Insights into responsible investing

CREATE A POSITIVE IMPACT

Wealth Management

Issue 10 | Q1 2023

A highlight of COP27

The 27th United Nations Climate Change Conference, better known as COP27, kicked off on November 6, 2022, in Sharm El Sheikh, Egypt. Many high-level events, negotiations and press conferences were held hosting more than 100 heads of state and governments and over 35,000 participants.[1] Topics include the climate crisis, global inflation, China's lockdown and the energy crisis as the Russia-Ukraine conflict persists. Below are some key takeaways from the 2022 conference:

The discussion around 1.5 C and reaching net-zero

"Keep 1.5 alive" was the mantra of the 2021 conference in Glasgow. This climate threshold was established by UN climate scientists to determine the level the earth's temperature can increase while preserving the coral reefs.

However, with emissions rising 1% last year and appearing to be on course for a 10% increase this decade, there is a 50-50 chance over the next five years that the mark will be missed, and we're likely to pass this important marker of temperature increases by 2031, according to the BBC's takeaways from COP27.[2]

Other net-zero goals are also in jeopardy due to recent economic and geopolitical events.[3] This has caused frustration with the slow pace of progress, and businesses and governments are starting to act.[4] A notable display of this was Joe Biden promising to cut U.S. emissions from 2005 levels 50% by 2030 and promoting his Inflation Reduction Act (IRA).[5] With allocating US$370 billion toward climate control, the U.S. administration's tech-forward

Continued on page 2

A highlight of COP27, continued from page 1

approach looks to focus on batteries, heating and cooling systems, electricity grids, de-carbonization of aviation fuel, steel and cement industries. Investors are excited about the IRA as they can now explore investment opportunities such as carbon capture and renewable natural gas in agriculture. Over the next two years, it is anticipated an exponential increase in standardized climate data from companies will enhance the capacity of investors to influence those companies on aligning with net-zero.[6]

Loss and damage fund

One of the biggest wins to come from COP27 was the establishment of the loss and damage fund. This fund, which nearly 200 countries agreed to take part in[7], is set up to support countries that are hit hardest by the impacts of climate change and least able to pay for the damages.[2] Events such as the recent Pakistan floods caused by global warming and early snowmelt made the topic difficult to ignore. A report by 55 vulnerable countries estimated their combined climate-linked losses over the last 20 years totaled US$525 billion, or 20% of their collective GDP, and some researchers suggest it could reach $580 billion per year by 2030[7].

The agreement at the summit lays out a roadmap calling for the funds to come from a variety of existing sources—including financial institutions—rather than only relying on rich nations to pay in. The agreement urges wealthy governments to overhaul multilateral development banks so that those institutions can increase their funding to the developing world for renewable-energy projects. This addresses long-running criticism that climate funds from institutions are too hard to access and come with high interest rates.

Collaborative actions and financing

Knowledge sharing and collaborative financing is an annual theme for the COP summit and this year's was no different. In private finance, there is a plan to reform leading public lenders—such as the World Bank—so that they can take more risk and lend more money to help countries cut their carbon emissions and adapt to climate change.[8]

Canada's nuclear reactors also gained some traction at this summit, as the currently developing small modular reactors in Canada could open an opportunity for the country to become a nuclear provider for the world. Investors, companies and other capital-markets participants will play a critical role in achieving the goals of the agreement reached at COP27. This would call for a transformation of the financial system to deliver the estimated US$4–6 trillion annually that will be needed this decade and beyond for sustainably produced energy and the transition to a low-carbon economy.

COP15 recap: discussions on biodiversity

Another conference of parties came together at the end of 2022 to discuss the theme of biodiversity (COP15). Global governments agreed to 2030 targets to effectively halt biodiversity loss and protect at least 30% of terrestrial, inland water and coastal and marine areas—an agreement like the global Paris Agreement climate goals[9]. The agreement calls for a significant increase in the mobilization of finance for biodiversity to at least $200B per year by 2030.

