Introduction

Serica Energy plc (Serica) is a British independent upstream oil and gas company with operations centred on the UK North Sea with production, development and exploration assets. More information can be found here: About Serica Energy (serica-energy.com).

'Working Responsibly' is a core value of Serica's business, which is reflected in all aspects of its strategic and operational activity. Climate-related risk identification and management is not new to Serica, and this report reflects how climate change is increasingly being integrated into decision-making in its existing working practices as well as its ambitions to progress and evolve its climate-related goals in the future.

This TCFD Report builds on the work undertaken over the previous two years and specifically focuses on further enhancing its disclosure against the four pillars of TCFD; Governance, Strategy, Climate Risk Management and Climate Metrics and Targets. It is reflective of the increased scrutiny and ownership of climate-related risks and opportunities across the organisation.

Specifically, for 2022, Serica has developed disclosures that align to the TCFD recommendations that highlight:

- The use of quantitative scenario analysis on its corporate business models, using the IEA Net Zero and Stated Policies scenarios
- Incorporating timescales for perceived risk impact and updated mitigations and actions taken to minimise risks
- Closer alignment with the TCFD recommendations

This summary report is not in full alignment with the TCFD requirements at this stage. During 2023, the Company will focus on maturing its reporting process to enable further disclosure. For example, Serica will continue to evaluate scenario analyses to support strategic planning and capital allocation.

Governance

The Board's oversight of climate-related risks and opportunities

Serica's Board reviews and monitors climate-related business risks and opportunities in detail on a quarterly basis as part of Serica's Risk Management Policy, with associated standards and procedures, which supports both operational and strategic planning.

The Board recognises climate change as a material risk to Serica with potential financial implications. It understands that responding to the risks associated with climate change and building resilience is integral to the long-term success of the organisation. Climate change is considered in the Board's review and evaluation of the wider Serica business strategy, planning and corporate targets. The Serica Corporate Risk Register, which includes climate-related risk, is used to document all business-related risks and opportunities and is reviewed at each board meeting.

At the end of 2022, there were three Board sub-committees with accountabilities relating to climate change:

1. HSE Committee: reports to the Board on the effectiveness of the Company's HSE and ESG programs and ensures that risks, including environmental or carbon-related hazards are fully assessed and appropriately mitigated.
2. Audit Committee: reviews and monitors the effectiveness of the Group's financial reporting, internal control policies, and procedures for the identification, assessment and reporting of risk. The latter two areas are integral to the Group's core management processes.
3. The Remuneration Committee: determines employee compensation packages and bonus structures which incorporate incentives to deliver climate-related objectives.

These sub committees all meet on a quarterly basis.

At the end of 2022, the decision was taken to create a dedicated Sustainability Board Committee, outside of the HSE Committee, to focus on specific ESG topics and issues, including climate-related risk and opportunities. This new Board Committee has since been formed with its dedicated terms of reference.

Management's role in assessing and managing climate-related risks and opportunities

The Serica Senior Management Team (SMT) is structured and empowered to ensure that the Board has the necessary climate-related information to assess the associated risks and opportunities. They are responsible for compliance with and reporting against the organisational climate-related metrics and targets in their individual business areas. Serica's SMT is accountable for risk management policies as well as ESG related strategies and programs which cover climate-related risk. Specifically, the Vice President of Environment, Social and Governance (VP ESG and Business Innovation) is responsible for the development and implementation of the Serica ESG policy and strategy of which climate action is an integral part.

The Serica SMT evaluates climate-related risks and opportunities as part of the overall review of business risk through well-established management systems, standards, and procedures. The SMT is responsible for the development and implementation of mitigation and management programmes to further Serica's resilience to climate-related risks.

Serica's Board and SMT have specific roles in the organisation's overall risk management process. Serica's Chief Executive Officer (CEO) is ultimately responsible for the management of all business risks. The VP ESG and Business Innovation reports directly to the CEO as does the Corporate HSEQ Manager.

Responsibility for financial risk management resides with Chief Financial Officer (CFO).

Responsibility for operational risks resides with the VP Operations, as well as the Health, Safety and Environmental (HSE) team, which coordinates the risk registers within the operational element of Serica's business. Responsibility for project and technical risks resides with the VP Technical.

Serica's Board and SMT work together to instil a culture across the Company that delivers strong values and behaviours.

Progress against goals and targets relating to climate-related issues such as emissions, are monitored regularly by the SMT for their specific business area, using information provided by their supporting teams. For example, the VP ESG and Business Innovation and HSEQ Manager track progress against set targets on a monthly basis and report progress back to the Board and wider organisation. Serica has a suite of monitoring software available such as Emissions Insight, OPEX AI and EMTRAX that track progress on emissions, flaring, waste and discharges to sea. Progress against longer-term targets, such as those set out by the North Sea Deal are monitored on an annual basis.

