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Taaleri Energia's 2023 report on the Task Force on Climate-related Financial Disclosures (TCFD)

Introduction

Climate change poses significant financial risks to the global economy, society, and the future of life on the planet as we know it. Risks can be either direct or indirect and relate to the transition to a more sustainable economy or the physical climate change risks that extreme weather phenomena cause.

Taaleri Energia currently manages five private equity funds. Via these funds, we develop and invest in utility-scale wind, solar and battery storage plants. We have a 9.6 GW wind, solar and battery storage portfolio in Europe, the US, and the Middle East. We, alongside other stakeholders, are seeking to proactively assess climate-related concerns to mitigate and adapt to their impact. This assessment aims to present information about the impact of our organisation and its activities on climate-related risks and opportunities and provide guidance on how we have planned to measure and mitigate these.

Where we are now:

- Control – Our strategy is to make only control investments in utility-scale development, construction and operational onshore wind and photovoltaic solar farms and electricity storage facilities. This gives us full control and transparency on the investments made.
- Guide - Our policies and processes target best practices. We expect our partners to comply with our policies or have similar policies available. We always do comprehensive due diligence prior to any investment decision and during the hold period as needed.
- Report and be transparent - All our funds are labelled as Article 9 according to SFDR (EU/2019/2088). This means that our funds have a sustainable investment objective, make only sustainable investments, and have the most extensive reporting requirements on sustainability-related issues.
    - If the investment is EU Taxonomy (EU/2020/852) eligible, then the investment is EU Taxonomy aligned and they have a substantial contribution to the environmental objective of climate change mitigation.
    - Our funds have emission reduction targets that are science-based and in line with the Paris Agreement
- Ensure and manage – We have a meticulous Environmental and Social Management System (ESMS). ESMS guides our practices and ensures that our policies are implemented fully every day. All our investments have separate comprehensive environmental and social monitoring management plans (ESMMP) available.

Looking ahead:

- Enhancing risk management and operational efficiency - By focused assessments, we can achieve better quality in risk management, adhere to regulatory requirements, and streamline our processes for increased efficiency and innovation. This will help us to ensure stability and compliance while driving improvements in our stakeholder engagement and other achievements.
- Value chain - By increasing our knowledge of our value chain, we may identify and address environmental and social impacts more efficiently and comprehensively. It also will bring a better understanding of our value chain impacts, including indirect emissions from up- and downstream processes, help us to adapt quickly to market changes and technological advancements as well as provide insights into unique strengths and provide a competitive edge in the market.
- Biodiversity – We commit to becoming one of the leaders in biodiversity conservation by conducting thorough assessments of our investments and operations in terms of biodiversity impact and compensating for such impact. We will transparently report on these assessments, detailing both direct and indirect impacts, and outline a strategic plan that includes minimizing the biodiversity impacts and actively engaging in industry-wide initiatives to promote biodiversity.
- Better data usage – We want to use data more sophisticatedly by utilizing new data tools to accurately measure and report on our investments throughout their lifecycle. Our long-time target would be to integrate real-time data, predictive analytics, and AI-driven insights.

The Task Force on Climate-related Financial Disclosure ('TCFD') is a structured framework for organisations to disclose financial information on climate-related risks and opportunities. TCFD's primary goal is to create a set of recommendations for consistent disclosures that would enhance the understanding of climate-related risks and opportunities among financial market participants. In 2017, the TCFD released a series of recommendations designed to address gaps in the information provided regarding the financial impact of climate risk throughout the investment chain. Since then, companies worldwide have increasingly adopted and embraced these recommendations. This report is Taaleri Energia's first, and it includes an assessment of Taaleri Energia Oy, Taaleri Energia Funds Management Oy, and the investments made by the funds managed by these (together "Taaleri Energia"). We acknowledge that this first report is not comprehensive, and we will continue to update the information at least annually.

