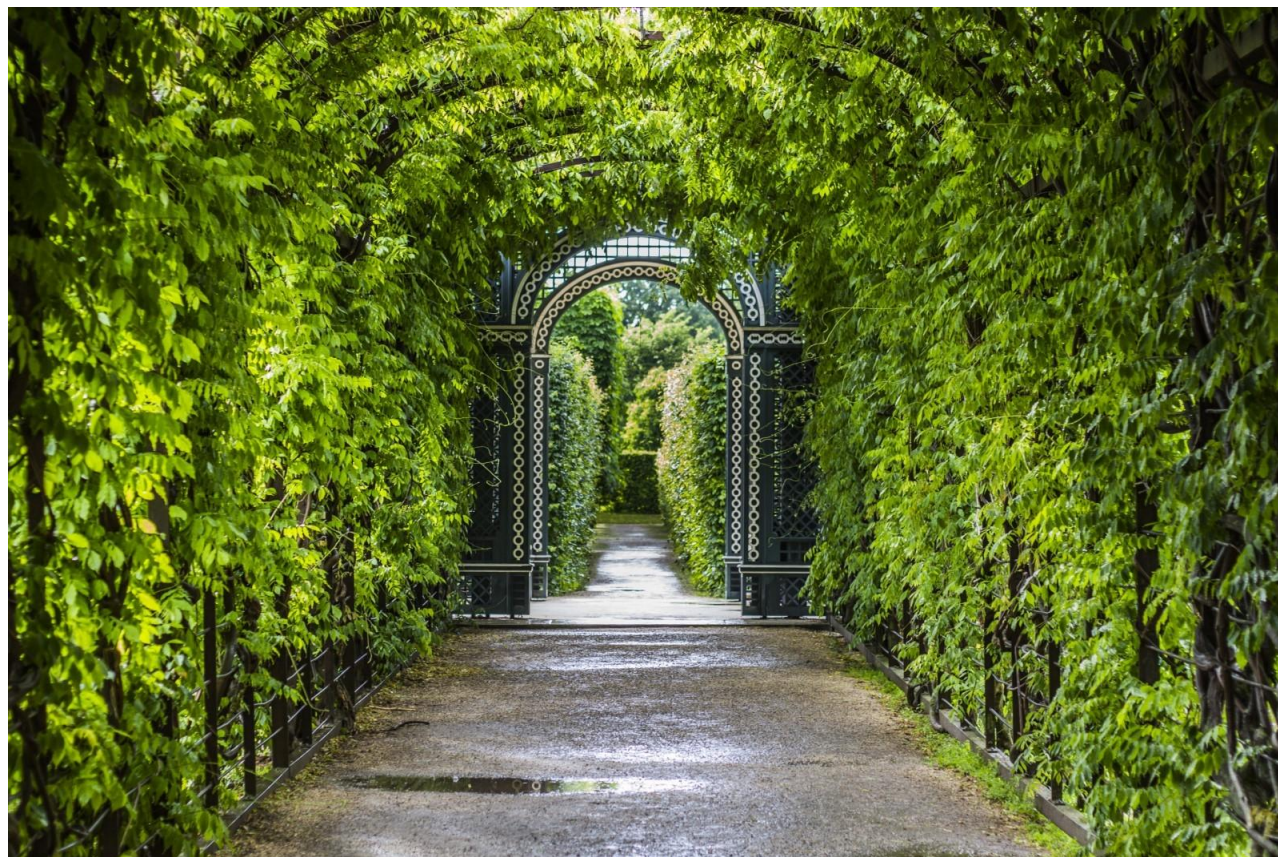


S&P Global Sustainable1 Investor Client Council



**H1 2025 North America Briefing
Thursday 8th May 2025: 1:00-4:00pm EST
S&P Global, 55 Water St, New York, NY 10004**

S&P Global Sustainable1 Investor Client Council

Region: North America
Session: H1 2025

Location: New York City
Date: May 8th 2025
Time: 1:00 - 4:00pm EST

Chairs: Lauren Smart, Divya Mankikar
Vice Chair: Myrna Ghanem

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Introductions and Welcome

Dear Council Members,

Welcome back to a new year of the Investor Client Council. As we commence the Council's third year, we would like to emphasize how much we value the continued importance of this forum and your engaged participation in it.

We are gathering at a unique moment in time. The global trade, economic and geopolitical order is being reshaped, with profound consequences for how the energy transition will unfold in the coming years. Companies and investors are positioning themselves for an era that will be defined by a renewed focus on energy security, the proliferation of AI across the economy, intensifying geopolitical competition and continued climate risks.

We have curated an agenda and insights designed to help you navigate the multidimensional energy transition as it is currently unfolding, and to delve into the implications of an AI-powered economy for global and organizational sustainability objectives. We look forward to a valuable exchange of insights as we navigate these multifaceted challenges and opportunities together.

Sincerely,

Lauren Smart, Head of S&P Global Sustainable1

Divya Mankikar, Head of Market Insights, S&P Global Sustainable1

Session Agenda

12:30 – 1:00: Registration & Networking

1:00 – 1:05: Welcoming Remarks

Co-Chairs of the Investor Client Council

1:05 – 1:15: Guidelines & Introductions

Vice-Chair of the Investor Client Council

1:15 – 2:30: Topic 1 (See Attached Briefing)

The Multidimensional Energy Transition: Balancing Risks and Opportunities

- Roman Kramarchuk, Head of Energy Transition Narratives & Policy Analysis, S&P Global Commodity Insights
- Elizabeth Bachelder, Director of Sustainable Finance, S&P Global Ratings

2:30 – 2:45: Break

2:45 – 3:55: Topic 2 (See Attached Briefing)

Navigating the Energy Surge: AI, Datacenters and the Path to Net-Zero

- Kelly Morgan, Research Director, S&P Global Market Intelligence
- Ian Campbell, Head of Power & Renewables Product Portfolio, S&P Global Commodity Insights

3:55 – 4:00: Concluding Remarks

Co-Chairs of the Investor Client Council

4:00 – 6:00: Optional Networking Reception [Skybar 55, 2nd Floor @ 55 Water St.]

S&P Global Sustainable1 Investor Client Council 2025 Council Meeting Guidelines

The S&P Global Sustainable1 Investor Council (“Investor Council”) is a community of renowned industry experts, who meet regularly to discuss business challenges and opportunities arising from sustainability issues. Its members provide S&P Global with invaluable insights and expertise inform best practices and deepen our firm’s understanding to better serve the evolving needs of the market through the creation of relevant products and services.