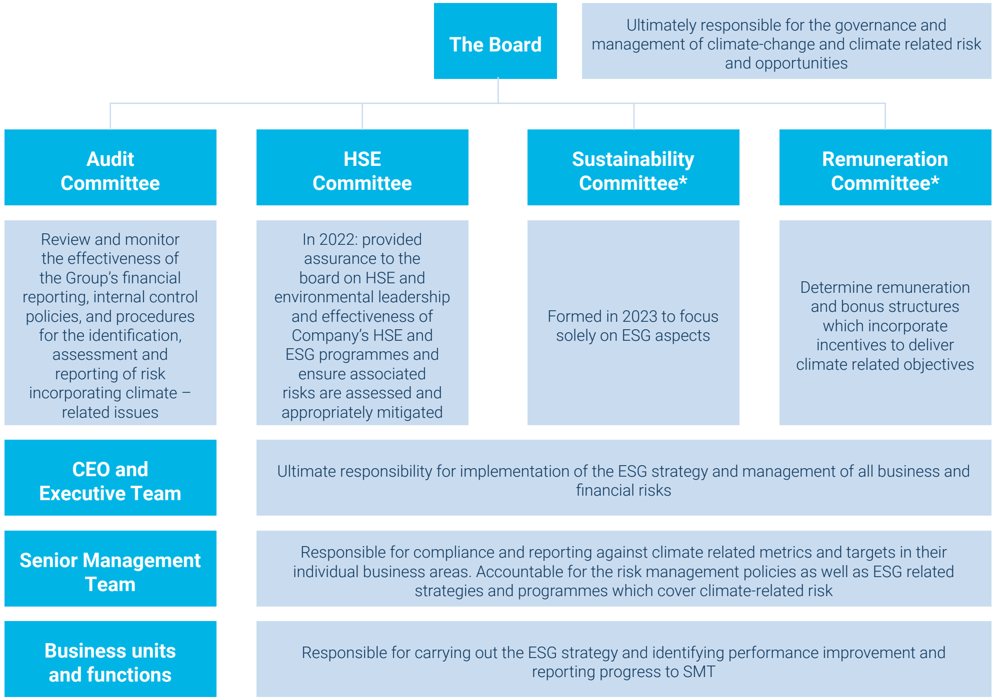

Diagram 1. A visual representation of Climate Risk Management at Serica Energy

Processes by which Management is Informed About Climate-Related Issues

In terms of climate-related issues awareness and training, Serica's VP ESG and Business Innovation, along with the ESG Team, focuses on sustainable development and climate-related issues. They inform and educate the Board of Directors on climate-related topics and issues, such as regular updates on changing legislation and insights from across the industry, in monthly board papers and in more detail during quarterly Sustainability Committee meetings.

The Senior Management Team are updated on climate-rated issues during the weekly Management Team Meeting, where ESG is an agenda item. Serica also subscribes to the Weston Compliance Services weekly and monthly summary information service which summarises the latest relevant information and changes relating to legislation, guidance documents etc. This is part of maintaining Serica's Management System in compliance with current legislation and best practice. In addition to the weekly updates, there is a monthly summary spreadsheet which compiles all the information received in the weekly updates which is distributed monthly to the relevant subject matter experts and managers within Serica for review.

Strategy

Climate-related risks and opportunities identified over the short, medium and long term

Serica's Risk Management Policy underlines the identification, assessment, and mitigation of risks including, climate-related risks. Climate-related risks and opportunities are identified under the company's Risk Management Policy documents (OMS-2A-01, OMS-2A-02 and OMS-2A-03). It is recognised that currently these are mainly focused on the short to medium term and encompass:

- Initial Risks associated with each hazard, aspect or other circumstance are assessed based on severity and likelihood;
- Existing risk management measures are assessed and, where required, additional measures or barriers that would further reduce the risk identified;
- Residual Risk takes into account the additional measures and barriers to confirm that the risk levels are both tolerable and as low as reasonably practical (ALARP);
- Where the risks are not ALARP, additional risk reduction measure shall be identified and implemented until it can be demonstrated that the risks are ALARP;
- Risks are re-assessed following any changes to the causes, effects or impacts considered in the original assessment.

As the Company's existing assets are all currently projected to cease production within the next ten to fifteen years, the Company has primarily targeted its considerations of climate-related risks and opportunities over the short and medium terms. Serica has defined the time period for short, medium and long terms risks as:

- Short term risks: 1–3 years
- Medium term risks: 4–9 years
- Long term risks: 10+ years

Serica aligns with the UK government's commitment to achieving a Net Zero basin by 2050, as set out in the North Sea Transition Deal, and takes into account the incremental emissions reduction targets during the transition period when making strategic decisions.