During the conference, the taskforce on nature-related financial disclosures created a goal to redefine a standard reporting framework for firms[10], specifically around tracking risks of contributing to biodiversity loss and deforestation. For investors, as data and disclosures continue to advance, it will be important to determine the materiality of nature-related risks and biodiversity loss and take these factors into consideration as part of the investment decision-making process.[11]

1. "Delivering for people and the planet." United Nations. https://www.un.org/en/climatechange/cop27. (Accessed January 4, 2023).
2. Stackhouse, John. "Reality Bites: 10 takeaways from COP27." RBC. November 18, 2022. https://thoughtleadership.rbc.com/reality-bites-10-takeaways-from-cop27/ (Accessed January 4, 2023).
3. "COP27: Financing the transition to net zero." McKinsey Sustainability. November 9, 2022. https://www.mckinsey.com/capabilities/sustainability/our-insights/sustainability-blog/cop27-financing-the-transition-to-net-zero. (Accessed January 4, 2023).
4. Varley, Steve. "COP27 — five key takeaways from the UN climate talks." Economist Impact. November 17, 2022. https://impact.economist.com/sustainability/five-key-takeaways-cop27. (Accessed January 4, 2023).
5. https://thoughtleadership.rbc.com/reality-bites-10-takeaways-from-cop27/
6. Vanston, Sylvain; Marchand, Oliver; Cote, Chris; Ruiz-Vergote, Simone and Thwing Eastman, Meggin. "What COP27 Means for Companies and Investors." MSCI. November 21, 2022. https://www.msci.com/www/blog-posts/what-cop27-means-for-companies/03507029203. (Accessed January 4, 2023).
7. Abnett, Kate and Evans, Dominic. "Explainer: Who will pay for climate 'loss and damage'?" Reuters. November 22, 0222. https://www.reuters.com/business/cop/who-will-pay-climate-loss-damage-2022-11-20/. (Accessed January 4, 2023).
8. Daigle, Katy and Jessop, Simon. "Key takeaways from the COP27 climate summit in Egypt." Reuters. November 21, 2022. https://www.reuters.com/business/cop/key-takeaways-cop27-climate-summit-egypt-2022-11-20/. (Accessed January 4, 2023).
9. Segal, Mark. "International Agreement Reached at COP15 to Halt Biodiversity Loss, Protect Ecosystems." ESGtoday. December 19, 2022. https://www.esgtoday.com/international-agreement-reached-at-cop15-to-halt-biodiversity-loss-protect-ecosystems (Accessed January 12, 2023).
10. Shain, Emily. "MSCI Launching tools to Identify Companies at Risk on Biodiversity, Deforestation." ESGtoday. December 15, 2022. https://www.esgtoday.com/msci-launching-tools-to-identify-companies-at-risk-on-biodiversity-deforestation (Accessed January 12, 2023).
11. "NGFS acknowledges that nature-related risks could have significant macroeconomic and financial implications." NGFS. March 24, 2022. https://www.ngfs.net/en/communique-de-presse/ngfs-acknowledges-nature-related-risks-could-have-significant-macroeconomic-and-financial (Accessed January 12, 2023).

Responsible investing opportunities in the ag industry

This past year the agricultural sector has experienced high prices, volatility and unpredictability. With the Russia-Ukraine conflicts and increased extreme weather events, agriculture around the world has faced major challenges and tight profit margins. New research from RBC, BCG's Centre for Canada's Future and Arrell Food Institutes shows that, with proper execution, Canada now faces an opportunity for global leadership in agriculture.

RBC's Next Green Revolution report highlights four key points that are key to Canada's journey in the green revolution and for building a low emissions agriculture and food system.

Fertilizer

Fertilizer production and use produces 28 megatons of greenhouse gases or 30% of Canada's total agricultural emissions. There are several game changers discussed in RBC's Next Green Revolution report that could be a catalyst to reducing fertilizer emissions in Canada by 14MT by 2050.

First, there are several tools and industry-initiatives to help farmers reduce fertilizer use. For example, Fertilizer Canada's "4R Nutrient Stewardship" helps farmers use both the correct amounts of fertilizer and enhanced efficiency fertilizers, which may lead to significant emissions reductions.

