. As the world awaits the operationalization and capitalization of the US$792 million loss and damage fund,

there is a need for a transparent and accountable mechanism, along with an intranet platform, to ensure that allocated funds are earmarked and not misused (unearmarked).

Importance of Infrastructure Investment

With some Group of Seven (G7) nations recently cutting their official cash rates , the issue of poor infrastructure and development risks should be a global concern. In the United States, since the rise of the effective federal funds rate (EFFR) to 5.25%-5.50%, the Catastrophe Bond (CAT Bond) market yields have reached an all-time high of 15.91%.



(Chart 4)

Whether in Africa or elsewhere, as official cash rates begin their downward trajectory, it is crucial to remember that resilient infrastructure paired with carbon dioxide removal (CDR) technologies and increased funding to resilient infrastructure can lead to a more stable and prosperous global economy. Markets shouldn’t have to scream high premiums to hint that investing in resilient infrastructure is a must to cut down on overall risk and cost. Political risks, inflationary pressures, and loss of life are far too serious to be utilized as bookmarks in ones trading strategy. Let’s

keep those in the realm of reality, not investment speculation.

Janet Yellen and Biden Administration Endorse Voluntary Carbon Markets!

The U.S. Department of the Treasury, alongside many other officials of the Biden administration, has issued groundbreaking backing, approval, and guiding principles to ensure the integrity and functionality of the

Voluntary Carbon Markets (VCMs).

As the VCMs continue to grow and remain quite small compared to other commodity markets (e.g., gold, nickel or soybeans), the U.S. Department of the Treasury believes in the bullish growth of the markets in the coming years through the involvement of private capital in developing high-integrity carbon credits and aiding in reducing greenhouse gas emissions while generating economic opportunities.

With the right incentives and guardrails, Janet Yellen, Thomas J. Vilsack, Jennifer M. Granholm, John Podesta, Lael Brainard, and Ali Zaidi believe policymakers and experts in the space can drive the growth of the VCMs while building innovations to drive down costs associated with carbon removal technologies for market participants and developing countries.

“Many participants have told us that

transacting in VCMs is difficult. It's a fragmented market, with high search costs and low transparency. We encourage market participants to continue efforts to address these challenges through innovative products and services and believe government could play a role here too," said Treasury Secretary Janet Yellen.

The remark above by Treasury Secretary Janet Yellen is noteworthy, as can we see Validation/Verification Bodies (VVBs) desire for government to flex their muscles to drive down cost for participants through unknown policies or could governments issue some robust subsidies to VVBs to help market participants enter the VCMs.

The endorsement and support of high-integrity carbon credits by the U.S. Department of the Treasury and other officials harp on a few key guiding principles to ensure the future of VCMs,

such as:

a) Credit-generating activities and credits should be certified to high standards, ensuring integrity in design and MMRV. This calls for credit certification bodies, i.e., Validation/Verification Body (VVB), to play a greater role in improving credit integrity and ensuring equitable participation by developing countries.

b) More transparency and accountability in building confirmed "co-benefits" from initiatives and programs that generate credits, like enhanced biodiversity and sustainable economic growth.

c) Ensuring that corporate buyers of carbon credits direct actions to reduce emissions are complemented by carbon credits rather than taken over by them. This reverts back to guiding Science Based Targets initiative (SBTi) principles and the U.S. Treasury's

Principles for Net-Zero Financing and Investment.

d) Buyers of carbon credits should make easily accessible declarations of the type of credits that are purchased and retired to stakeholders through regular publications.

e) Credit users' public statements should fairly depict how retired credits affect the environment.

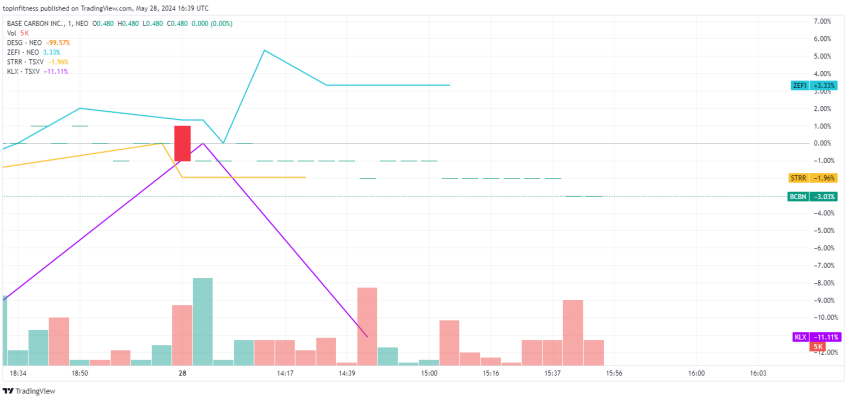
f) VVB, policymakers, and market participants need to come together to reduce transaction costs facing credit-generating suppliers—including farmers, ranchers, forest owners, small businesses, developing country jurisdictions, and others.