The below Guidelines are established to ensure all members are engaged in conversations that are legally appropriate while promoting the sharing of insights and expertise relevant to the success of the Investor Council.

Each member of the Investor Council shall hold all information shared with and in connection with the Investor Council in strict confidence. Each member of the Investor Council shall only share such information with any persons or entities who are members of the Investor Council and shall only share such information with any persons or entities who have executed the appropriate Investor Council NDA with S&P Global.

S&P Global Sustainable1 produces a company’s S&P Global ESG Score in accordance with its published methodology. S&P Global is committed to the independence and objectivity of its products and services and has policies in place to help maintain an appropriate separation between its different business units, including S&P Global Sustainable1 which develops S&P Global ESG Scores. For the avoidance of doubt, the Investor Council shall not be involved and shall not influence or attempt to influence S&P Global Sustainable1’s methodologies, policies, or practices in connection with the S&P Global ESG Score and its related operations. Further, all parties involved with the Investor Council understand that any business relationships any Investor Council member has with S&P Global, and vice-versa, are separate and distinct from the Investor Council.

By participating in the Investor Council, each member of the Investor Council understands and agrees to these Guidelines.

Please contact S&P Global Sustainable1 Legal via Divya Mankikar (divya.mankikar1@spglobal.com), Myrna Ghanem (myrna.ghanem@spglobal.com) or the Investor Council Admin (InvestorClientCouncilAdmin@spglobal.com) if you have any questions about the application of this guidance.

| Permitted | Not Permitted |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Discuss public or non-commercial matters: market trends; perspectives on ESG regulation; industry studies best practices high-level product development evolution thought processes and concepts S&P Product launches or expansions, including standardized models and analytics, to the extent presented by S&P Global Sustainable in connection with the Investor Council | <ul style="list-style-type: none"> Discuss non-public: Pricing/commercial policy Marketing efforts Specific or granular cost information Particular customers or vendors No discussion on specificities of scores or methodologies except to the extent already publicly disclosed |
| <ul style="list-style-type: none"> Set an agenda for each meeting and review with Legal if any questions. | <ul style="list-style-type: none"> Discuss specifics of how market trends affect each company or examples of customers Discuss product pipeline ideas, methodology changes, specific business strategies, specific intended developments, trade secrets, or know-how |
| <ul style="list-style-type: none"> Raise any concerns about discussion topics at a meeting. If discussions continue, leave the meeting and ensure that your departure is recorded in writing. Report any concerns to Legal. | <ul style="list-style-type: none"> Allow any departures or deviations from the stated agenda. Allow analytical employees to attend without appropriate legal and compliance review and approval |
| <ul style="list-style-type: none"> Remember all written communications (including emails and notebooks) may be disclosable to a regulatory or legal authority (including without limitation a competition authority). Ensure the legitimate professional objective behind discussions is clear in any written communications. | <ul style="list-style-type: none"> Apply different standards of behaviour to information sharing in a less formal or social setting. |
| <ul style="list-style-type: none"> Ensure discussions are accurately recorded. | <ul style="list-style-type: none"> Use language which could be misinterpreted. Use language that is factually incorrect |

Subject Briefing

The Multidimensional Energy Transition: Balancing Risks and Opportunities

Background

S&P Global Commodity Insights predicts \$58T in energy investment opportunities by 2050 across the energy sector under our Inflections reference case scenario. These include an increasing share going into clean energy technologies and the power grid, but still considerable investment needs for upstream fossil fuels, refining and mining. With government budgets constrained by high debt levels, more is being asked of private and institutional investors to fill the widening transition finance gap. An estimated \$3.2 trillion dollars annually is needed for climate-oriented development in developing countries by 2035. At the same time, companies and investors are positioning themselves for an era that will be defined by a renewed focus on energy security, the proliferation of AI across the economy, intensifying geopolitical competition and continued climate risks. S&P Global Sustainable1 identifies almost \$25 trillion in cumulative financial impacts for the world's largest companies due to changing climate hazard exposures under a medium climate change scenario (SSP2-4.5). While investments in adaptation will need to increase substantially to mitigate costs of worsening climate hazards, S&P Global Sustainable1 data reveals that only 35% of companies across sectors have a plan to adapt to the physical impacts of climate change.

Our Approach

Regional and sectoral analysis are critical to understanding trends, opportunities and costs to transition. Our newly formed [Energy Transition, Sustainability and Services](#) unit brings together the combined capabilities of S&P Global Commodity Insights and Sustainable1, enabling an integrated view of the financial and market context of investments across the energy transition value chain, as well as their climate and nature risk profiles. Our outlooks for the energy sector balance demand driven by economic activity with supply stemming from fuel and technology choices, as well as changing capital and operating costs and policy signals. We also consider the sustainable bond markets, where close to two-thirds of outstanding debt issuance with maturity in 2030 and beyond is in jurisdictions with green or sustainable taxonomies either planned, implemented or in development. How the sustainable finance markets align to regional taxonomies is increasingly part of S&P Ratings' work as a second party opinion provider. We also see more requests for understanding how bespoke fund structures or blended finance instruments would be viewed by our credit analysts. We welcome the Council's guidance related to how investors are approaching the investment needs and costs associated with the energy transition amidst economic and geopolitical headwinds, and how S&P can better support informed investment analysis.

Pre-Read Materials

- [On one hand, \\$60T in clean energy investment opportunities. On the other, \\$25T in climate physical impacts](#)
- [Top Cleantech Trends for 2025](#)
- [The Troubled Energy Transition: How to Find a Pragmatic Path Forward](#)
- [Multilateral Lending Institutions and Private Sector Capital Mobilization for Climate Action and Development](#)

Detailed Questions

1. How are changes in the geopolitical landscape leading to changes in your outlooks for supply, demand and prices within the energy sector? How are they affecting your energy- and sustainability-related investment decision-making?
2. How are you approaching blended finance/innovative financing instruments? What problems are you trying to solve and how embedded is this topic in your sustainable investment strategy?
3. In what ways is the proliferation of sustainable taxonomies impacting your work? Do you see a need for an objective assessment of green and transition? What level of regional convergence or divergence in defining sustainability is optimal? Are there additional credit tools you may need to support your sustainability objectives?
4. What is your approach to measuring and mitigating physical climate risk exposures? How are you embedding climate-related costs into your analysis of energy transition opportunities?