There are also solutions around cutting emissions from fertilizer production, such as carbon capture, utilization and storage systems (CCUS), which capture emissions before they enter the atmosphere and compress them into a liquid.

Many small, family farms are reluctant to experiment with new technologies due to the costs and uncertainty it could put in their operations and for production. Beyond Nutrien's Redwater facility, only a minor fraction of fertilizer production companies employ CCUS, which can cost up to $50 million per plant[1]. Though carbon capture and storage is considered the most cost effective and immediately available fertilizer technology for reducing emissions, it is also one of the most capital intensive.

Regenerative agriculture

Investing in soil is an early step in establishing a green agriculture since it stores carbon and has the power to act as a carbon sink—removing carbon from the atmosphere where it contributes to climate change. Modern farming practices like tiling can impair this important function by disturbing the carbon in the soil.

Regenerative agriculture is intended to improve soil health, protect biodiversity and draw greenhouse gases out of the atmosphere into the ground. It has become a top food trend in the U.S., where a growing range of products feature it as a credential. Many U.S. and Canadian food companies have launched initiatives to advancing regenerative agriculture.

Adoption of regenerative agriculture for farmers have been mainly hindered by upfront investments in enabling equipment. Another barrier is the lack of a single legal or regulatory definition around regenerative agriculture and how it's used. This leaves the practice open to misuse and bold claims, leaving farmers and consumers to sort out credibility on their own.

Livestock

Canada's dairy and beef cattle are the biggest sources of agricultural emissions after fertilizer, since through their digestion process cattle produce methane, a potent greenhouse gas. Feed additives are a potential option for reducing these emissions; like 3NOP or seaweed that cut the amount of methane produced during digestion.

For a longer-term solution, researchers are currently working on breeding techniques that could produce cattle that release less methane. Manure also contributes to emissions, with 8 megatons of total agriculture emissions coming from manure. Anaerobic digesters allow farmers to turn manure and organic waste into electricity or renewable gas, which also gives them extra

Continued on page 4

Responsible investing opportunities in the ag industry, continued from page 3

revenue generation. With only 13% of available biogas energy production being tapped in Canada, there's room to grow.[1]

Feed can be very costly for a beef or dairy farmer and a lot of skepticism remains around how much these additives will cost amid strong international demand. For anaerobic digesters, the upfront cost can be anywhere from C$7 million to $70 million, putting them out of reach for the many smaller family farmers in Canada.

Embracing the green agricultural technology revolution

The next green revolution and its solutions will rely on technology, such as innovations like CCUS, biodigesters and precision tools. Technology will also be critical to producing more food on less land and avoiding conversion of land into cropland. Controlled environment agriculture—such as greenhouses and vertical farms—are examples of earlier stage technologies that could be an investment opportunity for Canadian advancement.

Most Canadian research comes from public funding, while other countries, including the U.S., are seeing more research dollars come from the private sector. Competing in the next era of agriculture will depend on Canada's ability to mobilize more of this capital.

1. "The Next Green Revolution: How Canada can produce more food and fewer emissions." RBC Special Reports. November 7, 2022. https://thoughtleadership.rbc.com/the-next-green-revolution-how-canada-can-produce-more-food-and-fewer-emissions. (Accessed January 24, 2023).

2023 trends for responsible investing

As the ESG and responsible investing industry continues to mature, it's important to look at the trends and opportunities for 2023. Here are some of the challenges and drivers for growth within the space.

RBC Capital Markets' Sustainable Finance Group identified three key themes that it believes will define progress on ESG matters in 2023:

- **The evolution of the sustainability disclosure landscape:** RBC Capital Markets anticipates that a global baseline for sustainability disclosures, expected to be finalized by the International Sustainability Standards Board (ISSB) in 2023, will bring about a renewed emphasis on the concept of financial materiality and the interplay between sustainability and financial value creation.
- **A great reset for ESG integration and sustainable finance:** As market participants become more sophisticated and regulatory frameworks become increasingly stringent with regards to what qualifies as a sustainable investment, RBC Capital Markets believes that heightened attention to quality and integrity will help temper greenwashing concerns and drive further innovation in the sustainable finance market.
- **A growing market for transition finance:** The rise of energy independence as a critical national security priority, paired with growing recognition that some of the most impactful opportunities for decarbonization and value creation can be found within the highest-emitting sectors of the economy, will lead to an increased focus on projects that do not currently align with a pure "green" framework but that ultimately will be instrumental in helping to reach net-zero by 2050.