"If done right, Voluntary Carbon Markets can provide new revenue opportunities for farmers, ranchers, private forest landowners, and the rural communities they live in, all while driving needed

investment in nature-based climate solutions across the agriculture and forestry sectors," said Agriculture Secretary Vilsack.

This wonderful news by the most powerful country in the world comes on the heels of SBTi recent plans and announcement on April 9, 2024, to deliver the first draft of basic rules, thresholds, and guardrails for the potential use of carbon credits for Scope 3 abatement purposes by July 2024.

After the positive news was made, notable carbon credit stocks across the board from financing, royalties & streams, and developers such as Base Carbon, DevvStream Holdings Inc, Carbon Done Right Developments Inc, Star Royalties Ltd and etc. remained flat or down for the day as of 16:39 UTC with Zefiro Methane Corp green. See also (Chart 1).



(Chart 1)

All in all, as the United States elections approach, the VCMs will be an interesting space to watch, depending on which political party is to take the presidential throne.

Microsoft Joins

Other Tech Giants to Secure 20M Carbon Removal Credits by 2030

Will tech giants begin launching carbon dioxide removal technologies every two years? It was only two years ago, in April 2022, when Frontier Climate was launched as an initiative by Stripe, Alphabet (Google), Shopify, Meta, and McKinsey Sustainability to secure over $1 billion in commitments by 2030 to drive the demand for high-quality, permanent carbon removal solutions.

On May 22, 2024, Meta, Salesforce, Google, and Microsoft launched a nature-based carbon removal coalition to purchase up to 20 million tons of high-quality credits by 2030. This ambitious pledge and coalition, named the

'Symbiosis Coalition,' marks a collaborative effort among some of the world's leading technology companies to invest in sustainable and impactful environmental solutions.

Goals and Standards of the Coalition

The coalition aims to establish rigorous standards for carbon removal projects, ensuring they provide reliable and measurable benefits to the environment. By setting these high standards, the coalition hopes to address the urgent need for effective climate action and encourage other organizations to follow suit.

Enhancing Climate Impact Certainty

One of the main goals of the initiative is to enhance the certainty of climate impact. By investing in high-quality nature-based solutions, the coalition seeks to ensure that carbon removal projects deliver the expected environmental benefits. Therefore,

Symbiosis is eager to engage with a wide array of participants in the restoration and carbon markets—including investors, NGOs, standards organizations, project developers, researchers, and other key players—to establish a robust carbon market that prioritizes natural solutions.

Criteria for Nature-Based Carbon Removal Credits

Symbiosis aims to procure nature-based carbon removal credits based on precise accounting, longevity, social benefits, ecological integrity, and transparency. It will focus on forest and mangrove restoration, using criteria for additionality, leakage prevention, and durable projects, benefiting Indigenous communities.

Melanie Nakagawa, Chief Sustainability Officer at Microsoft, stated, *"High-quality, nature-based solutions are vital to addressing climate change, and our*

work with the Symbiosis Coalition is a key step towards realizing our carbon negative goal by 2030 through a diversified portfolio of carbon removal. This collaboration will help build the overall market for these solutions, leading to more restoration purchases that benefit all of us. Continued investment in carbon removal is important not just to meet our goals but for the world to meet its goals."

Significant and Quick Action is Needed

It will take between $6 trillion and $16 trillion in total investments to remove carbon dioxide from the atmosphere by the year 2050, according to a recent McKinsey research. A large financial gap for ecosystem protection and restoration is evident from the fact that less than $15 billion has been spent on carbon removal initiatives to far. For this investment gap to be closed, significant and quick action is needed. See also (Chart 1).