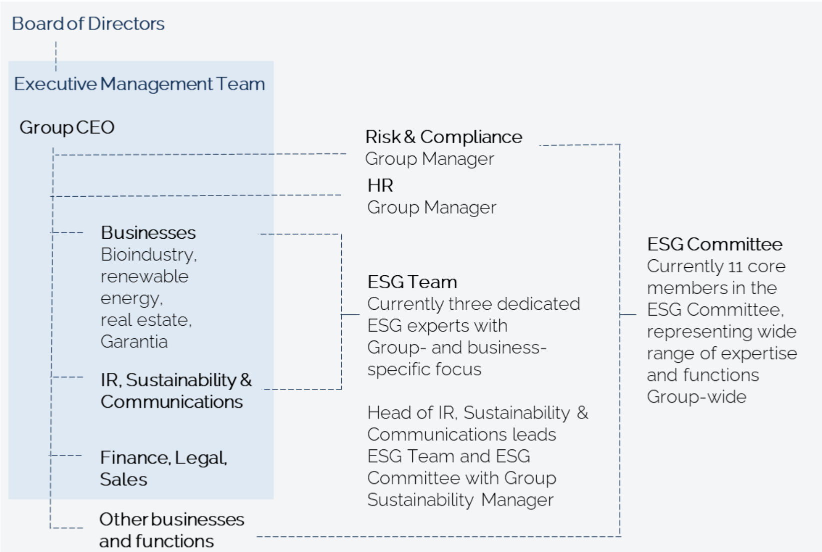
The TCFD recommendations are organised into four key themes, each of which mirrors fundamental aspects of organisational operations: governance, strategy, risk management, and metrics and targets. It also promotes climate scenario analysis to categorise climate-related information into physical risks, transition risks, and opportunities, offering a holistic approach for organisations to address climate challenges within their core operations. The following will present our perspective of these four categories and summarise aspects that are already well-handled and aspects that require more attention in the coming years.

Governance

As Taaleri Energia is a subsidiary of the publicly listed parent, Taaleri Oyj, there are group-wide policies also implemented in the operations of Taaleri Energia. In this section, we will provide information on how the board level at the Taaleri Group, and, more specifically Taaleri Energia, oversees climate-related issues as well as what is the management's role in assessing and managing those issues.

The Taaleri Group's strategy and measures for sustainable investing are described in the Group Sustainability Policy. Taaleri's Code of Conduct and Sustainability Policy guide Taaleri and all its businesses. Taaleri's businesses work responsibly and comply with good governance practices and the principles of sustainable investing in all their operations. The implementation of responsibility and sustainability is supported by business-specific policies and guidelines. The policies and documents are available here. Taaleri Energia's publicly available policies that describe our approach to e.g., sustainability, stakeholder engagement, and human rights are Taaleri Energia's ESG Policy and Taaleri Energia's Partner Code of Conduct. Taaleri also has a group-wide Sustainability Risk policy, where more information on the Governance and Sustainability risk processes can be found.

The figure below presents the overall structure of how sustainability-related governance is organized at Taaleri. All the business units have their boards of directors, management and ESG experts.



Board of Directors guides and ensures sustainability work.

Executive Management Team leads, develops, resources and monitors the progress of sustainability work.

Business directors ensure that internal and external obligations are met in respect of their own business and manage the sustainability work of their business.

ESG Committee plans, implements and assigns responsibilities for sustainability work

All Group personnel are responsible for their conduct and compliance with relevant policy documents related to sustainability.

Taaleri Energia's Board of Directors reviews climate-related issues as part of its overall risk management and strategic planning. At the fund level, climate-related issues are always assessed before any investment decision or when a new fund has been established. We see that it is important to bring climate-related issues to the same level together with other issues considered. The importance of bringing climate-related issues together with other issues assessed and analysed is also seen in our short-term initiatives ("STI"). We annually set STIs to guide our business and work and there always is a sustainability-related initiative at the business and personnel levels.

Taaleri Energia's management's role mainly relates to managing climate-related issues that have been brought to their attention. Taaleri Energia has a Head of ESG, whose role is to manage and guide our sustainability-related decisions and processes. The Head of ESG reports every quarter to the board of Taaleri Energia and provides sign-off on the appropriate implementation of the ESG policy on any investment prior to bringing any investment proposal to the internal investment committee. Taaleri Energia also has a designated resource dedicated only to sustainability. Their role is to provide the investment team and other colleagues with detailed guidance on how to implement best practices on climate-related issues in our investments, funds and Taaleri Energia's sustainability issues. They report directly to the board and the management. Management will then use the information in their daily tasks and decisions.