Responsible Investment Association of Canada[1]

- Expectations for future industry growth in responsible investing are moderating compared with high levels expected in past years.
- Mistrust/concerns about greenwashing is the top deterrent to growth; lack of standardized frameworks ranks second.
- Climate change leads all other issues as a key driver of responsible investing growth, followed by investor demand for ESG/impact.

MSCI[2]

- Innovations in the supply chain.
- Changing governance.
- Responses to regulation.
- Work life changes.
- New frontiers in measurement and transparency.
- Emergence of new investments: lab-grown commodities, greening steel and industrial real estate, and investing in carbon emission.
- Turning points for ESG assets.

Morningstar[3]

- Expect Europe to gain significant ground. In the U.S, where the conversation around ESG and climate has become politicized, progress is slower.
- The need for climate data and analytics will grow quickly, driven by the EU action plan and the reporting requirements for the task force on climate-related financial disclosures.

Continued on page 5

2023 trends for responsible investing, continued from page 4

- Concerns about greenwashing (the misrepresentation of ESG product characteristics) will start to recede as regulators act. Europe is well on its way to tackling greenwashing through the EU action plan and providing a taxonomy that clearly sets out what makes an investment green.
- The great wealth transfer continues, bolstering the popularity of sustainable investing for individuals. Inheritors of wealth are increasingly considering their personal values as they make investment decisions.

PwC[4]

- Investors are pushing for new ESG products, but demand for ESG investments outstrips supply. While 88% of institutional investors surveyed want asset managers to be more proactive in developing new ESG products, only 45% of managers said that they are planning to launch new ESG funds.
- Anticipate ESG assets under management reaching US$34 trillion, or 21.5% of all assets by 2026, outpacing the industry as a whole.
- 8 of 10 U.S. investors plan to increase their allocations to ESG products over the next two years.
- Barriers include complex and inconsistent regulation, along with the need for improved transparency on ESG products.
- ESG has broadened objectives and fiduciary duties.
- To attract new investment, managers need to differentiate their products and demonstrate ESG performance.
- E, S and G must be balanced as part of a just transition.

Conclusion

The responsible investing landscape, definitions, expected frameworks and standards are maturing. There is potential for ESG to be integral in the generational wealth transfer, especially with younger investors who are interested in understanding how to align their investments with their personal interests.

Regulatory guidance/requirements show signs of confidence as the strengthening of sustainability disclosure requirements and increasing standardization of sustainability data will be a strong driver for the responsible investing industry.

Amid increasing scrutiny over greenwashing, organizations are being more selective about how they define what investments they say are considered responsible investing. Greater awareness of ESG factors, including climate change, are translating into demand from investors for products and services to address or consider ESG issues. Continued adoption within this space is likely to occur in the years to come, especially as the great wealth transfer continues.

1. "2022 Canadian RI Trends Report." RiA. https://www.riacanada.ca/research/2022-canadian-ri-trends-report/. (Accessed January 4, 2023).
2. "ESG & Climate Trends to Watch for 2023." MSCI. https://www.msci.com/research-and-insights/2023-esg-climate-trends-to-watch. (Accessed January 4, 2023).
3. Mann, Bob. "4 Things to Expect for Sustainable Investing in 2023." Morningstar. December 12, 2022. https://www.morningstar.com/articles/1129146/4-things-to-expect-for-sustainable-investing-in-2023. (Accessed January 4, 2023).
4. "Asset and wealth management revolution 2022: Exponential expectations for ESG." PwC. https://www.pwc.com/gx/en/financial-services/assets/pdf/pwc-awm-revolution-2022.pdf. (Accessed January 4, 2023).