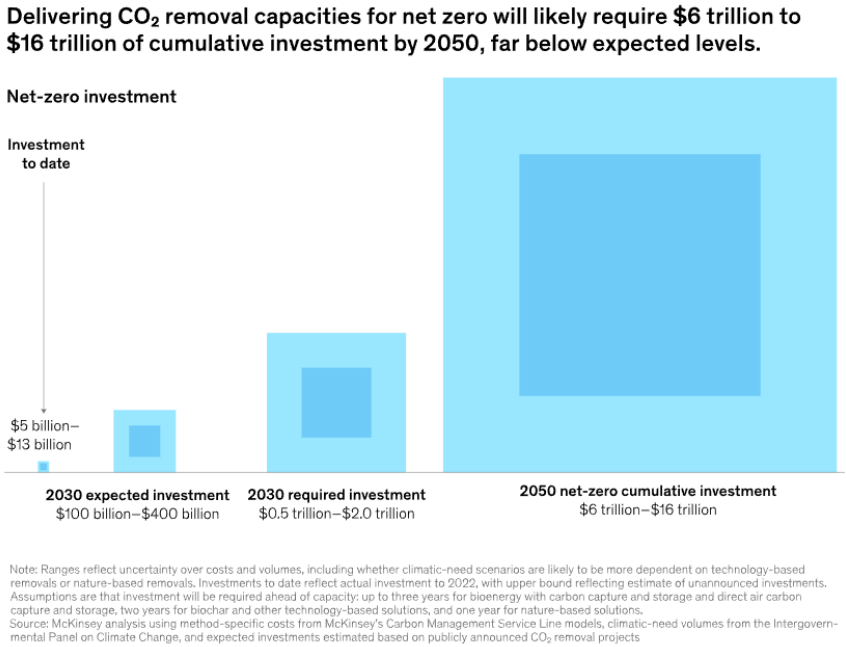


Chart 1

The news is timely for Microsoft, as its [2024 Environmental Sustainability Report] notes a 30.9% rise in indirect emissions (Scope 3) from its 2020 baseline. In aggregate, across all Scopes 1–3, Microsoft's emissions are up 29.1% from the 2020 baseline. See also (Chart 2).

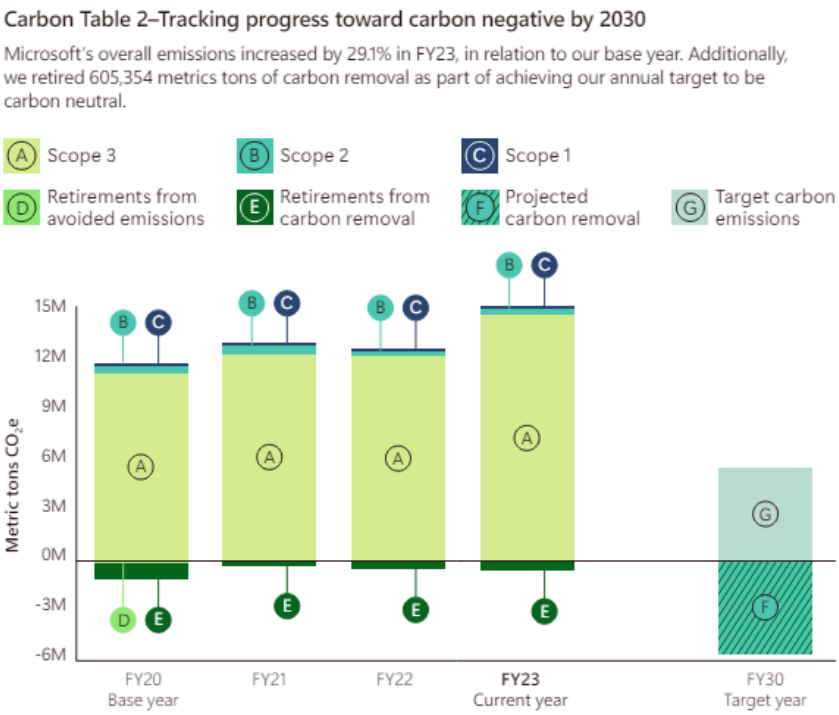


Chart 2

A major reason for the rise in Microsoft's indirect emissions (Scope 3), as noted in its report, is *the construction of more data centers and the associated embodied carbon in building materials, as well as hardware components such as semiconductors, servers, and racks. The challenges are partly unique*

to Microsoft's position as a leading cloud supplier expanding its data centers. However, these challenges also reflect broader issues the world must overcome to develop and use greener concrete, steel, fuels, and chips. These are the biggest drivers of our Scope 3 challenges.

The Future of Carbon Removal Technologies

Will tech giants need more carbon dioxide technologies or nuclear energy to manage the growing emissions associated with their operations? A 2020 survey of data center managers and IT experts claims that, on average, the lifespan of their data center servers is 2-3 years. However, same survey two years later, claims servers are even running longer (3-5 years) depending on how often it's used i.e. cooling systems implemented, regular upkeep, and the specific GPU model.