In addition, it is important to highlight that our investments are control investments and Taaleri Energia employees occupy seats on the investment companies' boards. This allows us to implement the policies and practices directly, as well as oversee and manage the climate-related risks and opportunities easily and transparently.

Strategy

We recognise that climate change poses significant risks and opportunities to our business and others as well. That is one of the reasons why our strategy is solely to finance the transition to renewable energy by investing in utility-scale wind, solar and battery storage assets. All of our funds are labelled under the SFDR (EU/2019/2022) as Article 9. Meaning that those funds have a sustainable investment objective and that they make only sustainable investments. The funds contribute to significant CO_2 emissions reductions with their renewable energy investments and have climate change mitigation as an objective. Our funds' strategies are restrictive for investments and geographical location. We only invest in activities that make it possible to reduce or avoid CO_2 emissions or to balance the electricity grid or electricity distribution by establishing the energy infrastructure required for enabling the decarbonisation of energy systems per Article 9, paragraph 3 of the SFDR regulation. Regarding our funds' strategies, we see that it is important for us to assess short-, medium-, and long-term climate-related issues. Investments in infrastructure are long-term investments, where climate-related issues may arise in different ways and at different times.

In connection with our funds' sustainable investment objective, we have also outlined Taaleri Energia's ESG strategy. Our ESG strategy sets targets and guidelines for our business and is approved by the board. The ESG strategy considers short- and long-term goals.

We have assessed the impact of climate-related issues on key areas within our strategy:

- Products and Services: Aligned with sustainability goals and stakeholder expectations.
- Supply Chain: Evaluated vulnerabilities and opportunities to ensure resilience.
- Adaptation and Mitigation: Integrated initiatives into our overall business strategy.
- Research and Development: We invest in green transition and for markets where private equity funds rarely invest in renewable energy. By doing this, our investments have a positive sustainable impact on countries' renewable energy capacity where the share of renewable energy is the smallest.
- Operations: Analysed the impact on types and locations of investments.
- Acquisitions/Divestments: Considered climate factors in decision-making processes.
- Access to Capital: Recognized the importance of climate considerations in financial planning.

We conduct annual scenario analyses to understand the potential impacts of climate change on our portfolio under different climate scenarios. We have conducted location and scenario-based physical climate change risk assessment according to IPCC and EU Taxonomy. The assessment utilises RCP 2.6 to 8.5 scenarios. We see that the most probable scenario is between RCP 2.6 and RCP 4.5. This depends on the actions done today.

The table below summarises our resilience to climate change and the needed green transition and financial impact that they may have. The analysis utilises the IEA Net Zero Emissions by 2050 (NZE) scenario for short, medium, and long periods. Analysing the impact on our operations of two-degree and lower climate scenarios, helps us to identify potential risks and opportunities impacting our business. We see that our business plays a meaningful role in combating climate change. Our investments significantly contribute to reducing carbon emissions and decreasing reliance on fossil fuels. This is crucial for keeping global temperatures within the right decreasing path. Renewable energy investments also reduce reliance on imported energy and enhance energy security, which is vital e.g., due to climate change. New technologies drive the development of more efficient and cost-effective energy solutions. Similarly, our investments create new jobs and promote sustainable economic growth, supporting the transition to a low-carbon economy. However, there are also risks relating e.g., to raw materials usage, value chain and land usage. The recyclability of the materials is crucial to ensure that there are enough raw materials to support the green transition. In addition, there may be human rights issues relating to raw materials and procurement. These should be mitigated via transparent value chains.

