S&P Global Sustainable1
Investor Client Council H1 2024 Minutes

H1 2024 North America Meeting Minutes

DATE: April 30, 2024, 13:30-17:00 ET
LOCATION: CDPQ Headquarters, Montreal, Canada
TOPIC: A Sector-Deep Dive on the Energy Transition: Energy, Power & Autos

Attendees

Council Members

- Bertrand Millot, Head of Sustainability, **CDPQ** (Co-Host/Presenter)
- Jamie Franco, Global Co-Head of Sustainable Investment, **The TCW Group** (Presenter)
- Glen Yelton, Head of ESG Client Strategy of North America, **Invesco**
- Ruben Lubowski, Chief Carbon & Environmental Market Strategist, **Lombard Odier IM**
- Andrew Ford, Vice President of Global Sustainable Finance**, Morgan Stanley**
- Sara Rosner (Proxy) Director of Environmental Research & Engagement, **AllianceBernstein**
- Vincent Felteau (Proxy) Senior Director of Climate Innovation, **PSP Investments**
- Travis Antoniono, Investment Director, Sustainable Investments, **CalPERS**
- Josh Mayer, Director, CSR/ESG Officer, **Guggenheim Partners**
- Dave Stangis, Partner & Chief Sustainability Officer, **Apollo Global Management** (virtual)
- Rakhi Kumar, SVP, Sustainability Solutions & Business Integration, **Liberty Mutual** (virtual)
- Aeisha Mastagni, PM Sustainable Investment & Stewardship Strategies, **CalSTRS** (virtual)
- Katharine Preston, Vice President, Sustainable Investing, **OMERS** (virtual)

S&P Global Attendees

- Mona Naqvi, Global Head of Sustainable Capital Markets, **S&P Global Sustainable1** (Chair)
- Rebecca Taylor, Bank Solutions Specialist, **S&P Global Sustainable1** (Secretary)
- Demian Flowers, Head of Strategy & Product Development, **S&P Global Mobility (**Presenter)
- Roman Kramarchuk, Head of Climate Markets & Policy Analytics, **S&P Global Commodity Insights** (Presenter)
- Aurian de La Noue, Director- Energy Transition Consulting, **S&P Global Commodity Insights** (Presenter)
- Sonia Kim, Managing Director, Global Head of Product, **S&P Global Sustainable1**
- Sophia Lin, Sustainability Lead for the Americas Market Outreach, **S&P Global Ratings**
- Badeel Janjua, Sustainability Sales Head for FIs in Americas, **S&P Global Market Intelligence**
- Thomas Yagel, Chief Operating & Product Officer, **S&P Global Sustainable1** (virtual)
- Lauren Smart, Chief Commercial & Market Engagement Officer, **S&P Global Sustainable1** (virtual)

Apologies

- Christopher Heusler, President, **S&P Global Sustainable1**
- Aniket Shah, Global Head of Sustainability & Transition Strategy, **Jefferies Group LLC**
- Jimmy Yan, Head of ESG Integration, **Office of the New York City Comptroller**
- Anne Simpson, Global Head of Sustainability, **Franklin Templeton**

Meeting Objective

This meeting serves as the Spring 2024 gathering of the North American S&P Global Sustainable1 Investor Client Council. The aim of the Council is to facilitate a community of industry experts who meet regularly to discuss business challenges and opportunities arising from sustainability issues. Its members provide S&P Global with expertise to inform best practices and deepen S&P Global's understanding to serve the evolving needs of the market through relevant products and services.

Agenda & Record of Discussions

1. Welcoming Remarks

1.1. **Mona Naqvi** (Chair) thanked CDPQ for co-hosting the meeting, welcomed all attendees, and noted the Council has now grown to approximately 40 members worldwide, representing close to 1/3 of global AUM.

1.2. **Thomas Yagel** (S&P) providing additional welcoming remarks, noting how valuable the feedback is for shaping S&P Global's sustainability product strategy and roadmap.

1.3. **Naqvi** (Chair) stated the Council Guidelines and received verbal acknowledgement from all members of their understanding and agreement.

1.4. Members and S&P Global participants introduced themselves and referenced topics they hoped to discuss – including changing investor perceptions towards risk, regional nuances, and a potential shift away from financed emissions towards financing green activities. Most members were keen to learn from their peers while some also expressed interest in helping to shape S&P Global solutions.

2. Keynote: The Transition Envelope (Betrand Millot, CDPQ)

2.1. **Naqvi** (Chair) introduced a new feature of ICC meetings, in which Members are invited to present on a topic of their choosing, before introducing co-host, **Bertrand Millot** (CDPQ), to speak on the Transition Envelope.

2.2. **Millot** (CDPQ) commented on CDPQ's climate journey, as one of the first investment managers to tie employee compensation to the firm's climate goals. This, among other initiatives, was part of the firm's strategy to catalyze efforts toward achieving global targets.

2.3. **Millot** (CDPQ) noted other CDPQ initiatives include dedicating a $5bn transition envelope towards decarbonizing the heaviest-emitting sectors to date, and the commitment to completely phase out of oil production from the portfolio. He also shared that since 2021, CDPQ had already increased its targets regarding green-to-brown revenue share across four key sectors, including transportation, agriculture, materials, and energy and power.

2.4. As a result of these various initiatives, CDPQ has already managed to reduce its overall portfolio carbon intensity by approximately 50%.

2.5. Lastly, **Millot (CDPQ)** acknowledged sizeable opportunities for private assets to help meet climate targets in the market going forward.

3. Powering the Energy Markets of the Future (S&P Global Commodity Insights)

S&P Global's Approach to Modeling the Future Energy Outlook

3.1. **Roman Kramarchuk (S&P)** discussed the global stock take from COP28 in Dubai, commenting on the current state of the energy transition versus the 2030 goals set forth by the NDCs. For S&P Global Commodity Insights' energy outlook, he shared a variety of inputs that are considered including supply and demand, energy intensity of GDP, technological innovation, and net zero targets determined by NDCs and corporates, among others. These underpin three possible forward-looking scenarios; (i) Inflections, (ii) Green Rules, and (iii) Discord:

3.1.1. **(i) Inflections:** This scenario is the S&P Global Commodity Insights' base case. It projects transformative change resulting in a reduction in fossil fuels' share of total energy demand rom the present 80% to 58%, and greenhouse gas (GHG) emissions dropping 25% from today's levels by 2050. This scenario anticipates a global temperature rise of 2.4°C since pre-industrial levels, still overshooting the goals of the Paris Agreement.

3.1.2. **(ii) Green Rules:** This scenario represents aggressive decarbonization and revolutionary transformation toward a sustainable, low-carbon economy, but does not reach net zero emissions until 2085 and sees an average global temperature rise of 1.7°C by 2100. It envisions more efficient energy use and fossil fuels dropping to less than 40% of total energy demand, with total emissions falling nearly 60% from current levels.

3.1.3. **(iii) Discord:** This scenario foresees a world fractured by successive crises that cause long-term damage to the geopolitical and macroeconomic environment, with rising costs creating uncertainty, hindering investment, and causing market volatility. This scenario expects higher reliance on fossil fuel energy with significant GHG emissions and 3°C of warming by 2100.

3.2. **Glen Yelton (Invesco)** prompted a discussion regarding the credibility of public policies and how this effectively translates into the achievement climate targets in scenario modeling.

3.3. **Kramarchuk (S&P)** responded that our analysis does not necessarily take government targets or policy commitments at face value. Instead, we opt for a more iterative and bottom-up approach that places greater emphasis on real world activities and the latest available information to capture any shifts in public policy.

3.4. **Aurian de La Noue (S&P)** highlighted that we anticipate approximately $56 trillion in investments to achieve net zero, of which 66% would need to address clean tech in energy.

3.5. **Kramarchuk (S&P)** compared the forward-looking scenarios to Net Zero scenarios, comprising two core possible approaches, labeled ACCS and MTM:

3.5.1. **(i) Accelerated CCS**, in which commercial 'carbon capture and sequestration' is used across key energy segments and markets.

3.5.2. **(ii) MultiTech Mitigation (MTM)**, which assumes a much smaller amount of CCS, instead emphasizing diversification of energy supply and electrification based on storage-backed renewable capacity in power generation.

3.6. Based on this analysis, **Bertrand Millot (CDPQ)** questioned whether the industry is potentially misallocating funds in the Inflections scenario.

3.7. **de La Noue (S&P)** clarified that ACCS represents a sizeable carbon reduction in legacy spending that gets overtaken by more investment in CCS. **Kramarchuk (S&P)** added that this potentially also offers a return on the investment in the form of new technologies.

3.8. **Andrew Ford (Morgan Stanley)** shared that his firm has similarly modeled two net zero scenarios, one which accounts for carbon capture and the other with greater emissions reduction but less capturing.