Navigating the Energy Surge: AI, Datacenters and the Path to Net-Zero

Background

As artificial intelligence (AI) proliferates across economic sectors, the business world is weighing the costs and benefits for climate change and the energy transition. While AI technology demands significant amounts of electricity that cannot be entirely supplied by zero-carbon sources, it also has incredible promise for unlocking energy efficiencies across the economy. S&P Global data shows that emissions from purchased electricity have risen sharply at major data processing firms, complicating these companies' efforts to reach net-zero. Datacenter operators have contracted massive amounts of renewable energy years into the future, but their need for constant, reliable power means natural gas will continue to be a key energy source. The desire for low carbon, preferably baseload power has also seen revived interest in the nuclear sector to feed future growth. Further complicating the investment landscape is the misalignment between the investment timelines and needs for power infrastructure and datacenters. More broadly, the key question facing AI adoption over the next several years will be how to ensure it unlocks enough climate benefit to offset its own rising emissions and become net positive.

Our Approach

S&P Global integrates expertise across the global energy sector, AI/datacenter landscape, financial markets and sustainability to help clients navigate the implications of an AI-powered economy for sustainability goals and investment decision-making. Our market outlooks, asset valuation tools, price assessments, forward curves, scenario analytics and climate data enable a nuanced view of trends, risks and opportunities. We look forward to the Council's perspectives on how the changing landscape for power demand and impacts on sustainability goals are affecting investment strategies, and how S&P can best support informed decision-making.

Pre-Read Materials

- [Can AI Become Net Positive for Net-Zero?](#)
- [AI and Energy: The Big Picture](#)
- [Energizing Innovation: Exploring AI's Impact on the Energy Industry](#)

Detailed Questions

1. Balancing the benefits of AI with the growth in energy demand it is driving, including for hydrocarbons and nuclear, does AI belong in a transition fund? Do hyperscalers' offtake and PPA agreements with nuclear power developers and operators shift how the sector is considered in sustainable investment strategies?
3. Do you anticipate regulation will move fast enough to enable the substantial investment in generation and transmission infrastructure needed to manage demand growth?
4. As natural gas demand is expected to boom, are you prioritizing observation-based methane emissions data in your financed emissions calculations? Are you aligning your natural gas exposure with taxonomy criteria?
5. How are you factoring physical climate risks, such as drought and water availability, into your analysis of power generation and/or datacenter assets?

Members of the Council

[Erin Bigley](#), Chief Responsibility Officer, Alliance Bernstein



Erin Bigley is a Senior Vice President, AB's Chief Responsibility Officer and a member of the firm's Operating Committee. In this role, she oversees AB's corporate responsibility practices and responsible investing strategy, including integrating environmental, social and governance considerations throughout the firm's research, engagement and investment processes. Bigley joined the firm in 1997 and previously served as a portfolio manager and trader for the global and Canadian bond strategies. She spent two years based in London as the global head of Fixed Income business development for institutional clients. Bigley served as a fixed-income senior investment strategist for over a decade, and as head of the strategist team from 2018 to 2021. Most recently, she held the role of head of Fixed Income Responsible Investing, where she oversaw the Fixed Income team's responsible investing strategy. Bigley holds a BS in civil engineering from Villanova University and an MBA from the Massachusetts Institute of Technology's Sloan School of Management. She is a CFA charterholder.

(Proxy) [Sara Rosner](#), Senior Vice President, Director of Responsible Investing Research, Alliance Bernstein



Sara Rosner is a Senior Vice President and AB's Director of Responsible Investing Research. She leads the Responsibility team's work with AB's investment teams and clients on identifying, researching and engaging on material environmental and social issues that arise in the investment process. She leads AB's collaboration with the Columbia Climate School, which focuses on enhancing investors' ability to integrate climate change considerations into their decision-making and investment processes. Rosner has also developed and is implementing AB's approach to managing material risks and opportunities stemming from the global transition to a lower carbon economy and has managed firmwide initiatives on climate scenario analysis, carbon offsets, and ESG education and training. Prior to joining the firm in 2018, Rosner performed research for the Columbia Center on Sustainable Investment, where she worked on projects related to the United Nations Sustainable Development Goals and renewable energy alternatives in the extractive industry. She spent most of her early career as a journalist

covering energy and infrastructure finance in the Americas for Euromoney Institutional Investor. Rosner holds a BS in international studies, magna cum laude, from Pepperdine University and an MS in sustainability management from Columbia University. She is a global member of 100 Women in Finance and a financial literacy volunteer with the High Water Women Foundation. Rosner was named one of *Crain's* New York Business Notable Leaders in Sustainability 2023.

Sarah Takaki, Managing Director, Sustainable Investing, Healthcare of Ontario Pension Plan (HOOPP)



Sarah joined HOOPP in 2019 and leads the Sustainable Investing program. She oversees the implementation of sustainable investing practices, including the analysis of environmental, social and governance (ESG) factors across the total portfolio. Her team works closely with the asset class teams to provide insights on ESG themes, collaborates with groups across the organization to advance HOOPP's climate change strategy, and leads the portfolio stewardship program, including proxy voting and engagement activities.

Prior to joining HOOPP, Sarah was with the Ontario Teachers' Pension Plan on the Responsible Investing team. During this time, she was a member of the secretariat of the Government of Canada's Expert Panel on Sustainable Finance. Sarah has also worked in the consulting and non-profit sectors.

Sarah holds a Bachelor's in Mechanical Engineering and a Master's of Biomedical Engineering from Western University. Sarah also holds an MBA from the University of Cambridge.

Aeisha Mastagni, Portfolio Manager, Sustainable Investment & Stewardship Strategies – CalSTRS



Aeisha Mastagni is a portfolio manager in the Sustainable Investment and Stewardship Strategies unit of the California State Teachers' Retirement System, the largest educator-only pension fund in the world. She is responsible for working with a dedicated team to further CalSTRS' mission of securing the financial future and sustaining the trust of California's public educators. Aeisha is part of the team that oversees the Sustainable Investment Portfolio and leads CalSTRS' stewardship efforts, which include proxy voting, corporate engagement and working with regulatory authorities on market-wide issues. In 2012, Aeisha joined the board of directors at Golden 1 Credit Union, one of the nation's largest credit unions with more than \$14 billion in assets and over 1 million members. In 2015, she joined the board of the Council of Institutional Investors, whose mission is to be the leading voice for effective corporate governance.

Before joining CalSTRS, Aeisha worked in the Corporate Governance unit of the California Public Employees' Retirement System for six years, overseeing the proxy voting program and the corporate governance manager portfolio. Aeisha has a bachelor's degree in economics from California State University, Sacramento.