Risk theme	Key Risks (R) and Opportunities (O)		Potential financial impact	Time horizon & scenario	Risk classifi-cation	Adaptation
Policy & Legal	O/ R	Political intervention in the energy sector and renewables market is increasing due to electrification and emission reduction targets. Over-subsidization of renewable energy can lead to unstable development and over-construction, resulting in long-term asset value loss. However, it can also present significant business opportunities.	Ad-hoc solutions, extra costs, and decreased value of the investments.	Short, IEA – NZE	Medium	Diversification across different markets can help mitigate risks. Although there is a possibility of over-construction, it is unlikely to significantly affect the overall business. This is because the projected trend shows an increase in electricity consumption, which outweighs the ability to construct new production facilities.
	O/ R	Increased demand for renewable energy is likely to result in increased competition for suitable sites, leading to a shortage of good sites, higher prices, and grid curtailment during operations.	Funds unable to acquire quality projects meeting IRR requirements can lead to low deployment of commitments, decreased fundraising success, and weak IRR with loss of carried interest. Development activities can lead to significant opportunities.	Short, IEA – NZE	Low	We assess changes regularly and consult stakeholders. Diversify within the same fund to mitigate risks. Project development reduces impact. The net impact of curtailment is estimated as low due to simultaneous increased electricity consumption and subsequent increases in prices.
	O	Investing in renewable energy and electricity storage aligns with EU green transition targets and policies, creating more opportunities.	There are more investment opportunities and interested investors in the funds business.	Short, IEA – NZE	High	Stakeholder engagement, supporting communication and showing examples.
	R	Enhanced reporting and regulatory requirements for the fund manager and investments.	Operating costs can increase due to higher compliance costs, increased amount of reporting and third-party assurance expenses, policy changes, compensation demands, reduced asset valuation, and higher tax costs for construction and operation.	Short, IEA – NZE	Low	Taaleri Energia has assigned personnel to ensure compliance with regulations and reporting requirements. Additionally, we provide training to all employees to ensure awareness of these changes.
	R	Climate change-related issues may lead to various types of global crises, resulting in conflicts, legal changes, and unstable situations among governments.	Increased costs due to legal assessments, mediation, and ad-hoc solutions are expected during a global crisis.	Medium, IEA – NZE	Medium	Fund strategy of investing in renewable energy is the best adaption solution.

	R	Climate change may cause crises between countries on which our business has a material dependency. Disruption in trade with China is a key risk as China manufactures most solar panels and supplies raw materials for wind and battery solutions.	Any major disruptions in the supply chain may materially decrease returns.	Medium, IEA – NZE	Medium	Risk can be mitigated by diversifying the construction phase of different assets and technologies. Addressing dependency on imports from a single market, such as China, is also important.
Techno-logy	R	Unsuccessful investment in new technologies or new markets.	Possible write-offs and early retirement of invested assets. Costs to adopt and deploy new practices and processes.	Long, IEA – NZE	Low	We regularly evaluate technological advancements and seek advice from external experts. When dealing with new technology, it is possible to negotiate better performance guarantees. However, the biggest risk at present is related to battery storage, as the market is not yet mature in all places.
Market & Reputa-tion	O	Possibility to participate in ancillary services markets due to increased amount of variable production in any given market.	Potential revenue source is modelled. We are able to rely on internal information only.	Long, IEA – NZE	Low	The opportunity may be available for a short time period. Alternative revenue streams must always be considered when the market is saturated.
	O	Taaleri Energia's products represent very good alignment with climate change mitigation goals, presenting a relatively rare opportunity for investors to satisfy their impact investing strategy needs.	Increased volume of business.	Long, IEA – NZE	Low	Dedicate efforts to implementing ESMS, avoiding non-compliance, and engaging in sustainability initiatives and networks. Prioritize employee focus to identify the best individuals to drive our strategy forward.
	R	Due to the increasing demand for renewable energy production and storage facilities, costs have risen, and raw materials are becoming scarce.	Delays and increased costs may result in higher capex and component shortages, leading to lower investment returns.	Long, IEA – NZE	Low	Risk can be mitigated by diversifying the construction phase of assets across different points in time and technologies. Pricing must be locked prior to making investment decisions.
	R	Rising expenses and a shortage of high-quality services are being caused by the competition for skilled workers.	There may be potential issues arising from operational delays, as well as increased competition for the best skilled workforce, and higher wage payments.	Long, IEA – NZE	Low	We regularly evaluate changes and seek input from relevant external stakeholders and initiatives.
	R	Problems with the logistics.	Some additional expenses and complications arise due to delays, which can lead to uncertain and improvised solutions.	Long, IEA – NZE	Low	We regularly assess changes and consult external stakeholders and initiatives to manage risks in our supply chain and supplier assessment.
	R	Consumer and stakeholder behaviour changes, market uncertainty, stakeholder concerns, negative feedback, and sector stigmatization.	It is unlikely that solar, wind or battery storage would become unpopular across all the selected geographies simultaneously, but market or sector-specific challenges may occur from time to time due to reduced demand for products and services.	Long, IEA – NZE	Low	We regularly evaluate changes and seek input from relevant external stakeholders and initiatives.