3.9. **Kramarchuk (S&P)** added that in these net zero scenarios, we also anticipate an uptick of carbon pricing driven by country-level carbon pricing set by each jurisdiction.

3.10. **Ford (Morgan Stanley)** asked what average carbon price was used for the analysis, to which **Kramarchuk (S&P**) disclosed that our analysis differentiates carbon pricing by country, for example, Japan is relatively expensive compared to the prices set in many developing countries.

3.11. **Yelton (Invesco)** inquired about a potential commodity lens, specifically relating to the potential shortfall in copper mining, for example. **Kramarchuk (S&P)** revealed that S&P Global Commodity Insights has indeed performed a study on the availability of copper and how this could potentially pose a major roadblock. However, he noted modest concern about transition metals overall due to the relatively plentiful number of alternatives in the market – expressing optimism that was not equally shared by **Yelton (Invesco)**.

3.12. **de La Noue (S&P)** provided additional context regarding assumptions in hydrogen growth and further technological progress, which may mitigate the limited availability of base metals.

How Members Utilize Scenario Models in their Investments

3.13. **Naqvi (Chair)** prompted the group to share their beliefs regarding the transition and if they had a base case that they incorporated into their investments. She also asked Members to comment on whether they were familiar with the S&P Global Commodity Insights analysis.

3.14. **Travis Antoniono (CalPERS)** commented that his firm typically tracks scenarios derived public sources, such as the Climate Action Tracker, or at times other third-party sources (though not S&P Global at present). He added that CalPERS places a lot of weight on the analysis produced by the IEA's Tracking Clean Energy Progress (TCEP) analysis, which covers 50 components of the energy system deemed critical for clean energy transitions.

3.15. **For Antoniono (CalPERS)**, this is especially useful due to the bottom-up and granular approach, enabling portfolio managers to assess the pace of the transition at the underlying component-level, for instance, pertaining to LED lighting, EVs, or solar installations.

3.16. **Antoniono (CalPERS)** also mentioned that implied temperature rise (ITR), on the margins, is not typically a primary driver of an investment for his firm. Although CalPERS does consider this, they generally prioritize risk/return metrics while adjusting for major discrepancies where necessary, such as the difference between a 2.2°C vs. 4.6°C scenario, as opposed to a 2.4°C or 2.7°C case, which may not even play out in real life due to data rounding errors. As such, CalPERS is typically less sensitive to smaller jumps in ITR from an investment strategy lens, unless of course the strategy calls for it explicitly.

3.17. Others, such as **Ford (Morgan Stanley)** and **Millot (CDPQ)** expressed similar concerns over the reliability of implied temperature models, to which nearly all Members nodded in agreement across the room.

3.18. **Yelton (Invesco)** expressed similar skepticism regarding ITR models and shared that he senses a shift in the way the data and scenarios are currently being evaluated and used. Invesco also views the transition as an opportunity, and places significance on the underlying technological components mentioned previously by **Antoniono (CalPERS)**.

3.19. As such, rather than focus on the 'transition' as the primary goal, **Yelton (Invesco)** expressed interest in the technologies and business models supported by a given asset allocation. Overall, however, Yelton describes himself as a pessimist in this regard and views the commercials as perhaps the biggest roadblock that is currently slowing the transition down.

3.20. **Yelton (Invesco)** added that public policy interventions needed to help scale the transition and overcome commercial roadblocks are lackluster outside of Europe, as another contributing factor.

3.21. **Antoniono (CalPERS)** interjected by sharing that CalPERS is generally okay with a variety of approaches, even investing in coal-fired power plants, *as long as* they have regulatory approval from the transition plans and provide a better return. As such, he views potential glidepaths to net zero as more nuanced than most top-down models allow.

3.22. **Rakhi Kumar (Liberty Mutual)** weighed in by sharing her firm generally uses the NGFS scenarios, comparing their investment portfolio with the NGFS Hot House and Divergent Net Zero scenarios. Kumar also commented on how the notion of financed emissions appears to be losing favor as "financing the transition" takes over as per recent initiatives from GFANZ.

3.23. **Kumar (Liberty Mutual)** further reiterated sentiments shared earlier in the conversation regarding the importance of keeping risk/return and alpha as central to the investment conversation, with transition-related variables as secondary.

3.24. **Jamie Franco (TCW)** jokingly remarked that "[as investors] maybe it's something in our DNA, but top-down models are always wrong", emphasizing her firm's approach is much more bottom up. Franco provided examples, such as how when NextEra stock was collapsing, its bond spreads were simultaneously tightening. Investors therefore must look more closely at what companies are spending on in terms of CapEx and other measures that can yield differentiated investing outcomes given all the uncertainties.

3.25. **Millot (CDPQ)** chimed in, "I would "echo that word for word!"

3.26. Overall, members widely agreed that while top-down scenario models are still useful to sense check analysis, bottom-up and detailed approaches are almost always preferred in investment selection.

The Technology Requirements for Net Zero

3.27. Returning to the presentation, **de La Noue (S&P)** commented on how investment needed in cleantech, transmission and distribution must far exceed legacy energy investments to successfully deliver material emission reductions on a global scale. This applies to all the forward-looking scenarios (Inflections, Green Rules, Discord) to a greater or lesser extent.

3.28. **Kramarchuk (S&P)** also spoke to the importance of assessing the carbon intensity of different products to enable a mix of technologies and a spectrum of choices. However, the build-out and wide adoption of known low-carbon technologies will inevitably be gradual, he added, due to their current technical and commercial maturity, often with high costs of investment.

3.29. **de La Noue (S&P)** explained how abatement cost curves can be used to measure the carbon cost of specific assets achieving a 10% return on investment, demonstrating the inherent feasibility of decarbonization – albeit limited by technology and commercial readiness in the short-term (up until 2035), a point which **Yelton (Invesco)** previously pointed out.

3.30. Conversely, in the long-term (beyond 2035), **de La Noue (S&P),** discussed how carbon pricing would likely exert more influence over global decarbonization potential – though this would inevitably be impacted by policy uncertainty.

Assessing Financed Emissions in Investments

3.31. **Naqvi (Chair)** interjected, asking Members whether they used similar analysis regarding financed emissions and abatement cost curves in their investment process.

3.32. **Franco (TCW)** reiterated how bottom-up approaches are more relevant to her work day-to-day.

3.33. Unlike the asset managers and asset owners in the room, however, **Ford (Morgan Stanley)** discussed the role of regulation in requiring banks to utilize a macro top-down lens. He added therefore that concept of financed emissions is not entirely lost on the sell side but agreed with **Franco (TCW)** that for buyside firms, a bottom-up lens is far more practical.

3.34. **Ford (Morgan Stanley)** also questioned whether there may be regional differences to how asset managers approach this since he has had several conversations with EMEA firms that do indeed use macro models and are perhaps not as focused on the bottom-up view.

3.35. **Ruben Lubowski (Lombard Odier)** chimed in to discuss his firm's approach. Since Lombard Odier has a series of thematic funds, the deciding factor ultimately needs to be bottom-up though they have invested a lot of time on the policy and research side overall. Lubowski described a journey of evolution, which was initially big-picture focused but after getting push back now represents a hybrid model with fundamental equity analysis, amounting to a mix of both top-down and bottom-up analysis.

3.36. **Vincent Felteau (PSP)** shared that his firm also mixes approaches. PSP is working on a climate pathway navigator tool, which includes forward-looking scenarios to assess potential macro dependencies such as on regional grid mix. This is important as an investor's ability to support companies to transition is just as dependent on the macro feasibility of achieving the scenarios we have set.

3.37. **Naqvi (Chair)** asked other Members to confirm whether they also developed their own in-house scenario modeling tool.

3.38. In addition to **Felteau (PSP)**, **Sara Rosner (AllianceBernstein)** and **Yelton (Invesco)** verbally acknowledged doing this, while several others around the room nodded in agreement as well.

Exploring Potential Enhancements to Scenario Modeling Tools

3.39. **Naqvi (Chair)** then asked Members what support S&P Global could provide to assist them and reduce the burden of building their own in-house models.

3.40. **Yelton (Invesco)** remarked that Invesco would prefer not to have to build its own tools but the need to support their unique strategy and client requirements means they probably could not use an off-the-shelf model. Upon further probing by **Naqvi (Chair)**, Yelton agreed that a flexible model that facilitates users to toggle and manipulate the underlying weights and inputs would indeed be a useful tool they might use instead.

3.41. **Rosner (AllianceBernstein)** disclosed that AllianceBernstein is working with MIT to build out this precise type of solution, but that it is extremely resource intensive and difficult to scale. Currently they are collectively working on covering the ASX 200, but a market solution that could capture 15,000+ equity issuers would be ideal.

3.42. **Yelton (Invesco)** agreed and commented on the challenges of mapping data across asset classes at such a large scale, suggesting it would likely not be possible for S&P Global or any other provider to build such a comprehensive model that could accommodate all securities to meet the unique needs of many clients.