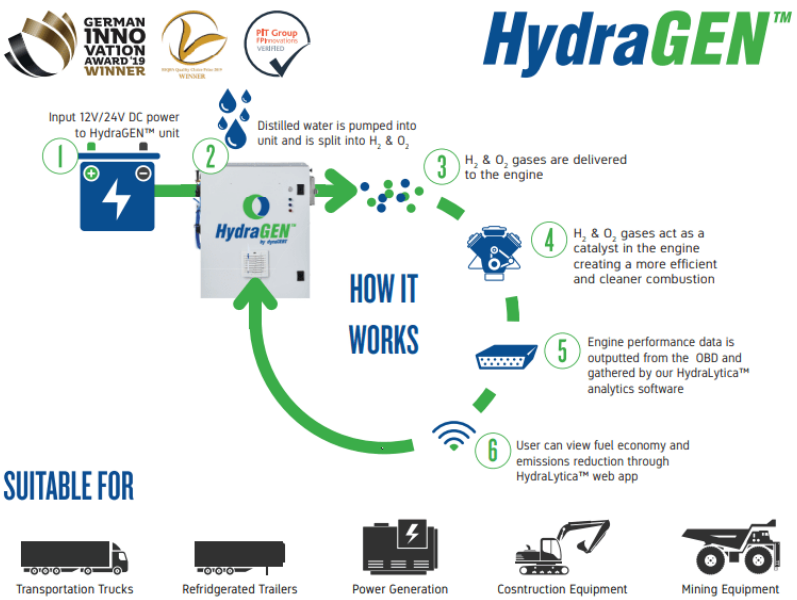
Therefore, we might see press releases

about new carbon dioxide removal technologies every two to three years or three to five years to offset the growing depreciation of data centers.

Asymmetric Bet: This Company's Carbon Credit Revenue Stream

DynaCERT Inc. recently announced on May 16, 2024, a $2.5 million non-brokered private placement of up to 16.67 million units at $0.15 each. The proceeds from the private placement are intended to fund its HydraGEN Technology sales (Chart 1), provide working capital, repay debt, manage advisory fees, and support general

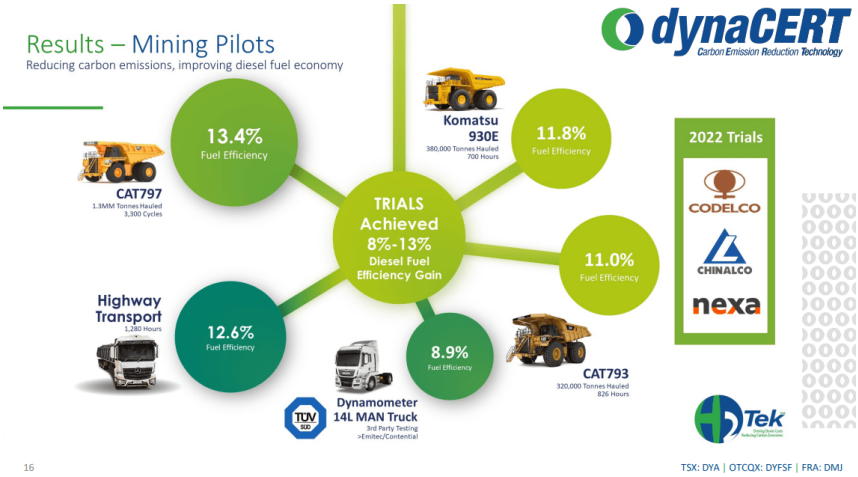
corporate purposes.



[(Chart 1)]

The company offers cutting-edge carbon emission reduction technology for use with internal combustion engines (ICE). As a contributor to the expanding global hydrogen economy, their patented technology utilizes a specialized electrolysis system to produce hydrogen and oxygen on demand. These gases are

then introduced into the engine's air intake, improving combustion efficiency. This process results in reduced carbon emissions, increased fuel efficiency (Chart 2), and cost savings on maintenance.



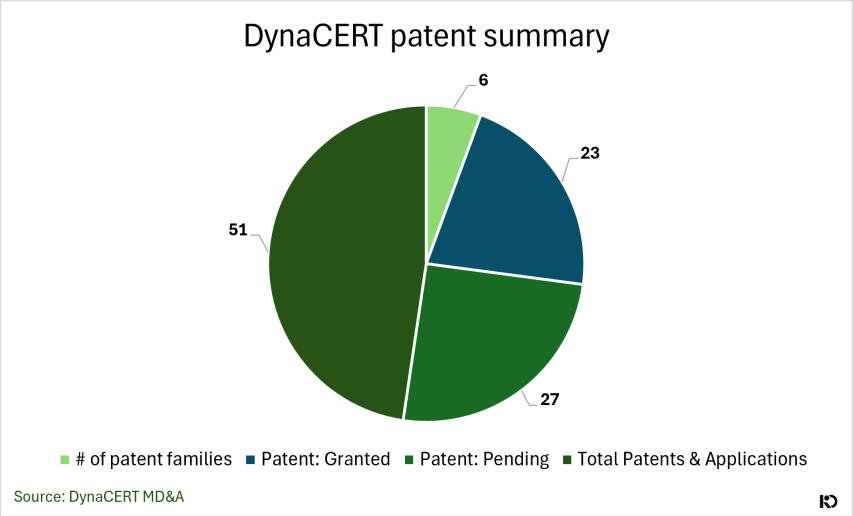
(Chart 2)

After reviewing its recent 'Management's Discussion and Analysis' report, among many other topical items, the following points caught my attention, prompting me to place an asymmetric bet on dynaCERT due to its compelling and diverse range

of strategic options.