Helping drive climate innovation and solutions with RBC Tech for Nature partnerships

From food security to air quality, energy needs to access to clean water, there has never been a more urgent need for extraordinary environmental solutions. At RBC we recognize that technology offers immense potential to develop innovative solutions to address those challenges.

As a key element of our continued commitment to deliver on our climate strategy, the RBC Climate Blueprint, RBC Tech for Nature is a multi-year commitment to help preserve the natural ecosystem by supporting ideas and technologies that address pressing environmental challenges. RBC is leveraging its technology capabilities in areas such as artificial intelligence, blockchain and app development to work with charitable partners to address water, climate and other environmental challenges. We are actively seeking partners who share our vision and are pursuing technology-based solutions.

Through RBC Tech for Nature partnerships, the RBC Foundation is committing $100 million by 2025 to innovative environmental programs. We are proud to support more than 100 charitable partners implementing new ideas and technology to address the planet's most pressing needs.

These partners are at the forefront of the discussions and problem solving by contributing key research, next-generation technology and the use of data to enhance our understanding of the resources needed to protect our planet.[1] Climate-focused innovation was the key theme for 2022's RBC Tech for Nature partnerships, as they turn their attention to opportunities to protect our natural ecosystem. The latest wave of funding will help propel universities and charities developing solutions from carbon sequestration to cleantech and biodiversity.

Funding supports technology-driven programs in three key areas:

Data — There is a lack of organized data on the health of our planet and how our actions affect it. We believe creating a common language about the environment through data will allow for informed and meaningful decision-making.

Innovative ecosystem — We believe that we need to launch and scale up game-changing solutions by empowering the entrepreneurs, ventures and charities working to build solutions to solve pressing environmental challenges.

Communities of action — Each person holds more power than they know. We believe that through technology, we can empower individuals to work with their communities and positively change their behavior to produce a notable change for our planet.

Our Tech for Nature partners are committed to creating a sustainable, inclusive future. Read stories about our partners' impact in communities in partnership with DailyHive.

See the latest from RBC Tech for Nature's DailyHive:

- Here's why proper use of Canada's land is essential for food security | Venture (dailyhive.com) – Making sustainable farming practices easier for all
- How this conservation organization is addressing biodiversity loss in Canada | Venture (dailyhive.com) – Saving wildlife and wild places in Canada through science, conservation action, and inspiring people to value nature
- How this UBC-led team developed a first-of-its-kind farming app | Curated (dailyhive.com) – Finding sustainable solutions within agriculture

1. www.rbc.com/newsroom/news/article.html?article=125705. Accessed January 4, 2023.

Wealth Management

U.S. Investment and insurance products offered through RBC Wealth Management are not insured by the FDIC or any other federal government agency, are not deposits or other obligations of, or guaranteed by, a bank or any bank affiliate, and are subject to investment risks, including possible loss of the principal amount invested.

In the U.S., RBC Wealth Management operates as a division of RBC Capital Markets, LLC. In Canada, RBC Wealth Management includes, without limitation, RBC Dominion Securities Inc. (RBC DS)*, which is a foreign affiliate of RBC Capital Markets, LLC. *Member – Canadian Investor Protection Fund. This document has been prepared by an employee of RBC Wealth Management in the U.S. for use by RBC Wealth Management in the U.S. and RBC DS in Canada. Each of the aforementioned corporate entities and the Royal Bank of Canada are separate corporate entities which are affiliated.

Like any type of investing, ESG and responsible investing involves risks, including possible loss of principal. Past performance is no guarantee of future results. This material has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. All opinions and estimates constitute the author's judgment as of the date of this publication, are subject to change without notice and are provided in good faith but without legal responsibility. It is not possible to invest directly in an index. Nothing in this communication constitutes legal, accounting or tax advice or individually tailored investment advice. RBC Wealth Management does not provide tax or legal advice. All decisions regarding the tax or legal implications of your investments should be made in connection with your independent tax or legal advisor. The information contained herein has been derived from sources believed to be reliable, but no representation or warranty, express or implied, is made by RBC Wealth Management, its affiliates or any other person as to its accuracy, completeness or correctness.

23-08-03224_00824 (02/23)