3.43. To that end, **Rosner (AllianceBernstein)** said it would be helpful to understand if there is any consensus among third-party data providers regarding scenario inputs they could align to.

3.44. **Naqvi (Chair)** responded by asking whether a flexible tool that comes with pre-built scenarios, including the lowest common denominator to align across standards might be applicable?

3.45. **Kramarchuk (S&P)** shared that S&P Global in fact already offers such tools in the commodities space but would need to be applied more broadly to these types of models.

3.46. **Josh Mayer (Guggenheim)** weighed in, asking how one could feasibly define and measure consensus in this context, suggesting it may not even be possible.

3.47. **Franco (TCW)** questioned the use of such a model, since any number is “just math” and not tied to real outcomes. Franco referenced a similar debate among the Council previously, in in which members also struggled to identify a single metric or answer that would “mean something” in the context of Paris-Aligned benchmarks.

3.48. **Kramarchuk (S&P)** asked **Franco (TCW)** and others if they find the Science Based Targets Initiative (SBTi) approach useful.

3.49. **Franco (TCW)** quipped that this was "a loaded question", reiterating her position that her firm struggles to use anything from a top-down portfolio level, instead opting to assess the underlying fundamentals derived from bottom-up analysis.

How Members Utilize Scenario Models in their Investments – Continued

3.50. **Naqvi (Chair)** posed a question to the broader group – asking whether risk/return metrics or Net Zero objectives were more important overall?

3.51. **Yelton (Invesco)** responded that this ultimately depends on the client and their objectives, but that if you're able to remain on a Net Zero aligned pathway without significantly harming alpha, it is usually worth it.

3.52. **Ford (Morgan Stanley)** cautioned that if one oversimplifies scenarios too much, you can end up with ITR models which he feels are "useless". He also mentioned MIT's capabilities and referenced at least a dozen pre-built scenarios that investors can access, but then questioned how this many permutations could ever be served by a standalone data product.

3.53. **Millot (CDPQ)** reiterated how his firm has already reduced the carbon intensity of its portfolio by more than 50% but questioned the reliability of forward-looking scenarios going further beyond a 10-year horizon. He added, "we can do scenarios until the cows come home, but we still have no clue what public policy is going to do that far into the future".

3.54. **Kramarchuk (S&P)** weighed in, stating that majority of the policy conversation is centered around 2025 and 2030, which provides some transparency.

3.55. **Naqvi (Chair)** asked others around the table to comment on whether they were equally cynical regarding the longer-term time horizons embedded in forward-looking scenarios.

3.56. **Antoniono (CalPERS)** agreed, "absolutely, there are so many aspects we do not control and that are dependent on what happens with technology and public policy, both of which need to significantly advance," doubting how feasible it will be to achieve our ultimate goals on the current timeline.

3.57. **Antoniono (CalPERS)** also shared that CalPERS has instead opted to "shift the goal" by not making GHG emissions the core focus per se, but rather the solutions and products that will catalyze the necessary structural changes in the economy. In this way, CalPERS can influence the future by allocating capital to these key areas, which if chosen correctly, also helps them meet their fiduciary obligations. Antoniono also noted how this approach is helping to circumvent ESG backlash and politicization of sustainability by remaining somewhat apolitical through the lens of technology as a profitable investment.

3.58. **Franco (TCW)** weighed in, suggesting it relatively easy to tell which investors are genuinely focused on reshaping the economy towards a low carbon future by the characteristics of their engagement and strategy. In the end, she added, "they are doing it for sound economic reasons, as they should be." She added that the companies who are transitioning their business models towards greener alternatives because of the underlying opportunity and benefits to the bottom line, make for a smarter investment for investors to take advantage of.

3.59. **Franco (TCW)** reiterated this is precisely why a more bottom-up and fundamental approach to investment analysis is important. There are a lot of companies who have flashy marketing and commitments but may not have the proper intentions to realize them, she added. Conversely, there are many private companies who are making tremendous strides to transition but who may not be marketing it. The "portfolio-level metrics are generally a bad signal for this".

3.60. In response, **Yelton (Invesco)** interjected that this does not apply to passive investing.

3.61. **Millot (CDPQ)** added that the portfolio-level signals are indeed weak and that his investment colleagues do not have the time for this. He gave the example of some analysis undertook by CDPQ to determine the physical risk exposure and impact of their investments at the country level, but expressed uncertainty over what to do with the findings that there is a lot of risk.

3.62. On the other side, **Ford (Morgan Stanley)** counteracted some of the cynicism in the room by acknowledging the role scenario analysis may play in terms of story-telling and C-Suite buy-in. He referenced the origin of these models first produced by Shell that ignited a conversation. "What is it going to take for investors to care?", he asked, suggesting it may come down simply to "a large macroeconomic shock like what we can expect to see this summer during a horrible hurricane season". Scenario models can thus help illustrate the forward-looking risks at senior levels of an organization, urging them to act.

3.63. **Franco (TCW)** acknowledged that risk of insurance policies pulling out of jurisdictions that companies are exposed to, as a potentially useful insight from forward-looking scenarios. To which, **Millot (CDPQ)** replied that most investors are already aware of these risks but tend not to have investment time horizons sufficiently long-term enough to merit acting on this just yet. **Ford (Morgan Stanley)** agreed, stating that "2050 is not an investible timeframe".

The Role of Carbon Markets in Facilitating the Transition

3.64. Shifting focus, **Kramarchuk (S&P)** asked about the potential role of carbon markets, "is that going to be legitimate financial instrument that will be material in decision making?"

3.65. **Naqvi (Chair)** called upon **Lubowski (Lombard Odier**) to comment on this given his expertise in carbon markets, asking if he was equally skeptical about their credibility as the group was about portfolio-level scenario analysis.

3.66. **Lubowski (Lombard Odier)** underscored the importance of distinguishing between voluntary and compliance carbon markets, suggesting that "the voluntary market is a bit of a red herring, as the entire voluntary market last year was equivalent to less than a day's worth of trading of the EMEA compliance market". However, he acknowledged that the supply issues are getting somewhat resolved through data and ratings.

3.67. **Lubowski (Lombard Odier)** continued, "the big question is what voluntary demand is going to look like", noting that it we will have to examine any markets that have a crossover such as the CORSIA scheme for aviation that uses voluntary demands from a regulatory perspective.

3.68. **Millot (CDPQ)** posed a broader philosophical challenge with voluntary carbon markets, positing that if he were on the board of a high-emitting company seeking to decarbonize by 2030 considering a proposal to voluntarily spend $500 million to save the planet, what business reason would they have to do this?

3.69. **Antoniono (CalPERS)** agreed with Millot (CDPQ), suggesting that companies would need to report on the amount of dollars spent on carbon credits, which would likely be above the cost of capital return profile – which may make sense from an activist perspective but most likely would not quantifiably align from a fiduciary standpoint in terms of returns.

3.70. **Antoniono (CalPERS)** added that from a legal standpoint, this might even put a target on one's back from a securities perspective. Investors would be more likely to simply engage with companies for them to do so instead, as that process is not always transparent.

3.71. **Ford (Morgan Stanley)** weighed in, suggesting that as we get closer to 2030 and investors find they are not hitting their targets, they would indeed likely exert more pressure on the companies in their portfolio so they can meet their goals.

3.72. **Millot (CDPQ)** shared that investors are not supposed to push companies to purchase offsets, but he anticipates that this will happen, nonetheless.

3.73. However, **Rosner (AllianceBernstein)** expressed her concern, that "as an asset manager whenever we see offsets from a company in a high impact sector, we view this as a red flag. To which, **Ford (Morgan Stanley)** responded by asking if this was still true for hard-to-abate sectors, or those that might not otherwise have a choice?

3.74. **Rosner (AllianceBernstein)** answered that they see this as more of a red flag if companies are including offsets in their financial disclosures, since they have been receiving requests from clients asking for detailed justification wherever they see spending in emission reduction plans. Rosner clarified, "we just want to ensure that carbon offsets are not the cornerstone of a company's strategy when it comes to climate risk mitigation".

3.75. **Franco (TCW)** added that we can only manage what gets measured, but companies are not even at the stage where they are disclosing the key metrics. She also referenced New York Local Law 97 (LL97), an energy efficiency requirement for large buildings, as the only type of rationale for a company to purchase a carbon credit from a compliance standpoint.

3.76. Overall, the Members generally agreed that compliance carbon markets would be the only reliable driver for carbon offsets factoring into a company's strategy and, in turn, their investment decision-making.

3.77. **Naqvi (Chair)** thanked the Members for their contributions and adjourned the meeting for a brief coffee break.

4. Automotive: Electrification is Getting Complicated (S&P Global Mobility)

4.1. **Naqvi (Chair)** invited Members to be seated for the second portion of the agenda on the future of automation led by S&P Global Mobility.