Expanding Horizons: Market Penetration of Patents

It’s not every day you find a carbon emission reduction company making significant inroads across the mining, construction, logistics, and farming sectors, among others. Currently, dynaCERT holds an impressive portfolio of patents (Chart 3) in key markets such as Saudi Arabia, Israel, Russia, China, the United States, and Germany. The company operates in multiple jurisdictions worldwide, including Canada and Germany, and through agents and dealers in over 55 countries. dynaCERT is making inroads with purchase orders of its HydraGEN Technology (HG1 & HG2) units to Peru and Mexico.



(Chart 3)

Carbon Credit Optionality & Approval

Its proposed methodology for '[Improved Efficiency of Fleet Vehicles and Combustion Engines]' is currently under final review by Verra, with a decision anticipated later this year. Currently trading near its 52-week low of $0.12, the Verra certification, alongside partnerships and collaborations with entities, could grant possible upside to the company's top and bottom line.

Green Hydrogen

Cipher Neutron has a collaboration agreement with dynaCERT to develop and commercialize AEM Electrolyser technology. This partnership aims to produce larger, more efficient systems capable of generating green hydrogen at competitive prices, positioning both companies at the cutting edge of the hydrogen economy. Canada and Germany recently inked a memorandum of understanding (MoU) to export hydrogen produced in Canada to Germany.

With dynaCERT already in the German market, the Canada-Germany MoU adds further optionality to expand Cipher Neutron's hydrogen production technology and opens doors to government funding. However, Karbon Offsets has reservations about the current hydrogen landscape due to a greater spread of short-term vs. long-term off-take agreements.

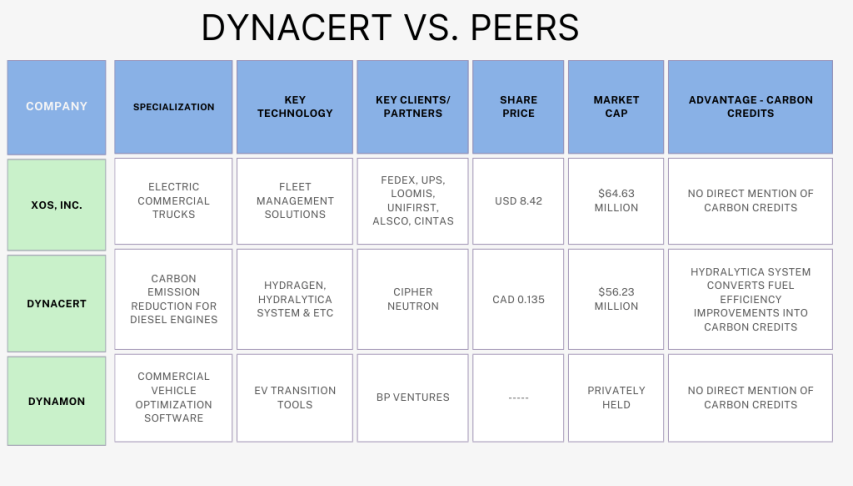
dynaCert VS. Peers

BP Ventures invested £4 million ($5,081,880 USD) in Dynamon, a commercial vehicle optimization software company, on August 3, 2023. Dynamon's tools facilitate the transition of fleets to electric vehicles (EVs), aiming to reduce operational costs and enhance efficiency. Dynamon is a privately held company based in Southampton, England

Xos, Inc. (NASDAQ: XOS) specializes in electric commercial trucks, providing cleaner alternatives to diesel vehicles and offering comprehensive fleet management solutions. As of May 20, 2024, the company's share price stands at $8.42, with a market capitalization of $64.63 million. Xos 2024 guidance projects a 50% increase in both revenue and unit deliveries for 2024. Notable clients include FedEx, UPS, Loomis, UniFirst, ALSCO, Cintas, and more.