Andrew Ford, Vice President, Global Sustainable Finance - Morgan Stanley



Andrew Ford is a Vice President and Head of Morgan Stanley's Sustainable Insights Lab. He currently leads the Firm's ESG data efforts and oversees the quantitative integration of sustainability content into investment strategies and digital applications across all asset classes. Prior to joining Morgan Stanley, he was an ESG Research Analyst at BlueSky Investment Management responsible for ESG-integration into financial models. He graduated from Dickinson College with degrees in Mathematics and Economics, and Columbia University with a graduate degree in Applied Analytics.

Aniket Shah, Managing Director and Global Head of Sustainability and Transition Strategy - Jefferies Group LLC



Aniket Shah is Managing Director and Global Head of Sustainability and Transition Strategy at Jefferies Group LLC. In this role, Aniket leads a research and advisory efforts for investors, corporates and sovereigns on their energy transition and sustainable business efforts. In that capacity, he also leads the firm's Washington Strategy efforts, advising clients on the intersection between public policy and investment decision making. Aniket and his team were ranked #1 in the Institutional Investor and Asia money Brokers Poll for ESG Research in US, Europe, Japan and Australia.

Prior to joining Jefferies, Aniket held senior roles in emerging market investing and financing sustainable development in both the public and private sectors, including at the UN Sustainable Development Solutions Network, Oppenheimer Funds and UBS Group AG. He is an Assistant Adjunct Professor at Columbia University's School of International and Public Affairs. Aniket is a member of the Economic Club of New York and the Bretton

Woods Committee, and is a graduate of Yale College and the University of Oxford, where he completed his PhD on the financing of sustainable development.

Anna Murray, Senior Managing Director, Global Head of Sustainable Investing - Ontario Teachers' Pension Plan (OTPP)



Anna Murray is Senior Managing Director, Global Head of Sustainable Investing for Ontario Teachers' Pension Plan (OTPP). Working within Total Fund Management, Investment Division, Anna plays a leadership role in supporting OTPP's long-term plan to create a lasting, positive impact while creating value for members. Working closely with senior leaders and investment teams across the organization, Anna executes on the fund's ambitious climate strategy and net-zero targets, advancing its approach to impact investing and overseeing corporate governance activities including proxy voting and public company engagements. She also oversees the continued integration and assessment of Environmental, Social and Governance (ESG) opportunities and risks in the investment process.

Prior to joining OTPP, Anna spent her career advancing corporate strategy around the globe at major multinationals. Anna is Co-Chair of the Principles of Responsible Investment (PRI) Real Estate Advisory Committee, Founder of the non-profit Young Women in Energy and former Co-Chair of the Environmental Committee at the Pension Real Estate Association (PREA). She serves on the Board of Directors for the Responsible Investment Association and serves on the Environmental and Social Committee for the Canadian Coalition for Good Governance. Notable accolades include: Top 100 Women in Canada, Clean50, Top 40 Under 40, and the Making a Difference for Women Award.

Bertrand Millot, Head of Sustainability - Caisse de dépôt et placement du Québec



Bertrand Millot leads the Stewardship Investing team, which is responsible for defining and implementing CDPQ's strategic directions, including integrating ESG factors into all activities and deploying the climate strategy. His responsibilities have three aspects: helping investment teams structure impactful investment opportunities (particularly with regard to social, climate and energy transition investments); managing risks related to ESG, climate change and reputation and contributing to the organization's outreach in collaboration with the CDPQ Global team.

Mr. Millot is one of the architects of CDPQ's climate change strategy and a seasoned investor in infrastructure and corporate debt in emerging markets, fields where ESG considerations have historically been at the forefront. At CDPQ since 2015, he previously held various positions in risk management and stewardship investing, including Business Unit Risk Manager for the Fixed Income, Capital Solutions and Cross-functional Risk portfolios. He also served as Head of Climate Risk and Issues and led the Stewardship Investing team.

Before joining CDPQ, Mr. Millot was CEO and CIO at Cordiant Capital, an emerging market corporate debt fund manager. Earlier in his career, he was active in infrastructure project finance with the European Bank for Reconstruction and Development in London, U.K. and with BNP Paribas in Paris, France.

Mr. Millot holds an MBA from McGill University, a Master's in Engineering from École Nationale Supérieure d'Arts et Métiers in Paris and is a member of the Institute of Corporate Directors (ICD.D designation).

Dave Stangis, Partner & Chief Sustainability Officer - Apollo Global Management



Dave Stangis is Partner and Chief Sustainability Officer at Apollo, where he oversees the firm's crossfunctional sustainability efforts including strategy, reporting, ESG, climate initiatives, and employee engagement. He is also a member of the Firm's Leadership Team. Prior to joining Apollo, Dave founded 21C Impact, an advisory firm dedicated to delivering a differentiated impact on business results with a focus on ESG and corporate sustainability initiatives. Previously, he was Chief Sustainability Officer at Campbell Soup Company where he created and led the company's ESG, Corporate Citizenship, Sustainability & Public Affairs strategies. Dave joined Campbell from Intel Corporation, where he served as the Company's first Global Director of Corporate Responsibility.

Dave currently serves as a mentor to the AgFunder Network. He previously served as Executive Adviser at the Boston College Center for Corporate Citizenship, Entrepreneur in Residence at Babson College, and Instructor in Villanova University's Sustainable Enterprise Executive Education program. Dave earned his BS in Chemistry and Biology from the University of Detroit Mercy, MS in Occupational & Environmental Health from Wayne State University, and MBA in Finance and General Management from the University of Michigan.

Glen Yelton, Head of ESG Client Strategy – Invesco



Glen Yelton is Head of ESG Client Strategy of North America at Invesco.

Mr. Yelton joined Invesco when the firm combined with Oppenheimer Funds in 2019. He joined Oppenheimer Funds in 2017 and served as director of environmental, social and governance (ESG) and impact investing. Before that, Mr. Yelton was head of impact research at SNW Management. Previously, he was a research manager at IW Financial and director of research at American Values Investments.

Mr. Yelton earned a BS degree in cross-disciplinary studies from East Tennessee State University.

Han Yik, Senior Advisor to Executive Director and Chief Investment Officer- Stewardship – New York State Teachers’ Retirement System (NYSTRS)



Han Yik is the Senior Advisor to the Executive Director and Chief Investment Officer of the New York State Teachers’ Retirement System (NYSTRS). As a member of NYSTRS’ Executive Leadership team, he advises the ED/CIO on investments, public policy, global initiatives and corporate governance. In addition, Han is building and leading NYSTRS’ initiatives on investor stewardship and sustainability and its integration and implementation across the NYSTRS investment portfolio.