The Big Picture: Assessing the Landscape for Autos

4.2. **Demian Flowers (S&P)** presented S&P Global Mobility's approach to modeling the future of the automotive sector and provided updates on the global uptake of EVs to date. Flowers discussed how the autos story was previously centered around decarbonization via electrification as a technological

enhancement. However, the current outlook is far less promising, as models now suggest that even a 10-year time horizon may still not be sufficient to get the industry to where it needs to be in terms of adoption. Instead, a new narrative is emerging that 'the electrification solution' is coming under intense pressure. Manufacturers are rolling back expectations for new vehicle production and as such, the industry's decarbonization trajectory will likely be delayed over longer timeframes than first hoped.

4.3. **Demian Flowers (S&P)** discussed regional dynamics, noting that electrification is occurring much more slowly in the US and North America compared to China. However, even in the Chinese market, he added, the rate of adoption is also exhibiting signs of slowdown – leaving many analysts to question what the overall endgame will be for EVs on a global scale.

4.4. **Yelton (Invesco)** interjected, asking **Flowers (S&P)** to clarify whether the EVs in the analysis included only light vehicles. Flowers (S&P) confirmed this was the case for the slides being shown but clarified that the same case can generally be made for heavy duty trucks as well.

4.5. In reference to a chart displaying the rate of EV adoption in both regions, **Badeel Janjua (S&P)** asked why the Chinese market exhibited more extreme fluctuations than the US. **Flowers (S&P)** clarified that most of the volatility stems from regional purchasing trends, for example, as evidenced by the notable spikes in Chinese adoption following the Lunar New Year holiday.

4.6. **Flowers (S&P)** discussed how China is becoming an export superpower for autos. Imports to China from Germany have since slowed down, turning German manufacturers towards the domestic market. Global demand for EVs remains relatively lackluster, however, limiting most Chinese EV sales within China. As such, the Chinese export story is not just driven by EVs.

4.7. Nevertheless, **Flowers (S&P)** noted a sizeable chunk of EV adoption in Western Europe comes from China due to competitive prices. Comparative advantages pertaining to China's labor force and the fact that the costliest components of EV production are the batteries, for which Chinese companies (e.g., CATL, BYD, etc.) are the current world leaders.

4.8. Going forward, **Flowers (S&P)** anticipates this might change as global supply chains are set to reconfigure by 2029, since EV and internal combustion vehicles require different parts. He also expects we may see some shrinkage in the battery market, as well as major shifts in the industrial infrastructure supporting auto manufacturers overall.

4.9. In addition to cheaper prices, **Flowers (S&P)** noted that several former European producers have been purchased by Chinese companies (e.g., Volvo, Rover, etc.), which is also contributing to the growing share for Chinese autos in the European market for the time being.

Data Challenges in the Autos Space

4.10. Turning to the data, **Flowers (S&P)** presented the breakdown of GHG emissions intensity throughout the supply chain. Notably, production and assembly (Scope 1) account for a relatively small part of the overall footprint, with the majority is concentrated in fuel sourcing and combustion during the vehicle use phase (downstream Scope 3). Interestingly, even for EVs, we still observe a similar pattern but with different buckets, he noted.

4.11. The reliability of the data largely rests upon the accuracy of estimation models, **Flowers (S&P)** noted, as auto makers themselves seldom disclose such information – also relying on assumptions for upper-level evaluations of emissions.

4.12. **Naqvi (Chair)** pointed out that we observe a similar pattern across most sectors, with Scope 3 generally accounting for the largest share of GHG emissions albeit notoriously difficult to measure. **Flowers (S&P)** agreed, reaffirming that the use-phase is undoubtedly the largest emissions contributor.

4.13. Taking company disclosures at face value also poses a challenge, **Flowers (S&P)** explained, as such numbers often vary markedly from what models expect companies to disclose. However, some of these discrepancies may be valid while others less so. Issues tend to arise regarding assumptions over the life of vehicles, the scope of geographies included, and in some cases, the omission of Scope 3 altogether.

4.14. **Naqvi (Chair)** concurred this is again common to all industries, noting approximately 30% of the sustainability disclosure collected by S&P Global "as is" within our ESG research process (Corporate Sustainability Assessment) must be revised, rejected, or corrected in some way due to such inaccuracies in reporting.

Factors Limiting EV Adoption

4.15. **Yelton (Invesco)** shared his experience of owning an electrical vehicle, which he enjoys using day to day but not for long drives due to range performance anxiety. He suspects this, as well as a lack of affordability of EVs in general, is limiting adoption in the US.

4.16. **Flowers (S&P**) agreed EVs are relatively more expensive compared to traditional autos in the US. Also, since the charging infrastructure is predominately centered around cities, many do indeed fear using EVs for cross-country driving or for towing purposes.

4.17. Moreover, given that the average lifespan for a car in the US is 12.5 years, **Yelton (Invesco)** questioned if the models account for the fact that 50% of today's cars will still be on the road in 2030, which **Flowers (S&P)** confirmed is indeed captured.

4.18. **Millot (CDPQ)** shared his firm has invested in charging stations but feels the industry is generally stuck in a bit of a "Catch 22" in terms of what must come first: i.e., demand for EVs (undermined by range anxiety) vs. charging infrastructure (hard to justify due to low demand)? He posited that government funding in the interim may be the only solution.

4.19. Overall, Members agreed range anxiety was a leading concern inhibiting EV adoption and that government funding for charging infrastructure would be needed to mobilize the transition.

4.20. **Yelton (Invesco)** also raised the topic of geopolitical headwinds in terms of a potential US-China trade war, limiting adoption of cheaper Chinese models by American consumers.

4.21. **Flowers (S&P)** agreed Chinese autos exposure is almost certainly going to be hit by tariffs within the next decade, but noted there may be some workarounds if Chinese manufacturers leverage assembly facilities in third-party jurisdictions such as Mexico. Flowers suspects that tariffs will instead target battery sourcing, as this would pose a greater threat to the Chinese market, which accounts for the largest share of global battery production.

4.22. Other regional considerations include the credibility of local policies. To that end, **Flowers (S&P)** discussed reconciling forecasts with the typical 10-year planning timeframe for autos production. EMEA auto manufacturers can refer to public policy targets, for example, helping to justify R&D spend on models that are not expected to hit the road until 2035. However, the USA generally lacks this level of policy visibility

and stability according to Flowers. Instead, manufacturers that prioritize flexibility (such as Toyota with its hybrid models) are currently being rewarded in the market.

Investment Considerations for Sustainable Mobility

4.23. **Flowers (S&P)** described the drying up of capital when start-up EV producers were introduced and highlighted that hybrids remain the incumbent model for the investor cash-flow. From a usage perspective, the question remains how much they are actually being plugged in. Flowers stated they may not be as hybrid as they are meant to be.

4.24. **Naqvi (Chair)** requested a show of hands for sizable exposure to automobiles or transportation.

4.25. **Antonino (CalPERS)** outlined their passive investments in automotives. As a consumer, it was noted that the math does not add up in the State of California as the tax credits are not functioning efficiently.

4.26. **Ford (Morgan Stanley)** emphasized the gaps in the data citing IHS (S&P Mobility) as the only available data source but remarked on the difficulty of Utilities data given the use of coefficients that are US-heavy.

4.27. **Millot (CDPQ)** echoed Ford's sentiment and reflected on the lighter gas taxes in the United States in comparison with Canada and Europe which may explain the discrepancies. An example used was school buses in the United States which for operating companies is difficult due to underfunding of schools, whereas capital is more available to them in Europe for transportation.

4.28. This led to **Naqvi (Chair)** questioning how investors can forecast with the high uncertainty in the context of transportation. **Flowers (S&P)** agreed that EV was a good push historically, but that with changing political alignment, the narrative has once again shifted back to the question of whether or not EVs are a good or bad. This means it is difficult to plan. **Roman Kramarchuk (S&P)** brought up a research article on the impact of politics on the transportation sector that agrees with that narrative.

4.29. **Millot (CDPQ)** pointed out the importance of investors in pushing the government to engage and push the EV infrastructure. **Yelton (Invesco)** added that the energy demand will also need to be balanced against Artificial Intelligence (AI) and other energy intensive sectors that are also growing and placing increasing demand on the grid.

4.30. Many members agreed that an increased grid is a priority and requires agreement between the IRA and other policy efforts, but worried that the IRA failed to get permission given the ecosystem issues. Members highlighted the challenge of implementation and balancing customer demands when the EV penetration into the market is not strong enough.

Regions Dictate Different Investment Styles

4.31. **Naqvi (Chair)** invited members to describe their views on regional differences particularly on the topic of regulatory reporting requirements such as the Corporate Sustainability Reporting Directive (CSRD).