DynaCERT specializes in carbon emission

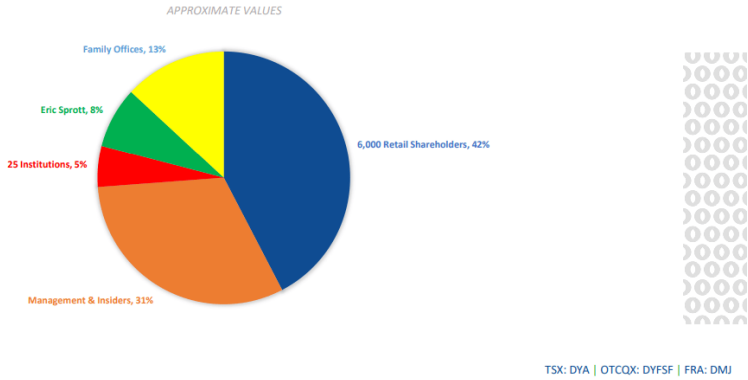
reduction technology for diesel engines through its innovative patent, which does not require modifications to commercial vehicle engines while improving fuel economy by an average of 10 to 20 percent. Its HydraLytica system measures the enhanced fuel efficiency and the reduction in emissions, converting these improvements into carbon credits. Additionally, DynaCERT partnership Cipher Neutron offers cost-effective green hydrogen options, capitalizing on the growing global interest in hydrogen as an alternative energy source. The share price is currently at CAD 0.135, with a market capitalization of $56.23 million. See also (Chart 4).



(Chart 4)

Insider Buying/Selling and Holders

As of May 20, 2024, dynaCERT has a approximate market capitalization of CAD 56.23 million. Insiders continue to purchase equity, with strong shareholder buy-in from family offices, a German asset management company, Eric Sprott, and others. See also (Chart 5).



(Chart 5)

To conclude, consider the potential bias of 'Karbon Offsets' and **consult your financial advisor** before making any investment decisions. Please note that this brief overview is **not a recommendation to invest in dynaCERT Inc.**

4 Ways to Make ETS Socially Acceptable!

We do think it’s important to report on revenue. This is very much linked to the social acceptance and the acceptance of the ETS, so we have a report every year on the use of revenues by member states. That is a detailed report where you can see how the money has been spent. But we also publish very clearly what we finance at the European level for Innovation, all the innovation projects, what we do for the modernization of energy systems, and also already now on the social aspect in the new Social Climate Fund that will also be funded by revenue. So yes, the short answer: it’s very, very important to showcase.

The above response was provided by Mette Quinn, Head of Unit for Carbon Markets and Clean Mobility at the European Commission, during the launch webinar of the 'ICAP Status Report 2024' for the Americas and Europe on April 10, 2024. The question addressed efforts made by panelists from various regions to demonstrate the use of emissions trading systems (ETS) revenues and emphasize the benefits of ETS for social acceptance.

The continued global growth and adoption of ETS is encouraging, with various innovative approaches emerging. According to the International Carbon Action Partnership (ICAP) Status Report 2024, there are currently 36 systems in place as of January 2024 (Chart 1), with an additional 22 under development or consideration, including in Argentina, India, Brazil, Vietnam, and Türkiye, among others. Developed economies like the European Union and Canada are also working on new systems to expand carbon

pricing into new sectors, aiming to reduce emissions. However, an often overlooked aspect is the transparency surrounding revenue allocation.

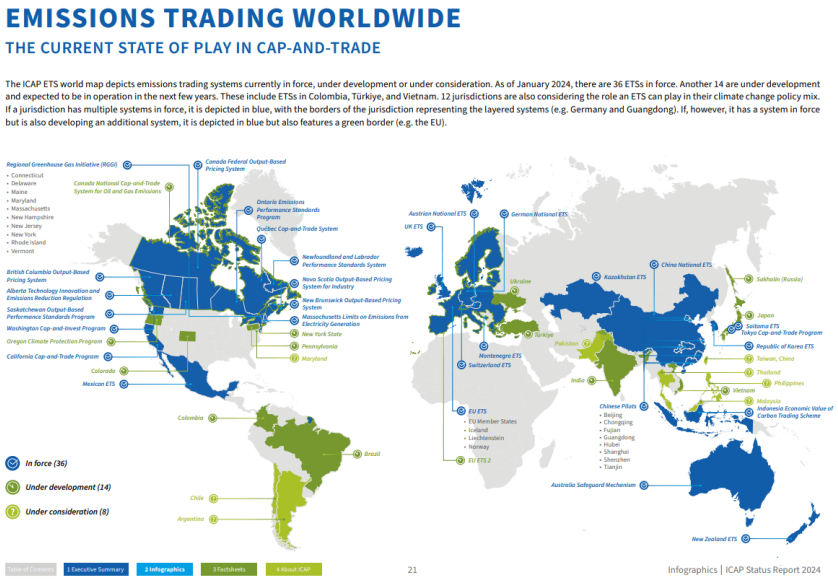


Chart 1

Annual discussions regarding the allocation of ETS revenue are crucial for four reasons, including:

1. **Building Trust**: Public discussions foster trust between participating countries and their citizens, ensuring

transparency and effective use of collected funds. These annual discussions can be supported by social media influencers advocating for climate change. In conjunction, governing political parties can leverage this annual discussion to showcase trust among their constituents that their promise to a cleaner, safer, and climate-resilient mandate is being kept.