Han was formerly the Head of Institutional Investors at the World Economic Forum, where he worked with the senior leadership of the world’s largest asset owners and top government officials on issues around long-term investing as well as providing strategic guidance on initiatives involving public-private cooperation. He led the Forum’s initiative on the global pension crisis, with his articles and reports receiving extensive press coverage from media outlets such as Bloomberg, The Financial Times, Barron’s and others. In addition, he has been a keynote speaker at various global conferences, including the CIE Chairs & CEOs Symposium in Sydney, the Singapore Fintech Festival, the Global Asset Owner Series from the CFA Society of New York, the Asia Risk Congress, the Salesforce World Tour and CROSAPF and has led private roundtables for asset owners and asset managers at the World Economic Forum Annual Meeting in Davos.

Han began his career as an actuarial consultant at Towers Perrin and Mercer, before joining Bank of America Merrill Lynch as a Senior Institutional Portfolio Strategist and Head of Institutional Thought Leadership, where he managed \$2 billion in assets as an OCIO for institutional clients. Han earned his B.S. in Applied Mathematics with a concentration in Operations Research from Yale University, where he won the Benjamin F. Barge Prize for Excellence in Mathematics. Han formerly served as a board member for Materials for the Arts, a local non-profit devoted to creative recycling and reuse of donated materials as arts materials for underserved public schools in New York City.

Herman Bril, Managing Director and Head of Sustainability and Climate - PSP Investments (Public Sector Pension Investments)



Herman Bril is Managing Director and Head of Sustainability and Climate Innovation at the Public Sector Pension Investment Board (PSP Investments). Herman joined the organization in July 2022 and is responsible for leading the strategic direction of PSP Investments’ Environment, Social and Governance (ESG) approach.

Herman has over 25 years of experience in leadership roles at financial institutions spanning across investment management, investment banking, treasury, life and pension insurance, and development finance. Prior to joining PSP Investments, he was Partner & CEO Asset Management at Arabesque Group, where he built and scaled up a digital global asset management firm powered by technology and ESG data.

For several years, Herman also served as Chief Investment Officer at the United Nations Joint Staff Pension Fund in New York. In this role, he was responsible for managing close to \$80 billion in assets under management as well as 120 staff, including all asset classes and the sustainable investment team. Herman holds a Master of Economics from the Free University in the Netherlands, a Consulting and Coaching for Change qualification from INSEAD France, and a Master of Studies in Sustainability Leadership from the University of Cambridge. He also co-edited two ESG books:

Sustainable Investing: A Path to a New Horizon (Routledge, 2020); and Sustainability, Technology, and Finance: Rethinking How Markets Integrate ESG (Routledge, December 2022).

Jamie Franco, Managing Director, Global Co-Head of Sustainable Investment - TCW Group



Ms. Franco is the Global Co-Head of Sustainable Investment. In this role, she co-heads the Sustainable Investment Group and is responsible for leading TCW's sustainable investing efforts, including ESG integration across the firm's investment platform and business strategy. She is also the Head of Fixed Income ESG and is responsible for sustainable investment and ESG integration within fixed income sectors. Before assuming her current role, she was a Senior Account Manager and Fixed Income Product Specialist within the Client Services group. Before joining TCW in 2014, Ms. Franco spent over a decade at the U.S. Department of the Treasury in Washington, D.C., serving in several roles, including as Senior Advisor to Treasury Leadership in both the domestic and international divisions, International Economist, and Deputy Director of the International Banking and Securities Markets Office. Ms. Franco was also an Advisor to the U.S. Executive Director at the International Monetary Fund for several years. Ms. Franco holds a BA in Political Science from Johns Hopkins University and an MA in International

Economics from Johns Hopkins School of Advanced International Studies. Additionally, she holds Series 7 and 63 FINRA licenses.

Jimmy Yan, Head of ESG Integration - New York City Comptroller's Office



Jimmy is Head of ESG Integration in the Office of the New York City Comptroller's Bureau of Asset Management (BAM) which manages the investments of the five New York City pension funds, collectively the fourth largest pension system in the U.S. Jimmy is responsible for conducting ESG and DEI diligence, monitoring and engagement of investment managers across all asset classes and integrating ESG in investment strategy. Jimmy also helps develop and implement the pension funds' plans to achieve net zero GHG emissions for their investments by 2040. Prior to the Comptroller's Office, Jimmy served on the Board of Trustees for the New York City Employees Retirement System (NYCERS) for eight years where he helped lead ESG and diverse and emerging manager initiatives. Jimmy was also the General Counsel of the Manhattan Borough President's Office, General Counsel for the New York City Mayor's Office of Immigrant Affairs, Deputy Chief Counsel to the City's Charter Revision Commission and a civil rights attorney and policy advocate. In his government roles, he also served on the

Queens Public Library Board of Trustees, the New York City Board of Education and the Chinatown Business Improvement District Board. He is a graduate of New York University School of Law and the University of California at Berkeley.

Josh Mayer, Director of ESG, Guggenheim Partners



Josh Mayer, a Director, is focused on the firm's Corporate Social Responsibility and ESG investing initiatives. Prior to joining Guggenheim in 2023, Mr. Mayer worked for MSCI as an Executive Director on the ESG Coverage team. Mr. Mayer started his professional career at Lord Abbett on both their retail and institutional distribution teams. Mr. Mayer received a B.A. degree in economics from Bucknell University. He has earned the right to the use Chartered Financial Analyst® designation and is a member of the CFA Institute.

Katharine Preston, Vice President, Sustainable Investing – OMERS



Katharine Preston is responsible for leading OMERS Sustainable Investing team. In this role, she leads the development and advancement of OMERS approach to Sustainable Investing and most recently, OMERS Climate Action Plan. The world class team supports OMERS with implementing our sustainable investing strategy of integration, collaboration, and engagement across the enterprise. To achieve our objective, Katharine and the team work closely with OMERS investment, risk, finance, and communications teams on matters such as ESG integration, climate risk, stakeholder communications and reporting.

Working in the pension industry for more than 15 years, Katharine previously served as Director, Responsible Investing at OPTrust, an Ontario-based public sector pension plan. At OPTrust, Katharine was instrumental in defining a strategy for integrating ESG factors into investment practices and leading the development of a Climate Change Action Plan. Prior to joining OPTrust, Katharine held positions with Innovest Strategic Value Advisors (now part of MSCI) and Stantec Inc.

Katharine currently serves on the Board of Directors for the United Church of Canada's Pension Plan; the Investment Committee for the University of Guelph and recently completed a final term on the board of the Pension Investment Association of Canada (PIAC). Katharine also sits on the Canadian Coalition for Good Governance's Environment & Social Committee and chairs the Investor Leadership Advisory Panel of Climate Engagement Canada.