4.32. **Felteau (PSP)** noted on the rapid shifts in the United States. Felteau expressed interest in understanding how that can transfer into competitive sources going forward to keep up with the other regions.

4.33. Some members raised concerns about the effectiveness of current sustainability reporting standards, such as the CSRD. Some participants questioned the reliability and consistency of sustainability data reported

by automotive companies, while others emphasized the need for improvements in data transparency and reporting practices.

4.34. **Hersh (Vanguard)** described the European approach as bottom-up in comparison to the Asian top-down approach. The challenge is how to progress when each region is coming at it from different angles.

5. Keynote

5.1. **Jamie Franco (TCW)** kicked off the presentation by highlighting that a significant portion of the AUM is invested in the fixed income market which includes a range of securitized assets. The discussion entered on how to invest sustainably in that market. Franco pointed out that while the portfolio has high percentage of assets in the class, it is essential to assess the assets across multiple facets from brown to green to ensure a comprehensive evaluation. Securitized assets need to be looked at between two lenses:

i) **Labeled bonds:** These comprise only 1% of securitized projects and require a green criterion. An example used is solar leases and asset-backed securities. The entire category is considered green even without a label.

ii) **Unlabeled bonds:** An example is where building characteristics provide insights into labeling them as green.

5.2. Franco introduced social opportunities beyond green opportunities as a critical focus, but emphasized the difficulty of identifying these in the US to get the right demographic to provide small loans. The difficulty arises when such loans cannot be packaged into, for instance, a pool of mortgages, and therefore requires better labeling. Franco concludes that a methodology is needed.

5.3. **Ford (Morgan Stanley)** questioned the concern over redlining when it comes to identifying demographics.

5.4. **Franco (TCW)** gave preference to Fanny and Freddy over Jenny Mae as the former fits in with the requirement of social data. Franco insisted it is possible to come up with some criteria, but currently difficult to get the specific data needed. Additionally, a working group has been setup with the Partnership for Carbon Accounting Financials (PCAF) for standards around securitized assets.

Physical risks beyond the assets into the loans

5.5. **Hersh (Vanguard)** introduced physical risk as a potential topic of interest on the asset level.

5.6. **Franco (TCW)** agreed and explained their process of looking into the loan level beyond the assets. Franco described their work with a data provider that allows for an outlook on the physical risks, how likely they will materialize, and then handicap those based on credit assessments. This allows for measuring reliance and policy framework.

5.7. Members described their approaches, including the use of Census data which was preferred to FEMA maps. Municipality risks were also noted as helpful. In conclusion, the emphasis was on the need to focus the characteristic on what the underlying data is beyond a label.

6. Concluding Remarks and Next Steps

6.1. **Mona Naqvi (Chair)** thanked members for their attendance and reiterated their gratis access to S&P Global data through Workbench. Locations for the H2 2024 meeting were summarized with a request to send in preferences for locations and topics to present.

6.2. Meeting adjourned.

Sustainable1

S&P Global Sustainable1

Investor Client Council

H1 2024 Europe Meeting Minutes

DATE: Tuesday, 7th May, 2024: 14:00 – 17:30 BST
LOCATION: Pan Pacific Hotel, London, UK

Attendees

Council Members

- Chris van der Merwe, Responsible Investment Manager, **Brunel Pension Partnership**
- Laura Kaliszewski, Global Head of Client Sustainable Investing, Natixis Investment Managers
- Ophélie Mortier, Chief Sustainable Investment Officer, **Degroof Petercam DPAM**
- Rachel Whittaker, Head of Sustainable Investing Research, **Robeco**
- Rowan Douglas, CEO Climate Risk & Resilience, **Howden Group**
- Samuel Grantham, Investment Director of Sustainability, **abrdn**
- Sarah F Hersh, Head of ESG (US), **Vanguard**
- Sindhu Krishna, Head of Sustainable Investments, **Phoenix Group**

S&P Global Attendees

- Mona Naqvi, Chair of the Council, **S&P Global Sustainable1**
- Myrna Ghanem, Secretary of the Council, **S&P Global Sustainable1**
- Lauren Smart, Chief Commercial Officer, **S&P Global Sustainable1**
- Edouard Tavernier, President, **S&P Global Mobility**
- Bruno Brunetti, Head of Environmental Markets and PPAs Analysis**, S&P Global Commodity Insights**
- Simon Thorne, Climate & Energy Transformation Lead, **S&P Global Commodity Insights**
- Demian Flowers, Head of Strategy and Product Development for Automotive**, S&P Global Mobility**
- Thomas Yagel, Chief Operating Officer, **S&P Global Sustainable1**
- Sonia Kim, Managing Director, Head of Product, **S&P Global Sustainable1**
- Steven Bullock, Managing Director, Head of Research, **S&P Global Sustainable1**
- Badeel Janjua, Head of Sustainability Sales for Fis America, **S&P Global Market Intelligence**
- Geraldine Cametti, Market Outreach Director EMEA Sustainability, **S&P Global Ratings**

Apologies

Council Members

- Annika Esonno-Mannen, Head of Responsible Investing, **OP Financial**
- Florian Sommer, Head of ESG Strategy, **Union Investment**
- Eric de Tessieres, COO of the Sustainability Centre, **BNP Paribas Asset Management**
- Jacqueline Amy Jackson, Head of Responsible Inevstment, **London CIV**
- Robert Campbell, Senior Responsible Investment Financial Analyst, **Universities Superannuation Scheme (USS)**

S&P Global Attendees

- Christopher Heusler, President of **S&P Global Sustainable1**

Meeting Objective

The Council Meeting serves as the third European **S&P Global Sustainable1 Investor Client Council** meeting and the second in-person meeting. The aim of the Council is to facilitate a community of industry experts who meet regularly to discuss business challenges and opportunities arising from sustainability issues. Its members provide S&P Global with expertise to inform best practices and deepen S&P Global's understanding to serve the evolving needs of the market through relevant products and services.

Agenda & Record of Discussions

1. Welcoming Remarks

1.1. **Edouard Tavernier** (S&P Global) welcomed all attendees and thanked them for their participation in this important initiative for S&P Global.

1.2. **Edouard** highlighted the urgency of the energy transition and importance of the energy and automotive sectors in facilitating the transition

1.3. **Lauren Smart** (S&P) echoed Edouard's comments and welcomed the new members of the Council

2. Purpose & Objectives

2.1. **Mona Naqvi** (Chair) read the Council Guidelines and received verbal acknowledgement from all members of their understanding and agreement.

2.2. Members introduced themselves and each provided their hopes for the meeting. Recurring members briefly mentioned updates since the last meeting.

3. Decarbonization and Net Zero Pathways

Net Zero Scenarios are far from reality

3.1. **Mona Naqvi** (Chair) invited **Simon Thorne** (S&P) and **Bruno Brunetti** (S&P) to set the scene. Simon and Bruno introduced various net zero scenarios including that set out at COP28 which we have missed.

3.2. **Bruno** (S&P) described the potential outcomes and how the limitation is not direction, but rather steepness and speed.
At CERAWEEK, *pragmatism* was the keyword described by energy companies, citing that the most efficient barrel is the one you do not use and do not produce.
Bruno presented different scenarios for emissions mitigation:

- Inflection is where we currently are
- Discord is not moving forward
- More extreme scenarios are CCS/ACCS

- Multi-tech (MTM) mitigation i.e. alternative technologies. In this scenario the end goal is less so to focus on solar or wind but instead to scale up nuclear tide for examples but is the most expensive route

3.3. **Rowan (Howden)** described the missed target at COP28 and that managing these solutions is a missing skill.

3.4. **Bruno (S&P)** echoed the sentiment but explained that even though some movements are downwards, the steepness and speed of the movement are lacking.

3.5. **Sindhu (Phoenix)** questioned the need for magnitude versus intentionality to which Bruno responded that if broken down regionally, security and affordability are the biggest drivers, but for net zero intentionality is still the driving force.

'Consensus' on ITR usefulness

3.6. **Mona** (Chair) initiated the discussion by mentioning that there was a consensus in North America regarding the limited usefulness of ITR, emphasizing the fiduciary aspect as critical and the rest as a by-product. The group deliberated on whether this sentiment was shared in other regions.

3.7. **Rachel** (Robeco) noted their internal use of a sector-by-sector methodology for ITR. The challenge brought up was the reliability of the pledges, but ultimately a model is better than no model.

3.8. **Andy** (Schroders) added that their approach involves a standard model that is then adjusted. Their challenge remains that ITR is not a yes/no answer, and that each methodology is different. The practice of setting pathways is deemed more important than the actual ITR.

3.9. Members agreed that reliability is an issue. Methodological differences mean that, although in theory they are good, in practice they are difficult.

3.10. **Andy** (Schroders) emphasized wanting to avoid the word consensus when it comes to climate data as it is not yet on the same level as other metrics, e.g., interest rate trends.