Other	O	Contributing to significant CO_2 emissions reductions via our investments as well as decreasing the reliance on fossil fuels.	Returns on low-emission investments and no exposure to carbon pricing changes as well as reputation benefits resulting from increased demand.	Ongoing, IEA – NZE	High	n/a
	O	Enhancing energy security by renewable energy and electricity storage.	Increased volume of business and better competitive position to reflect shifting consumer preferences, resulting in increased revenues as well as reputation benefits resulting from increased demand.	Ongoing, IEA – NZE	High	n/a
	O	By contributing to sustainable economic growth, we also create new jobs locally and more broadly.	Reputation benefits and gaining the most valuable people to work together will help us to create better investments and returns.	Ongoing, IEA – NZE	High	n/a

In summary, we have detailed strategies for shifting towards a low-carbon economy, encompassing targets for reducing greenhouse gas emissions and specifying activities that bolster the broader transition. This underscores our enduring commitment to tackling climate-related challenges and prioritising sustainability for sustained long-term value creation. In addition, climate-related issues are integral to our financial planning process. We prioritise risks and opportunities based on their impact on creating value over time. During the financial planning, if red flags are raised, for example relating to sustainability, those risks are required to be mitigated or the investment cannot be made.

Risk Management

We have integrated climate risks into our overall risk management framework. This includes regular analysis of physical risks (like extreme weather events) and transition risks (such as policy changes) in our portfolio. Our risk management process involves continuous monitoring of climate risks, integrating ESG considerations into investment analysis, and regularly engaging with our stakeholders.

Figure 2. Sustainability risk management process

Figure 3. Sustainability risk management measures

As per the TCFD framework, our approach to managing sustainability risks encompasses the integration of pertinent sustainability risk factors and corresponding indicators into the risk profile of each fund. We have a holistic view on integrating sustainability risk considerations into our management processes. This integration extends to our risk management systems and entails comprehensive reporting on these risks to senior management and the board of directors. Furthermore, where applicable, we conduct specialised scenario analyses which are tailored to address the specific sustainability risks relevant to the funds and investments in question. This approach promotes robust and proactive engagement with sustainability challenges, aligning with our commitment to responsible asset management and adherence to the TCFD recommendations.

Metrics and Targets

As stated above, all fund managed by Taaleri Energia are labelled as Article 9 according to SFDR. This means that we have the most extensive reporting obligations when it comes to sustainable finance. Fund-level reports can be found on our website under each of the funds. Furthermore, the reporting obligations cannot be fulfilled without data, metrics, and targets. In addition to sustainability objectives and positive targets, we aim to decrease any potential adverse impact our investments may have, and we aim to set annual targets to this aim. The adverse impact of the investments is decreased for example by purchasing only renewable energy, ensuring that we do not construct on biodiversity-sensitive areas and that we favour recyclability. The following table presents the data and metrics that we report at least annually at the fund and fund manager levels.

<table>
<tr><th>Reported by:</th><th>Sustainability indicators</th><th>Principal Adverse Impact indicators</th></tr>
<tr><td>SolarWind III</td><td>Renewable energy capacity (MW)
Renewable energy produced (MWh)
Number of households supplied with energy
Greenhouse Gas reductions or avoidance (tCO2e)
Times renewable energy is transferred into high-demand hours (hours)
Hours of electricity grid balancing supplied (hours)
Renewable energy capacity developed (MW)
Environmental incidents
Breaches of environmental permits
Hours worked (during the construction phases)
Fatalities
Loss Time Incidents
Community fund contributions
Received grievances through grievance mechanism procedures</td><td rowspan="5">Scope 1 emissions (tons of CO2e)
Scope 2 emissions (tons of CO2e)
Scope 3 emissions (tons of CO2e)
Total GHG emissions (tons of CO2e)
Carbon footprint
GHG intensity
Exposure to companies active in the fossil fuel sector
Share of non-renewable energy consumption and production
Energy consumption intensity
Activities negatively affecting biodiversity-sensitive areas
Emissions to water
Hazardous waste and radioactive waste ratio
Violations to UNGC and OECD
Lack of processes and compliance mechanisms to monitor UNGC and OECD
Gender pay gap
Board gender diversity
Exposure to controversial weapons
Investments in companies without carbon emission reduction initiatives
Rate of accidents</td></tr>
<tr><td>SolarWind II</td><td rowspan="4">Renewable energy capacity (MW)
Renewable energy produced (MWh)
Greenhouse Gas reductions or avoidance (tCO2e)</td></tr>
<tr><td>SolarWind I</td></tr>
<tr><td>Wind Power II</td></tr>
<tr><td>Wind Power III</td></tr>
</table>