Katharine holds a Bachelor of Engineering, Civil and Environmental Engineering from McGill University, as well as an MBA from the Schulich School of Business, York University. She also holds a Certificate in Fundamentals of Alternative Investments from the Chartered Alternative Investment Management Analyst Association (CAIA).

Rakhi Kumar, SVP, Sustainability Solutions & Business Integration - Liberty Mutual Insurance



Rakhi Kumar is Senior Vice President at Liberty Mutual, where she leads efforts to integrate sustainability across the global enterprise. She chairs Liberty's Climate Council, an internal cross-functional group that is developing and co-ordinating the company's climate-related activities. She also represents Liberty on the Taskforce for Nature-Related Financial Disclosure (TNFD) Forum, the Partnership for Carbon Accounting Framework's (PCAF) Insurance Emissions Working Group and the Institute of International Finance's Sustainable Finance Policy Expert Group.

Rakhi joined Liberty in May 2020, prior to which she led State Street Global Advisors' ESG Investing and Asset Stewardship activities. Other organizations she has worked at include the Institute of International Finance, Ernst&Young, Moody's and Booz Allen. She serves on the Advisory Board of Persefoni, a SaaS-based carbon accounting, reporting and management platform and is a member of the North American S&P Global Sustainable1 Investor Client Council.

Rakhi is a globally recognized leader in the area of sustainability and was recognized as such by the National Association of Corporate Directors (NACD). She has also been identified as Boston's 100 Most Influential People of Color and is a recipient of the Abigail Adams Award for her work in promoting gender diversity on corporate boards.

She earned her MBA ('02) from Yale University and her Bachelors of Commerce ('95) from Bombay University. She is also a member of the Institute of Chartered Accountants of India since 1997 and completed a certification in Life Cycle Assessments from MIT in 2023.

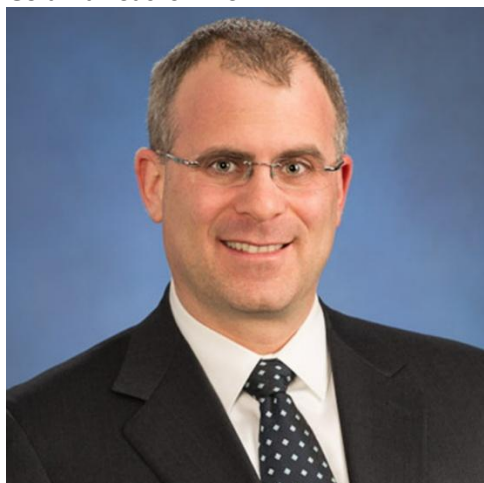
Ruben Lubowski, Chief Carbon and Environmental Market Strategist, Lombard Odier Investment Managers



Ruben Lubowski is Chief Carbon and Environmental Markets Strategist at Lombard Odier Investment Managers. Based in New York, Ruben is an economics and policy expert on carbon markets and on finance approaches for conservation. He is part of the investment team managing a fund that invests and trades in carbon markets globally and he also helps to develop new carbon and nature-related investment products. Ruben has held senior leadership and advisory positions with environmental organizations and investors, including most recently as Chief Natural Resource Economist and Associate Vice-President for Climate and Forests at the Environmental Defense Fund (EDF) in New York. He has advised governments and stakeholders around the world on carbon markets design and co-authored the World Bank-ICAP handbook on emissions trading systems design, widely used by policymakers and stakeholders worldwide. He also serves as Adjunct Professor at Columbia University, specializing in carbon pricing.

He co-founded and serves as Special Adviser to the Emergent Forest Finance Accelerator, which manages and provides the platform for the LEAF Coalition, a public-private initiative that mobilized US\$1 billion to protect tropical forests last year. He has previously held professorship and economist roles in related fields at New York University, Harvard University, and the US Department of Agriculture. He is the author of over 70 journal publications, research papers and books and has won various environmental awards and grants. He received his PhD and master's as well as bachelor's degree from Harvard University.

Roy Appelman, Managing Director, Head of Research and Senior Portfolio Manager for Multi-Asset Solutions (MAS) - Goldman Sachs MAS



Roy is Head of Research and a Senior portfolio manager for Multi-Asset Solutions (MAS) within Asset Management. He is a member of the MAS Investing Core. MAS provides multi-asset class products and solutions for institutional and individual investors, focusing on customized asset allocation, tactical implementation, risk management and portfolio construction. Roy also leads the MAS strategists team. Prior to joining MAS, Roy led the corporate strategist team in the Investment Banking Division, where he advised institutional clients on capital structure, risk management and hedging considerations. He joined Goldman Sachs in 2005 as an associate and was named managing director in 2015. Prior to joining the firm, Roy was a systems engineer in the aerospace industry and co-founded Civcom Devices and Systems, a company specializing in optical components for the telecommunications industry. Roy earned a BSc in Physics and Mathematics from the Hebrew University of Jerusalem, an MSc in Electrical Engineering from Tel Aviv University and an MBA from MIT.

(Proxy) **Chex Yu**, Vice President, Sustainability and Climate Research and Innovation Lead, Goldman Sachs



Chex leads sustainability and climate research and innovation in Goldman Sachs Asset Management Client Solutions Group. Previously, Chex worked in the Sustainable Finance Group leading Goldman Sachs firmwide sustainable finance data analytics strategy and the firm's net zero target setting exercise. Prior to joining the firm in 2022, Chex was Director for Product and Analytics at Ping An Group, Data Science Lead at JP Morgan Chase, and Economics Researcher at the World Bank. Chex earned an MPA from Princeton University and a bachelor's degree in Statistics and Economics from UNC-Chapel Hill where she was awarded the Chancellor Prize for Economics and Best Economics Thesis Award.

Travis Antoniono, Investment Director - Sustainable Investments, CalPERS



Travis Antoniono is an Investment Director within the Sustainable Investments division of California Public Employees' Retirement System. Travis' main areas of focus are financial markets and policy, human capital, climate strategy, and helping decarbonize CalPERS' \$450 billion investment fund. This includes researching new and innovative solutions to support the integration of such focus areas risks and opportunity factors into investment decisions.

Prior to CalPERS, Travis spent more than a decade at California State Teachers' Retirement System primarily as a member of the Sustainable Investment & Stewardship Strategies division where he co-managed CalSTRS \$10 billion sustainability-focused public equity and private markets portfolio, led environmental and climate-related corporate engagement efforts, and chaired CalSTRS cross-asset class Green Team.