3.11. **Sindhu** (Phoenix) introduced the potential of backwards consensus to see historical reporting data for clarity.

3.12. **Samuel** (abrdn) echoed the sentiment and described ITR as hugely complex, struggling to put too uch behind it. He shared an example of Utilities with a focus on Renewables in Europe, where models did not actually look at the commitments or transition. Another challenge is missing out on the opportunity despite the model showing it as not aligned.

Scenario analysis and stress testing useful

3.13. **Badeel** (S&P) explained Canadian banks being subjected to scenario testing showed oil companies could under some scenarios go bankrupt within 10 years.

3.14. **Sindhu** (Phoenix) shared their experience with stress testing such as the Bank of England.

Reporting and decision-making are different

3.15. **Andy** (Schroders) differentiated between what goes into TCFD reports and what goes into investment decisions.

3.16. **Mona** (Chair) questioned what is important to look for to choose between Company A and B in the decision-making process.

3.17. **Andy** (Schroders) cited targets and good disclosure, to which **Simon** (S&P) added methodologies also.

3.18. **Sam** (abrdn) explained the need to plot scenarios against emissions and forecast emissions to see how a company could perform.

3.19. **Chris** (Brunel) summarized the requirements as the ultimate need for transparency. When TCFD reports are published they then have to be defended. Despite the data always being an issue, confidence in the data is good. The better the transparency, the better the confidence, as investors cannot be experts in every single scenario.

3.20. **Simon** (S&P) described a tool for inputting scenarios that looks at country and company performance based on GDP, regulatory changes and other factors. While it is fascinating, what drives impact can lead to a rabbit hole.

Curtailment for transition of legacy to cleantech

3.21. **Bruno** introduced the investment opportunity and requirements for legacy versus cleantech and the requirement for new technologies that are multi-tech or carbon capture storage (CCS).

- Legacy Investments: fossil fuel investments are still needed.
- Net Zero Investments: required, but not on the investment side, rather the regulatory side so the market can make data and tracking available.

3.22. **Chris** (Brunel) shared thoughts on *infrastructure* needs to support cleaner power transmission. In Scotland and England, the national gris transmission lines are working on power transmission through the sea. **Bruno** (S&P) added the expected returns and risk on curtailment as points to consider.

3.23. **Sarah** (Vanguard) questioned the need for higher investments for carbon capture and storage (CCS) over multi-tech investments.

3.24. **Bruno** (S&P) described CCS as a technology that is not easy as there are setbacks involved.

3.25. **Simon** (S&P) expressed the suboptimality of CCS when it comes to cost as compared to multi-tech solutions. Policy expectations and shifts in supply/demand for legacy technologies and energies also play a role.

3.26. **Sarah** (Vanguard) pointed to the offsets of CCS being lower than multi-solution as compared to legacy.

3.27. **Simon** (S&P) underlined cost as the biggest factor and also policy expectation and the balance of supply and demand when looking at legacy energy.

3.28. **Rowan** (Howden) requested thoughts on the "dash for CCS" to which **Simon** responded that would depend on who we speak to as opinions differ.

Economics matter more than philosophy

3.29. **Myrna** (Secretary) addressed the members and questioned their split of offsets, legacy, CCS and other tech.

3.30. **Andy** (Schroders) explained that economics matter. It will likely be a combination of things depending on which is most attractive, be it higher returns on CCS or wherever there are opportunities.

3.31. **Simon** (S&P) summarized the views on CCS, stating that in the world where CCS is the only solution, a lot of investment is a smaller return. In an optimized CCS model, the CCS bit shrinks and it makes more sense because you optimize CCS and there is opportunities.

Exposure more relevant than efficiency

3.32. **Mona Naqvi** (Chair) makes note of the time and opens discussion to next topic.

3.33. **Simon** (S&P) highlights the need for granularity where beyond intensity, the mechanisms for extraction of oil vary and do not have the same intensity. Some of it is unchangeable because of geology, while some of it can be changed. There is a genuine lack of awareness on that point. What the emission reductions focus on is just the commodity as opposed to the variability. Beyond the commodity, the asset and company have huge differences when we speak of the effects.

3.34. **Badeel** (S&P) asked if the level of extraction can be researched.

3.35. **Simon** confirmed that detail and freight technology is available. With more demanding regulations, transparency is now a requirement of all oil companies to prepare them to deal with the emissions of chemicals. Ultimately, carbon intensity – not carbon – is the measure that is broadly seen as powering the transition.

3.36. **Mona** (Chair) asks Members if there are data points S&P can provide to help track this, and if for private markets we can get away from security level data and go back to product level units.

3.37. **Andy** (Schroders) highlighted the importance of exposure to them more than the efficiency. Because that level of data is upstream, it is not necessarily most relevant. From the investment side, the focus

is on what you are selling not how you are producing. The big picture is the 'oil field' as opposed to the efficiency of the field.

Voluntary carbon markets require credibility

3.38. **Bruno Brunetti** (S&P) set the scene for voluntary carbon markets and pointed out the European market as being the most established one.

3.39. **Sindhu** (Phoenix Group) focused on credibility of VC. There is return potential, but it requires third party assurance. Technology needs to be more proactive to be able to trace these investments such as satellite technology.

3.40. **Myrna** (Secretary) asked if a Shades for Green-like assessment would be useful which Sindhu (Phoenix) considered a good approach given it is third party assured.

3.41. Members agreed to an overarching body such as the UN creating a framework around it to track credibility. Overall, members expressed skepticism and cynicism around voluntary carbon markets, with many agreeing that compliance markets would be the only possible type to meaningfully drive the transition, if at all.

3.42. **Mona** (Chair) calls time.

4. Networking Break

4.1. The Council adjourned for a 10-minute break.

5. Automotive - Electrification is Getting Comlicated

5.1. **Mona Naqvi** (Chair) welcomes back the Council members after the break.

5.2. **Demian** (S&P) opens up the discussion on the need of supply chain information for decarbonization where automotives represent 1/6th of the world's emissions.

EVs are not enough

5.3. **Demian** (S&P) describes the flattening of the EV penetration in the US and China, the two biggest markets for the technology.

5.4. Members laughed at the singling out of EVs when many people drive EVs but still own boats. Beyond automobiles, other transport requires the transition for it to be meaningful.

5.5. **Mona** (Chair) asks members of their exposure to autos and if there is skepticism similar to what was heard in the North American Council given the politicization of the industry particularly when comparing to the Chinese market.

5.6. **Rachel** (Robeco) explained they have a smart mobility fund and that it is a big topic.

5.7. **Andy** (Schroders) considers it an area of interest with a global aggregate view.

5.8. **Samuel** (abrdn) highlighted that it is relevant for them in Latin America or looking at Transport for London as in most of Europe, autos are a nice to have not a must have unlike the US. Investments are focused on China.

5.9. Members are more optimistic on the whole and less affected than North America given the smaller scale of use of automobiles in the region relative to other regions with higher ranges.

Autos sector good outlook on just transition

5.10. **Demian** (S&P) brought up the switch off of internal combustion in Europe by 2035.

5.11. **Mona** (Chair) highlights the usefulness of the automotive sector for showcasing a 'just transition' given it's societal, economic and political importance.

5.12. **Sam** (abrdn) brings up the topic of rapidly changing technologies and questions whether consumers wouldn't rather wait for upcoming technologies.

5.13. Some members, brought up infrastructure and the *cost* of technology, electricity and battery as key.

5.14. **Thomas Yagel** (S&P) introduced himself and questioned what is driving the curve up – the range increase, the cost decrease, the government incentives or the fuel. **Lauren Smart** (S&P) added the cost of electricity as a factor as well.

5.15. **Mona** (Chair) invited Steven Bullock to summarize his research on mines for mobility and how these affect biodiversity

5.16. **Steve Bullock** (S&P) summarized the effects of mines, including transition metals and those used for batteries, on biodiversity. 30% of mines located in Key Biodiversity Areas are for transition metals. **Mona** questioned the conflict between feasibility and transition to which **Demian** responded with the trade-off: you can have vegan seats but they will be made of plastic.

5.17. Members took a moment to consider **Bruno's** (S&P) comment on the time of recharging which can be either when the grid is operating on renewables or coal/gas.

5.18. **Mona** (Chair) added comments made by the North American Council on divestment versus engagement. Mona invited Members to provide their input on the trade-off of brown and green share and transitioning.

5.19. **Demian** (S&P) brought up the trilemma of energy

- **i.** Security
- **ii.** Affordability
- **iii.** Sustainability

Can the companies continue being alive? Can they produce EVs and still make cash or will they transition the economy?

5.20. **Sonia Kim** (S&P) introduced the topic of physical risk as an additional layer to the supply chain which was met with nods from the Members and additional comments on the affect of indigenous communities by **Lauren Smart** (S&P).