2. **Demonstrating Positive Impact**: Highlighting the positive outcomes of using ETS revenue for renewable projects during these discussions can garner support for the system and its role in promoting clean energy solutions.

3. **Standardization**: Standardized reporting on revenue use allows for comparisons between countries, fostering healthy competition and knowledge sharing.

4. **Addressing Concerns**: Open discussions

enable countries to address concerns about revenue effectiveness, building public confidence and support for the program.

Strategies for Highlighting Revenue Use

Although ETSs are still in their nascent stage with European Union ETS leading the way; there is a need for a well-articulated global framework for revenue collection, allocation, and detailed reporting to support its rapid adoption and long-lasting support. However, that seems not to be the case. Currently, different jurisdictions have policies regarding the collection and use of ETS revenue, with other countries having no laws tailored explicitly for ETS.

In the UK, it’s quite unusual to track the use of ETS revenue as the money is channeled to a central consolidated fund. In the US, specifically in Washington State, detailed reporting on the use of ETS revenue has not been done in the

past, but considerations are being deliberated. Similarly, a comparable effort is currently underway in Brazil to utilize ETS revenue to finance innovations and climate mitigation projects.

During the ICAP Status Report 2024 Launch Webinar for Europe and the Americas, leaders from across the Americas and Europe acknowledged the potential benefits of highlighting ETS revenue collection and allocation to improve public acceptance. ETS revenue use can be highlighted through three strategies:

a) **Annual Reports**: Countries can publish detailed revenue collection and allocation reports, making the data readily available to the public.

b) **Success Stories**: Highlight specific projects or initiatives funded by ETS revenue that have demonstrably reduced emissions or advanced clean energy.

c) **Interactive Platforms**: Develop online platforms where citizens can easily track revenue allocation and its impact, fostering a sense of ownership and engagement.

Participating countries can secure broader public acceptance for this vital climate change mitigation tool by prioritizing transparency and effectively communicating the positive influence of ETS revenue. After all, a well-informed public is a more engaged public, and a more involved public is crucial for the long-term success of the ETS in achieving a cleaner future.

Opinion |

Rethinking Climate Activism for Climate Resilience

Key takeaways:

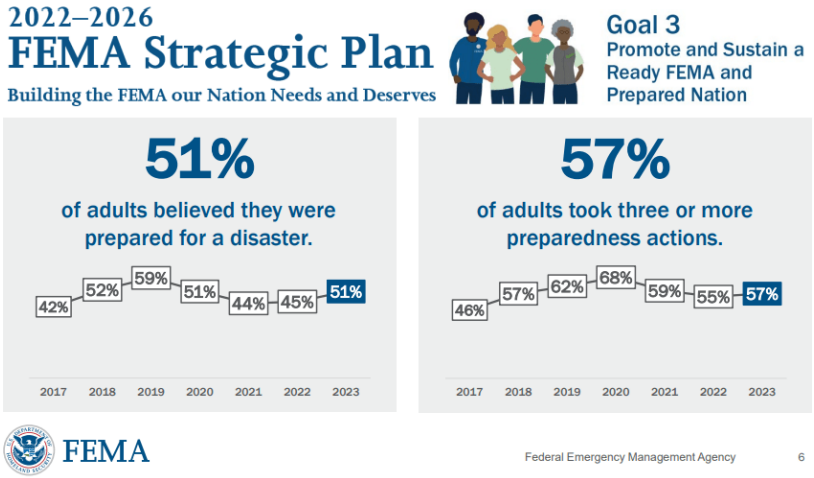
- What is a National Risk Register?
- Climate activism begins at home and contributes to climate resilience.
- Sendai Framework, or the Global Disaster Alert and Coordination System (GDACS).
- Taiwan’s emergency preparedness

You probably wouldn’t purchase real estate close to an active volcano, regardless of the price, unless you were the fictional superhero ‘Firestorm.’ However, there is a greater probability of you purchasing a home near a dormant volcano, considering the likelihood of reduced risks and emergency disaster preparedness in the event of such natural

chaos.

What is significant in the above scenario would be the activation of the volcano years later and whether you're made aware by proper authorities. Most probably, in a situation where your home is insured, your insurer would serve as a primary or secondary early warning indicator of such risk through rising premiums or provide notice of non-renewal and etc.

Recent surveys shed light on these specific points regarding awareness. In the United States, 51% of adults claimed readiness for disasters, with 57% taking three or more preparedness actions (Chart 1). Conversely, a 2021 Canadian poll conducted by Ipsos SA and commissioned by the Canadian Federal Government focused on emergency preparedness, revealing that 21% of Canadians are unaware of weather-related risks, while only 4% perceive living in high-risk areas.