Prior to joining CalSTRS, Travis served as an officer in the United States Air Force. Travis received Bachelor of Science degrees in Finance and Risk Management from California State University, Sacramento and received an MBA from Haas School of Business, University of California, Berkeley.

S&P Global Investor Council Members

Investor Council Chairs

Lauren Smart, Head of S&P Global Sustainable1 | Co-Chair, S&P Global Sustainable1 Investor Client Council



Lauren leads S&P Global's sustainability business, empowering markets with sustainability intelligence to make confident business and financing decisions around evolving energy transition, climate and sustainability risks and opportunities. She is an industry leader, early pioneer and globally recognized expert in the field of sustainable finance. She is a regular speaker and commentator at internationally renowned events including Davos, is a member of the World Economic Forum's Global Future Council on Energy Nexus and a member of the Taskforce for Nature Related Financial Disclosures.

Prior to joining S&P, Lauren was a member of the board and senior management team of Trucost, a pioneering environmental economics business. She was instrumental in growing the business from start-up to its market leading position. She was part of the board team that sold Trucost to S&P Dow Jones Indices in 2016 and was selected for the core start up leadership team creating the Sustainable1 business in 2020.

Lauren's early career was in the fund management industry and at the UK Government's Department for International Development working on the Millennium Development Goals. She is the Chair of the Sumatran Orangutan Society and a member of the Board of S&P Dow Jones Indices LLC. Lauren holds a BA & MA from Cambridge University in Archaeology & Anthropology and an MSc in Anthropology & International Development from the London School of Economics.

[Divya Mankikar](#), Global Head of Market Insights, S&P Global Sustainable1 | Co-Chair, S&P Global Sustainable1 Investor Client Council



Ms. Mankikar is the Global Head of Market Insights at S&P Global Sustainable1, where she leads a talented team of senior specialists dedicated to generating actionable insights on climate and sustainability for the private sector. Her role enhances S&P Global's reputation as a sustainability leader by managing a team that produces thought leadership content, conducts practitioner research, and builds relationships with industry influencers.

With over 17 years of experience in climate, sustainability and investment, Ms. Mankikar is a recognized leader in aligning commercial and sustainability objectives. Previously, she served as CalPERS' first Head of Sustainable Investment and Climate Strategy within the Office of the CEO and led the Investment Office's Research & Integration team on climate and sustainability initiatives across the \$460+ billion fund. She is also a co-author of the report "Managing Climate Risk in the U.S. Financial System," and contributed as a member of the US Commodity Futures Trading Commission's climate-related

market risk subcommittee. Her previous roles include significant work in environmental data as Trucost's first Head of North America – Financial Institutions, renewable energy as an equity analyst, and nature-based climate solutions as a carbon offset developer.

Ms. Mankikar earned her Bachelor's and first Master's degrees in Energy and Environmental Analysis from Boston University. She also holds an International MBA from IE Business School and a Master's in International Human Rights Law & Business from Tufts University's Fletcher School of Law and Diplomacy.

[Myrna Ghanem](#), Vice-Chair of Investor Client Council | Senior ESG Client Engagement Specialist, S&P Global Sustainable1



Myrna Ghanem is the Secretary for the S&P Global Sustainable1 Investor Client Council. Myrna is a Senior ESG Client Engagement specialist working with clients to guide them through their ESG and Sustainability journey using S&P Global data. She is focused on climate and impact, particularly the SDGs, and how clients can integrate these into their workflows.

Myrna has a diverse background ranging from Sociology and Economics to Music Performance and Data Analytics. She holds an MSc in International Economics and Data Analytics from NYU. She is also a member of the Female Forum and the Women in Sustainability Network. Most recently, Myrna was named a McKinsey Next Generation Women Leader in 2023.

Investor Council Specialists

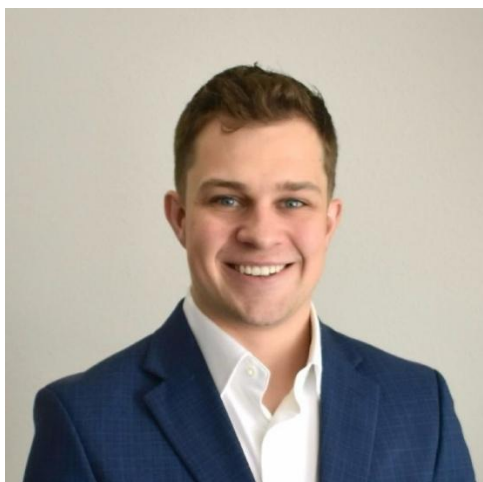
[Ophir Bruck](#), Director - Market Insights at S&P Global Sustainable1



Institute.

Ophir supports market engagement and research initiatives at S&P Global Sustainable1, S&P's central source for sustainability intelligence. Prior to joining S&P Global, Ophir co-lead signatory relations and strategic initiatives in North America for the United Nations-supported Principles for Responsible Investment, the world's leading proponent of responsible investment. Previously, Ophir was a Sustainable Investment Analyst at the University of California Office of the Chief Investment Officer of the Regents, where he led ESG integration and stewardship for the university system's portfolio of pension and endowment assets. He has held roles as Senior Analyst at the Croatan Institute and Energy Program Fellow at As You Sow. Ophir currently serves on the Advisory Board of the California Department of Insurance Organized Investment Network (COIN) and is a Council on Foreign Relations Term Member. He holds a BSc in Environmental Science, Policy & Management from the University of California, Berkeley, the FSA Credential from the IFRS Foundation, and the ESG Investing Certification from the CFA

[Kaleb Boyl](#), ESG Client Engagement Specialist - S&P Global Sustainable1



Kaleb is an ESG Client Engagement Specialist at S&P Global Sustainable1 based in Boston. With extensive expertise in thematic areas such as Decarbonization, Climate Transition Risk, and Impact, Kaleb collaborates with financial institutions, exchanges, and corporations to develop, evaluate, and implement ESG strategies and initiatives within their organizations. Leveraging his cross-industry specialization, enables him to navigate and addresses sustainability challenges material to a broad range of sectors and provide unique market insights.

Prior to Sustainable1, Kaleb worked with S&P Market Intelligence and received a BA in Economics and Entrepreneurial Studies at Hobart and William Smith Colleges.