More policy and metrics

5.21. Members would be interested in highly granular and interconnected data sets that link together information of automotive production by model and number, coupled with geolocation and local grid mix data, plus public census data, and life span/usage data to get a completer and more useful picture of the automotive industry for their investment decision making.

5.22. **Chris** (Brunel) admitted Europe is better at adding a clear line when it comes to the mass market move of EVs while Britain keeps pushing the line and therefore clearer policies are needed.

5.23. **Rachel** (Robeco) discussed the point of tracking disrupters as something that is tracked as part of the impact framework which led **Sindhu** (Phoenix Group) to underline the need for more metrics that are open source that can aid in the decision-making process in a transparent way. TPI was used as an example.

5.24. **Myrna** (S&P) addressed the need for use cases on cross-divisional use of data which was met with agreement from members.

6. Concluding Remarks and Next Steps

6.1. Mona Naqvi and Lauren Smart thank the Council and invite Members to a networking reception.

6.2. The S&P Council members are setting up follow ups for members who expressed interest in free trials or Workbench access.

6.3. Members will receive access to a webpage for all Council documentation.

6.4. The European Council will resume for the H2 2024 session in the fall.

7. Council adjourned

7.1. **Mona Naqvi** (Chair) recounts next steps and adjourns Council.

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S&P Global Sustainable1

Investor Client Council

H1 2024 APMEA Meeting Minutes

DATE: Tuesday, 14th May, 2023: 14:00 – 17:00 Singapore Local Time
LOCATION: S&P Global, 12 Marina Boulevard, Singapore

Attendees

Council Members

- Chandra Eastwell, Director of Sustainable Invsting, **Qatar Investment Authority**
- Chao Chen, Head of Research Institute, **China Investment Corporation** (virtual)
- De Rui Wong, SVP Sustainability Office, **GIC**
- Derek Rozycki, Head of Responsible Investing, **Mubadala**
- Hirotaka Hideshima, Counsellor on Global Strategy to President and Board of Directors, **Norinchukin Bank** (virtual)
- Weixiang Wang, Director of ESG Investment Management, **Temasek** (proxy)
- Monte Mu, Associate Director Sustainability, **E Fund Management**
- Vijay Bains, Chief Sustainability Officer, **Emirates NBD**
- Ajay Jain, Head of Corporate & Institutional Banking, **Emirates NBD** (proxy)

Additional Attendees

- Angelina Ng, VP Responsible Investing, **Mubadala**
- Eduardo Carriles, VP Responsible Investing, **Mubadala**
- Jane Chen, **E Fund Management** (virtual)

S&P Global Attendees

- Mona Naqvi, Chair of the Council, **S&P Global Sustainable1**
- Myrna Ghanem, Secretary of the Council, **S&P Global Sustainable1**
- Lauren Smart, Chief Commercial Officer, **S&P Global Sustainable1**
- Eleanor Kramarz, Executive Director, Strategy Consulting Group, **S&P Global Commodity Insights**
- Jenny Yang, Senior Director, Asia, Gas and LNG, **S&P Commodity Insights**
- Tim Armstrong, SVP/Partner Planning Solutions, **S&P Global Mobility**
- Hsin-Ying Lee, Director of Market Outreach, **S&P Global Ratings**
- Olivier Trecco, Head of Sustainable Solutions APMEA, **S&P Global Market Intelligence**
- Rong Yu, Head of ESG Solutions, ASEAN and Greater China, **S&P Global Sustainable1**

Apologies

Council Members

- Jinsuk Choi, Head of ESG Solutions, **KIC**
- Rubeena Solomon, Executive Head of Investment Management, **PIC**

S&P Global Attendees

- Christopher Heusler, President of **S&P Global Sustainable1**
- Thomas Yagel, Chief Product Officer, **S&P Global Sustainable1**

Meeting Objective

The Council Meeting serves as the third APMEA meeting and first in-person meeting of the **S&P Global Sustainable1 Investor Client Council**. The aim of the Council is to facilitate a community of industry experts who meet regularly to discuss business challenges and opportunities arising from sustainability issues. Its members provide S&P Global with expertise to inform best practices and deepen S&P Global's understanding to serve the evolving needs of the market through relevant products and services.

Agenda & Record of Discussions

1. Welcoming Remarks

1.1. **Lauren Smart** (S&P Global) welcomed all attendees and thanked them for their participation in person and virtually. Lauren summarizes key takeaways from North America and Europe meetings that took place earlier in the month.

2. Purpose & Objectives

2.1. **Mona Naqvi** (Chair) read the Council Guidelines and received verbal acknowledgement from all members of their understanding and agreement.

2.2. Members and attendees introduced themselves and welcomed new members joining the Council. Virtual attendees expressed their apologies for not being able to attend in person.

3. Decarbonization and Pathways to Net Zero

Start with the low-hanging fruit: long-term practice over short-term theory

3.1. **Mona Naqvi** (Chair) introduced Eleanor and Jenny (S&P) and invited them to set the scene for the energy transition landscape in the region.

3.2. **Eleanor** (S&P) described the energy transition business as tricky particularly when it comes to setting scenarios. **Eleanor** describes the various scenarios from minimum NDCs to those set at COP28.

- In Asia we do not see renewables tripling like in other markets
- Way in which scenarios are being used needs to be changed as most are asset-level
- In the 'Net Zero' scenario, very specific and few things have dramatic impact

3.3. **Derek** (Mubadala) began by describing their process of focusing on operationalization and practice over theory. **Derek** shared the example of looking at different programs and identifying those that are good from a monetary perspective and can be put to practice.

3.4. Many members nodded in agreement that decarbonization pathways help with a dialogue to understand what is doable.

3.5. **Eleanor** (S&P) described an exercise done by S&P to identify energy efficiency programs similar to what Mubadala ran. Conclusions showed industry and region are key to understanding the low hanging fruit.

3.6. **Derek** (Mubadala) highlighted the importance of starting with the low hanging fruit. Not all but some investments will have good returns. **Derek** also emphasized the importance of demystifying what is done so implementation can be begin. Most members found the low hanging fruit approach to resonate with their approach and preferred practice over theory.

3.7. **Mona** (S&P) drew parallels with the North America and Europe Councils on the topic of Implied Temperature Rise metrics (ITR) which most members agreed do not drive any decisions but simply act as a benchmark.

3.8. **De Rui** (GIC) echoed Mubadala's approach and described the need for feasibility of decarbonization as a better approach than ITR to understanding the transition of technologies and companies. However, with regards to decarbonization, beyond sector approaches, region and country are important. Pricing needs to be taken into consideration as well to assess the outcomes properly. De Rui summarized the needs as a requirement for more granularity.

3.9. Members considered forward-looking metrics to be most important despite different methodologies in order to have additional indicators beyond ITR that give more insight to the emissions of a company.

3.10. **Mona** (Chair) added that point-in-time can become an issue when a company at a certain point becomes net zero aligned and claims to be so.

3.11. **Derek** (Mubadala) agreed that fluctuations are short-term and it is important to look at the long-term to understand the change and decarbonization pathways. Some members viewed a bottom-up approach as best practice, while others considered a mix of top-down and bottom-up to be the better approach.

3.12. **Weixiang** (Temasek) admitted that although their target set 5 years ago shows an unstable trajectory, they are comfortable as it should not be one-directional. Weixiang agreed with Mubadala on the bottom-up approach, and emphasized the importance of engaging with portfolio companies.

3.13. **Eleanor** (S&P) summarized members' comments as top-down for conviction whereas bottom-up drives the investment. Members agreed.

Sustainability needs a more mainstream approach. AI might help

3.14. **De Rui** (GIC) explained the discrepancy between sustainability and general financial metrics stating that for normal investments credibility is assessed which is also needed for sustainability.

3.15. **Chandra** (QIA) added that in the sectors they focus on it is trickier when it comes to selecting the right approach. A one size fits all would have been easier, but perhaps not the best option.

3.16. **Derek** (Mubadala) introduced the issue of data and methodologies and scrutiny against them. Many would like to wait to see if the target is science-based or if it is the right one. Derek instead pushed for testing and operationalizing and seeing if the assumptions tested are reasonable. The limitation is the tools.

3.17. **Chandra** (QIA) echoed Derek's sentiment stating that there are few metrics, about six, that are the core metrics required and can already be taken into consideration in conversations.

3.18. Members agreed on the scrutiny against sustainability and considered a similar approach to general investment decisions to be required.

3.19. **Derek** (Mubadala) also highlighted the need to have a common understanding for ESG metrics to do comparative analysis and introduced AI as a potential aid for model assumptions.

3.20. **Mona** (Chair) questioned the need of a consensus. Members brought up the issue that ESG ratings as too divergent given the difference between them and credit ratings to which **Mona** and **Eleanor** instead proposed convergence on emission performance.