In addition, UK oil and gas sector initiatives such as the OGA Strategy and associated Stewardship Expectations provide Serica and its peer companies on the UKCS with a structured and economically viable approach to supporting Net Zero and the energy transition. This represents a structured and responsible long term sector level plan. In line with Stewardship Expectations #11, Serica produced an Emissions Reduction Action Plan to highlight how the Company has identified its major emissions sources and strategy to reduce emissions in line with targets set out in the North Sea Transition Deal. This is plan was submitted to the North Sea Transition Authority (NSTA) in 2022 and will be reviewed internally on a regular basis.

Serica uses the risk categories recommended by the TCFD to further its reflection of climate-related risk and opportunities: Transition risks and Physical risks.

Transition Risks

Transition risks include the policy, legal, technology, and market changes required to deliver the energy transition and adaptation to the impacts of climate change.

Serica has identified transition risks as of growing importance for its business model.

Transition Risk	Perceived impact timescale	Mitigation
The transition away from carbon-based power generation may restrict the future demand for, or production of, the company's oil and gas reserves	Medium to Long term	• The estimated value of future reserves is discounted more heavily for later periods of production • Since the acquisition of Tailwind Energy, the Company's reserves are more evenly split between oil and gas. This mitigates the risk of the demand for one commodity reducing more than another in the medium term • The Company closely follows industry related forecasts and trends from numerous sources • The ESG team reviews opportunities for investment in clean technology and is currently involved in projects with the Net Zero Technology Centre
Energy transition objectives may bring additional costs, levies, or taxes	Short term	• Estimates of climate-related charges are included in cost estimates where reasonably identifiable • Management prioritises the delivery of ESG objectives aimed at mitigating any additional carbon levies, i.e. by reducing its asset emissions
Costs related to the transition including ETS carbon credits and more efficient equipment/processes may increase significantly over the coming years whilst commodity prices may become more volatile	Short to medium term	• A range of potential outcomes are modelled, and financial plans are flexed to ensure economic resilience under a wide range of scenarios • The Company's Emission Reduction Action Plan was developed in 2022 to address this
Sources of finance including equity markets and debt providers may be harder to access or become more expensive	Short term	• Management engages with potential sources to anticipate their ESG compliance requirements • The Company also seeks to retain a range of alternative financing options • Potential funding cost increases are considered when planning investments
The range of potential acquisitions may be restricted by ESG considerations	Short to medium term	• Management considers the emissions profiles of potential acquisition targets and the mitigating actions that it can implement • It prioritises opportunities to deliver low carbon intensity production into the UK market
The industry's reputation is damaged as the oil and gas industry is perceived negatively by external stakeholders	Short to medium term	• Ensure the Company reports transparently and follows internationally recognised ESG reporting guidelines • Regularly engage with stakeholders on its ESG activities and performance

Physical Risks

Physical risks resulting from climate change can result from event driven (acute) or longer-term (chronic) shifts in climate patterns:

- **Acute** – More extreme weather may threaten or disrupt operations, in particular major storms or exceptional wave conditions;
- **Chronic** – Increased severity of weather patterns may cause ongoing or regular disruption, including supply chain logistics efficiency, asset structural integrity, operational uptime, and offshore development schedules. These risks may need to be highlighted in Serica's future transactions.

Physical Risk	Perceived impact timescale	Mitigation
More extreme weather patterns may threaten or disrupt operations	Short to long term	• The Company seeks to maintain robust transport and supply chains • The impact of extreme climatic conditions such as exceptional waves are incorporated in risk management scenarios • The Company conduct an annual Severe Weather Action Plan Emergency Response exercise

Impact of Climate-Related Risks and Opportunities on Business, Strategy and Financial Planning

Serica considers climate-related strategic and financial risks in both its existing asset portfolio and future business growth including potential acquisitions in the UK North Sea and further afield. Serica has developed operational objectives which are aligned with climate-related risk reduction and climate change resilience planning, both in response to its own climate impact and as part of the development of its wider ESG strategy.

In terms of financial planning, Serica has now allocated future capital expenditure to projects outlined in its Emissions Reduction Action Plan, to support its progress in meeting its long-term emissions reduction targets. The Company will also continue to evaluate scenario analyses to support future strategic planning and capital allocation.