Evelyn Sheng, ESG Client Engagement Specialist - S&P Global Sustainable1



Evelyn Sheng is an ESG Client Engagement Specialist at S&P Global's Sustainable 1. She possesses extensive experience in integrating ESG-related data into the investment frameworks of financial institutions. Ms. Sheng provides practical advice to investors on how to address regulatory climate requirements and develop ESG data products. During her tenure at S&P Global, she has assisted numerous domestic and international sovereign funds and leading global asset management firms in building tools for carbon emissions calculation and monitoring, integrating climate risk indicators into their investment processes, and enhancing external disclosures.

George Travell, ESG Client Engagement Specialist - S&P Global Sustainable1



George Travell is an ESG Client Engagement Specialist based in Dubai. George works with our French, Italian and Middle Eastern clients across financial institutions and corporates, enabling them on their unique sustainability journeys with S&P Global data. His particular focus areas are sustainable finance regulation, transition risk and impact.

Prior to joining Sustainable 1, George completed the Market Intelligence Associate Development program and received a BA in Economics and Italian from The University of Leeds.

Regional Investor Council Leads

[Alan Fitzpatrick](#), Head of ESG Solutions, UKI & Netherlands - Asset Management at S&P Global



Alan is a highly experienced sustainable investment (SI) professional with over 15 years of experience within the financial services industry and a driving passion for sustainability and impact within investment management.

Working with internal and external stakeholders, Alan brings experience in driving and delivering on the overall commercial strategy for the sustainable investment business.

Alan has a proven track record of developing ESG/SI commercial strategies that focus on a more sustainable and inclusive form of capitalism.

[Katie Gandy](#), Head of Banking Sustainability Solutions, North America, S&P Global Sustainable1



Katie Gandy brings over a decade of expertise in sustainability, climate, and financial markets. As the Head of Sustainability Account Directors for North America, she leads a team of specialists dedicated to integrating climate and sustainability into financial market workflows. Katie also serves as the North America Regional Lead for the S&P Global Sustainable1 Investor Client Council, a distinguished community of sustainable finance experts who convene regularly to discuss emerging trends and assess the business risks and opportunities they present.

Prior to her tenure at S&P Global, Katie was a financial advisor at Merrill Lynch Wealth Management, where she specialized in incorporating sustainability and impact analysis into portfolio construction. Her previous roles include engaging clients on carbon and environmental analysis at Trucost (now part of S&P Global) and working in sales and trading for the municipal bond market at Bank of America.

Katie holds a degree in Environmental Studies and Economics from Dartmouth College and is currently pursuing a Certificate in Sustainable Finance from Columbia University.

Rong Yu, Head of Sustainability Solutions, ASEAN and Greater China at S&P Global Sustainable1



Rong leads S&P Global's sustainability market engagement in APAC. Previously she was responsible for growing the company's sustainability business in Greater China region and ASEAN countries. Delivering sustainable solutions across asset classes for investors and corporates, Rong drives S&P Global's continued expansion and leadership in Asian sustainable finance markets.

Rong is an industry veteran with over a decade of experience in sustainability and climate change having held various roles at PwC Strategy&, World Bank and the United Nations across New York, London, Hong Kong, Geneva and Beijing.

Rong is a regular speaker and respected commentator on sustainable finance issues. She receives her Master of Public Administration from Cornell University in Ithaca, NY.

Marketing and Events Team

Nichole Rescildo, Head of Global Marketing Events, S&P Global Sustainable1

Hazel Mukandi, Associate Director ESG Marketing, S&P Global Sustainable1

S&P Global Attendees & Speakers

Kelly Morgan, Research Director, S&P Global Market Intelligence



Kelly Morgan is a research director in the 451 Research technology research group at S&P Global Market Intelligence. She is responsible for the Datacenter Services & Infrastructure team as well as the M&A practice. Her research includes analysis of datacenter providers, market size, supply/demand, new technology and datacenter industry trends, as well as M&A activity.

Before joining S&P Global Market Intelligence in 2019 via acquisition, Kelly spent more than 18 years covering datacenters and telecommunications at both 451 Research and in private equity. She also worked for several years in Paris at the Organization for Economic Cooperation and Development, managing the organization's budget process.

Kelly holds a BA degree with honors from Wesleyan University and an MA from Tufts, where she studied international business and economics.

Elizabeth Bachelder, Director of Sustainable Finance, S&P Global Ratings



Liz Bachelder is a Director in the Sustainable Finance Market Analytics group at S&P Global Ratings, focusing on thought leadership, strategy, and product development. She played a key role in integrating the Shades of Green methodology into S&P Global Ratings' Second Party Opinion offering, providing deeper transparency to investors seeking clarity on potential contributions to a sustainable future. Previously, Liz was a Lead Analyst in the Sustainable Finance Analytical Governance group, where she worked with leaders across practices to identify, review and lead the resolution of analytical risks, questions and issues concerning the Sustainable Finance analytical portfolio. Liz also leads climate science learning efforts within S&P Global Ratings.

Prior to her roles in Sustainable Finance, Liz was a credit analyst in the U.S. Public Finance team covering local governments and not-for-profit hospitals and health systems. She was selected as the 2020 recipient of the Women's Bond Club Rising Star Award. Liz holds an MBA from Cornell University and a BA in economics from Wellesley College, as well as the Certificate in ESG Investing and the Climate Risk, Valuation and Investing Certificate from the CFA Institute. Liz started her career with S&P Global Ratings in 2013.

Roman Kramarchuk, Head of Energy Transition Narratives & Policy Analysis, S&P Global Commodity Insights



Roman Kramarchuk has been leading efforts to analyze the impacts of the energy transition – driven by policy changes and technology advancements – on the energy sector. With S&P Global Commodity Insights, and before that with Platts and PIRA, Roman launched and continues to develop analytics offerings providing outlooks around global/regional carbon pricing and environmental markets & policies. He had led and contributes to Future Energy Outlooks, advising clients on longer term energy market views (including reference case and low carbon scenarios), with special focus on clean energy technologies (i.e. hydrogen, electric vehicles/alternative transport, renewables, stationary storage, etc.).

Prior to joining PIRA, Roman was at the U.S. EPA, developing key power plant and industrial emissions regulations at the Clean Air Markets Division. With PG&E and before that at PA Consulting / PHB Hagler Bailly, he evaluated strategies regarding power sector fuel choice, capital investments and energy trading. Roman also worked on international projects to develop power markets and regulatory capacity in Ukraine, Armenia and India. At the U.S Federal Reserve Board, Roman analyzed trends in industrial production.

He has an M.P.P. from the Harvard Kennedy School and a B.A. in economics and B.S.E. in systems engineering from the University of Pennsylvania.

[Ian Campbell](#), Head of Power & Renewables Product Portfolio, S&P Global Commodity Insights



Bio forthcoming

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