3.21. **Derek** (Mubadala) introduced topical convergence as a potential solution. Overall, members acknowledged the need for topical convergence beyond emissions to identify the best metrics and measures required.

Carbon pricing as an aid

3.22. **Mona** (Chair) requested a show of hands on members who have an internal carbon price.

3.23. Almost all members admitted to having some kind of internal carbon pricing tool but that is either project-specific or sector or company-specific.

3.24. **Weixiang** (Temasek) highlighted materiality as what drives the carbon price for some climate risks where others are more based on social or climate factors. Weixiang highlighted the need to look from two lenses:

- The portfolio level
- The company level

3.25. Most members echoed the sentiment that it is sector-specific and the country or region may also play a pivotal role as in the Chemicals sector for instance which **Eleanor** (S&P raised. Chandra (QIA) highlighted the Chemicals sector is tricky.

3.26. **Ajay** (Emirates NDB) summarized ENBD's approach as a bank that needs to look across the investments as well as the bank as a group. **Vijay** (ENBD) explained how this fits into their framework as a group and highlighted to tightness of the UAE as an important factor for getting a dialogue which helps foster collaboration and productivity.

Cleantech transmission and distribution: threat or opportunity?

3.27. Eleanor (S&P) addressed the Council Members by introducing investments in cleantech transmission and distribution and asked if it is a thread or an opportunity.

3.28. Almost all members acknowledged the mass amount of investment and regulation needed for power but agreed it is an opportunity.

3.29. **Eduardo** (Mubadala) described the trend on the transmission side that they are looking into but without any active deals. He confirmed it is more on the opportunity side.

3.30. **Chandra** (QIA) brought up the risky aspect of transmission given the operating expenses and clear regulatory requirements that are needed to build the network. Additionally, depending on the country they may require different operating costs such as building distribution networks that may need to be underground.

3.31. **Vijay** (EmirasNBD) added that it is tricky because efficiency has its limits. Not all buildings in the UAE have solar panels and there isn't as much domestic solar as there is in Europe.

3.32. **Weixiang** (Temasek) cited a podcast on AI that described the green bottleneck to be grids as opposed to AI.

3.33. **Chandra** (QIA) added that the importance is the consistent electricity in the grid above all. While **Weixiang** explained that Temasek owns the company that controls the grid in Singapore, meaning it is highly regulated, **Chandra** questions the understanding of regulators where there is insufficient understanding of sustainability and efficiency.

3.34. Most members agreed that the technology exists to change the infrastructure, but the scale of the adoption is large and slow.

<u>Short term cost curves more helpful</u>

3.35. **Eleanor (S&P)** introduced the topic of abatement options. While it was tested, the lack of low-hanging fruit means carbon cost was not influential in some areas. Green tech is becoming cheaper.

3.36. **Derek** (Mubadala) told an anecdote of his step-father in the 1970s who would quote "this is the year for solar" every year. However, change only happened when the government was involved.

3.37. **Mona** (Chair) summarized findings from the other regions that the technology exists, but the scale of adoption is slow.

3.38. **Mona** (Chair) prompted a discussion around the skepticism of cost curves.

3.39. Most members noted that short-term cost curves are a better guide given the historical conservatory approaches that were wrong. Cost curves act as a guide, but require additional analysis on the investment opportunity.

3.40. **Myrna** (Secretary) addressed the issue of cost versus profitability and asked Members for their input on whether profitability was a better driver for investment than decreased cost.

3.41. **Chandra** (QIA) underlined adoption, availability of facilities, jurisdiction, and capital availability as the main drivers. Members agreed. **Weixiang** (Temasek) echoed the sentiment with a quote that "if it is bankable, there will be capital."

3.42. Some members acknowledged the discrepancy between the need for deals versus the need for capital. While some have capital and seek deals, others require capital. Members concluded that a common definition is needed on what is bankable particularly as sometimes valuation does not make sense when the interest is high, but the investment may not make sense in the numbers.

4. Networking Break

4.1. The Council adjourned for a 10-minute break.

5. Automotives: Electrification is Getting Complicated

5.1. **Mona Naqvi** (Chair) initiated the session by reintroducing **Tim Armstrong** (S&P) and the topic of automobiles and electrification.

5.2. **Tim** (S&P) introduced the topic by highlighted the complexity around automobiles. Supply chains are complex as there are several factors to consider:

- Long or short term
- Ambiguity of investment
- Do we trust the targets?
- Ambuuity of available data
- Top- down or bottom up
- Different reporting standards

Despite regulators being able to require decarbonization, it is a consumer-facing industry. Additionally, although it is only one technology (electricity), adoption is different in various countries or regions. China was given as an example where adoption has reached critical mass. The US is more complicated given the changing politics.

Decarbonizing a consumer sector is tricky

5.3. Tim (S&P) addressed the Council Members and asked about their investment decisions in the autos sector when it comes to financing it. Tim noted the downstream bit still needs to be radically decarbonized.

5.4. **Chandra** (QIA) explained they focus more on the technology than the manufacturing of a vehicle.

5.5. **De Rui** (GIC) generally agreed it is complex because the winners are not what they will chase. A mix of policy and Return on Investment (ROI) will dictate the moves.

5.6. Eduardo and Derek (Mubadala) shared their experience given they have more exposure to the sector, but more so in the supply chain and battery manufacturing. More is going into China.

5.7. While some members viewed the supply chain, particularly the ethics of the battery production, to be important, others viewed the ecosystem and infrastructure as a more important factor, such as charging stations.

Range anxiety and grid are the biggest issues

1.1. **Mona** (Chair) addressed the adoption challenges, including the infrastructure and range anxiety concerns given the lack of charging stations.

1.2. **Derek** (Mubadala) emphasized the reality of range anxiety as a consumer. The fast-moving technology is also a hindering factor as consumers tend to wait for the better technology that is imminent. Many members agreed. **Tim** (S&P) echoed the sentiment that beyond early adopters we are still a bit stuck.

1.3. **Hirotaki Hideshima** (Norinchukin Bank) brought up the notable mention of grids and impact. The burden on nature is high. The lower production costs in China were attributed to their reliance on coal-powered grids which renders the production cheaper than in other countries.

1.4. **Mona** (Chair) and **Eleanor** (S&P) added that in Europe the grid is a big discussion.

1.5. **Monte Mu** (E Fund) echoed the comments on the coal production in China. While China is working on shifting to solar and wind, hybrid seems to be the more popular approach from the consumer perspective.

1.6. Many members agreed that the grid is the main issue when it comes to decarbonization requirements. In Europe regulation is already in place and other regions will need to follow. **Derek** (Mubadala) mentioned regulation on the battery recycling would also be beneficial.

1.7. Mona (Chair) invited members to connect team members to the Members' colleagues focused on the sector.

Supply chain data is needed even if impact secondary

1.8. One challenge cited is the supply chain and lack of data around it. Tim restated that 18% of global emissions come from the autos sector.

1.9. **Eleanor** (S&P) briefly explained S&P's supply chain data work being done between S&P Mobility and S&P Commodity Insights to bring materials data into the autos industry data.

1.10. **Tim** (S&P) described the importance of Scope 3 Downstream for investors and corporates to think about their climate targets.

1.11. **Mona** (Chair) also brought up the connection between supply chain and biodiversity. Some members viewed supply chain data as critical for implications on biodiversity and nature.

1.12. Many members cited energy transition-related commodities, biodiversity or social practices and supply chain policies to be the concerning aspects that still lack data. More data and research is needed on critical materials as well.

1.13. **Derek** (Mubadala) admitted to not driving their asset allocation based on the impact. The impact remains to be a secondary objective. **De Rui** (GIC) added that profitability and valuation is also given more importance.

1.14. **Mona** (Chair) asked to bring it back to the investment question and availability of capital, but **Derek** (Mubadala) confirmed capital already exists. The challenge is that in some places not enough is happening while in other spaces not enough capital exists and regulations are not helping. **Rong** (S&P) also added that the region is critical for these challenges.

Key metrics required summarized

1.15. **Mona** (Chair) asked about the key metrics to help Members with their analyses concerning the autos sector.

1.16. Members enumerated initiatives that require focus including:

- PCAF
- CA100
- CSDDD
- CBAM

1.17. **De Rui** (GIC) summarized three requirements:
1) regionally differentiated marginal abatement costs;
2) marginal adaptation cost curves;
3) robust supply chain data analysis.

1.18. Members acknowledged the metrics and nodded in agreement.

1.19. **Mona** made note of the time and brought discussion to an end.

2. Concluding Remarks and Next Steps

2.1. Mona Naqvi and Lauren Smart thank the Council and summarize key next steps.

2.2. The S&P Council members invited to a cocktail reception. Virtual members thanked.

2.3. The APMEA Council will resume for the H2 2024 session in the fall.

3. Council adjourned

3.1. **Mona Naqvi** (Chair) adjourns Council.