(Chart 1)

Regardless of the percentage differential between both nations' readiness for natural disasters, policymakers have a role to play in devising optimal disaster preparedness measures and early warning systems to address any natural disaster. Large corporations must also contribute to community resilience efforts to protect both daily operations and shareholder investments.

To accelerate climate resilience and expedite the global transition to a

decarbonized world, climate activism can pivot and rethink climate resilience by scrutinizing policymakers not only during the Conference of the Parties (COP) but also by addressing the central challenge at hand: an 'A' grade 'National Risk Register Report' that serves as an exemplary emergency preparedness tool worthy of emulation.

So, what is a National Risk Register (NRR)? Simply put, it is a nation's assessment of disaster risk or risks that threaten the livelihood, social, health, economic, or critical infrastructure of a nation, along with recommendations and preparedness advice to mitigate or reverse these risks.

For many developing and some developed countries, as noted by the Sendai Framework, which complements other key global agreements such as the Paris Agreement on Climate Change, the Addis Ababa Action Agenda on Financing for

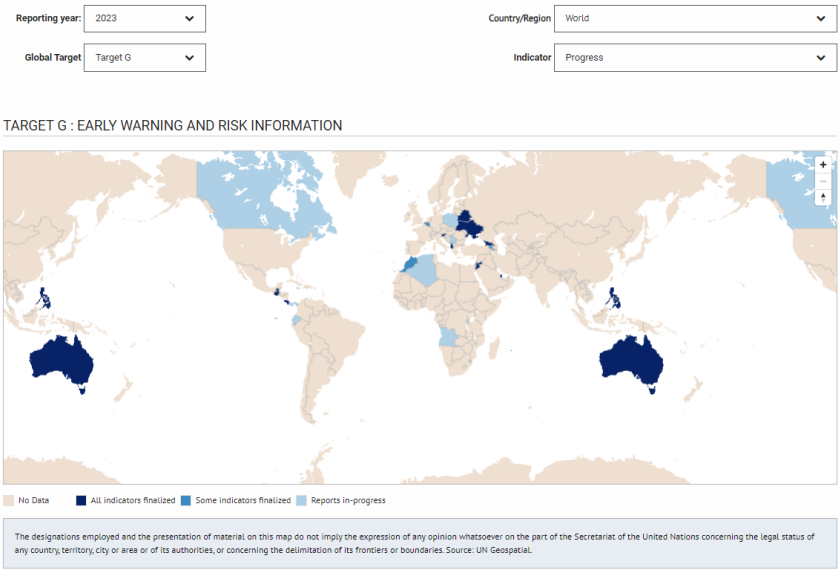
Development, the New Urban Agenda, and the Sustainable Development Goals, there are major shortfalls and tracks to follow in reaching improvements such as:

a) Increasing awareness of disaster risk by nations

b) Establishing resilient disaster risk governance to oversee disaster risk

c) Allocating resources to reduce disaster vulnerability

d) Strengthening disaster preparedness for efficient reaction (e.g., early warning and risk information – see Chart 2) is crucial to facilitate the process of restoration, renewal, and rebuilding.



(Chart 2)

The above shortfalls and road to improvement grants not only the benefit Mother Earth desires but also focuses and links the challenges climate activists aim to tackle – climate resilience.

To enhance climate resilience, climate activists in both developing and developed countries should engage and hold policymakers and corporations accountable using their region's National Risk reports, the Sendai Framework, or

the Global Disaster Alert and Coordination System (GDACS). Additionally, climate activist should prepare for the upcoming UN Disaster Losses and Damages Tracking System.

It wasn't long ago when 'Google's Android Earthquake Alert System' failed Turkey, resulting in over 60,000 deaths. Climate activism begins at home and contributes to climate resilience. It's not sufficient to possess these wonderful tools; rather, they must be utilized to scrutinize and hold policymakers accountable for inadequate disaster risk planning.

A great model for weather-related emergencies or disaster prevention is Taiwan's emergency preparedness, which builds on resilience through mobile and digital technologies, and can be accessed through the Taipei City Disaster Prevention Info Website. Equipped with a mobile app, it offers everything from

CCTV views of districts to alert functionality, providing disaster warning messages, weather and water monitoring information, hazard maps, and much more. (see Taipei City Disaster Prevention – App Screens)

Taipei City Disaster Prevention – App Screens)

As COP29 approaches in Baku, Azerbaijan, I have one question for you: How prepared is your community or region against climate-related risks, and are you ready

for an evacuation? Let’s reconsider climate activism for a better tomorrow.