All of our funds have a sustainable investment objective. According to the objective, the funds have aligned all of the investments with science-based and Paris Agreement-aligned emission reduction plans. Taaleri Oyj has signed the Net Zero Asset Managers Initiative and has set an intermediate target for Taaleri Energia and its funds' investments to reduce -50% of emission intensity by 2030 based on the baseline year 2022. Quicker emission reductions are also considered, and where feasible, used.

We recognise our responsibility in monitoring and reducing greenhouse gas (GHG) emissions across all scopes, in alignment with the Task Force on Climate-related Financial Disclosures recommendations. Our commitment is reflected in our rigorous metrics and targets designed to track and mitigate our carbon footprint across the sectors of our operations and investments. We calculated Taaleri Energia Funds Management Ltd emissions using the GHG protocol in the table below. The table considers funds' ownership in the assets as well as separates market and location-based emissions.

GHG emissions

Measurement		2023	
Scope 1	We measure direct emissions from our owned or controlled sources.	0.0 tCO_2e	
Scope 2	We monitor indirect emissions from electricity, heat, and cooling used by our assets. Scope 2 emissions are categorised into market-based, reflecting our specific energy purchases, and location-based, accounting for grid averages.	Market-based 2.4 tCO_2e	Location-based 3,238.1 tCO_2e
Scope 3	We assess emissions associated with upstream and downstream activities, including the production of purchased goods and services, business travel, and waste disposal.	113,133.9 tCO_2e	
Total GHG emissions		113,136.3 tCO_2e	116,372.0 tCO_2e

We will continue to align our targets with the latest scientific research and international climate agreements to ensure our contributions towards global emission reduction goals are impactful and relevant. We acknowledge that TCFD recommendations also recommend us to report the Weighted Average Carbon Intensity (WACI) indicator from our assets. We will report the data on this during the following years.

Conclusions

Closing our first TCFD report, we reflect on our journey towards greater transparency and accountability in managing the financial impacts of climate change. This report marks a significant step in our journey towards greater transparency and accountability.

We acknowledge the progress we have made in integrating climate-related risks and opportunities into our governance, strategy, risk management, and metrics and targets. Our efforts this year have established a strong foundation for continuously improving and deeply integrating climate considerations into all aspects of our operations. We understand that the journey towards comprehensive climate-related issues is complex and ever-evolving. Challenges such as data availability, methodological limitations, and the dynamic nature of climate science require constant attention and adaptation.

In the years to come, we are committed to improving our reporting, gaining a deeper understanding of climate-related issues, and refining our strategies to both minimise risks and take advantage of opportunities. We are dedicated to enhancing the granularity and accuracy of our data, expanding the scope of our risk assessments, and aligning our investment strategies even more closely with sustainable development goals. We believe that addressing climate change requires a collaborative effort. Therefore, we will continue to engage with our stakeholders, including investors, clients, and the broader community, to share insights, learn from best practices, and contribute to collective efforts against climate change.

Our future-oriented approach is based on the belief that taking responsible care of the environment is not just a moral obligation but also a key driver for achieving long-term sustainable financial performance. We are dedicated to playing a leading role in the transition towards a low-carbon, sustainable economy. This involves actively seeking investment opportunities that support climate change mitigation and adaptation, advocating for robust climate policies, and fostering a culture of sustainability within our organization. As we move forward, we will continue to report annually on our progress, challenges, and lessons learned. We remain committed to transparency and will keep our stakeholders informed as we adapt our strategies in response to the ever-changing climate landscape.