Serica has developed operational objectives which are aligned with climate-related risk reduction and climate change resilience planning. Many of these are highlighted throughout its previous and 2022 ESG Report. As part of this, Serica has implemented the following activities:

- Creation and continued use of emissions related key performance indicators (KPIs) and targets that directly affect employee bonus payments, including those of the executive and Senior Management Team;
- Formation of a Sustainability Board Committee, to focus on specific ESG topics and issues, including climate-related risk and opportunities;
- Continued development and enhancement of a robust ESG policy and strategy with a corresponding communication structure to internal and external stakeholders;

- A dedicated VP ESG and Business Innovation to lead strategy development, drive change and support continuous improvement in emissions performance and wider ESG commitments;
- Creation of an Emissions Reduction Group, who look at opportunities to reduce Serica's carbon emissions in line with Industry targets. This group is led by Serica's Energy Transition Engineering Advisor, a new role that was created in 2022;
- Submission to the Regulator of a Bruce Emissions Reduction Action Plan (ERAP) that clearly lays out the programme of activities to achieve the emissions reduction targets set out in the North Sea Transition Deal. This includes major equipment change out and a degree of electrification of facilities;
- Active membership of the Net Zero Technology Centre, whose aim is to help accelerate the development and implementation of technology to lower emissions;
- Alignment to recognised international ESG benchmarks and transparency initiatives such as the Global Reporting Initiative ("GRI") and Sustainability Accounting Standards Board (SASB) in addition to developing alignment to the TCFD recommendations;
- Continued development of an ESG strategy ensuring associated commitments and disclosures are aligned with investor and lender requirements;
- Empowering employees to identify and own ESG initiatives within the Serica organisation and the wider community; and
- Integration of internal stakeholder communications to ensure that the requirements of finance and ESG are aligned.

A detailed view of how Serica is planning to reduce its emissions to meet the targets set out in the North Sea Transition Deal can be found in the 2022 ESG Report, page **11**.

Opportunities

Serica also recognises the opportunities presented to its organisation that are associated with climate change and the transition to a low carbon economy, and has identified the following:

- The strengthening of relationships with key stakeholders, including investors, banks, regulators, government bodies, industry associations, employees, and communities. This could enhance access to funding and sustain ongoing investor support as well as assist in the identification of new developments, and acquisition opportunities. In addition, furthering relationship and trust building with stakeholders can enhance the support for project growth and development with a heightened social licence to operate;
- Major asset owners and operators who are switching their focus to renewable energy sources are targeting divestments of their legacy oil and gas assets. Smaller operators may have the opportunity to acquire these assets and may be better placed to focus upon and improve the emissions performance of such later life assets whilst the energy transition progresses;
- Incentives or funding could be offered to Serica for investing in energy efficiency technology and carbon reducing initiatives like carbon capture and storage;
- Further collaboration with other asset and infrastructure owners may lead to innovation solutions such as sharing or combining power sources and electrification and delivery of other operational efficiencies;
- Serica could further support collaborative work between stakeholders including industry associations, peer organisations, employees, and communities to enhance efficiencies, knowledge-sharing and technology in climate change initiatives.

Quantitative Financial Modelling Against Chosen Scenarios

Serica is currently partially aligned with this recommendation.

In 2022, Serica ran quantitative scenario analysis against its business economic models, looking at the legacy Serica and Tailwind assets and the combined assets post-acquisition in March 2023. Parameters for the economic models were guided on those set out by the International Energy Agency's (IEA) 2022 Net Zero and Stated Policies scenarios and concentrated on carbon taxes and commodity prices. The models were run from 2023 to 2035, as this is when the majority of Serica's assets are currently expected to cease production. The IEA scenarios were selected as they are publicly available and widely used across the global energy sector. The results of the exercise confirmed that Serica's business models are resilient under these scenarios. Serica will continue to use scenario analysis to test its resilience under different climate scenarios.

Climate Risk Management

Processes for identifying and assessing climate-related risks

Serica's corporate risk process is led by the Board which maintains a register of significant corporate risks, including climate-related risks, for review at each of its regular meetings. The expected duration of its current business assets is concentrated within the next ten to fifteen years and so the identification and assessment of climate risks in relation to its existing business is concentrated upon climate-related objectives and potential developments within this timeframe. Serica also seeks growth opportunities which would extend its business programme and so when investigating new investment opportunities and acquisitions, reviews are conducted of longer-term climate-related risks and potential mitigations.

Serica operates an Operating Risk Management Framework as part of its Operations Management System (OMS). In this, the 8x8 risk assessment matrix is explained and quantified, including quantification of environmental consequences relating to the atmosphere and water pollution and the consequence of business, social and governance risks. The level of assessed risk identified by this process is used to ensure that the required control and mitigation actions are applied to each risk. In this way, climate-related risk is assessed, managed and mitigated in line with other business and operational risks.

Having identified climate-related risks, the Company either identifies specific mitigating actions and programmes or, where such specific responses are not considered feasible, builds likely financial impacts into valuations and planning. An example of this is the introduction of future emissions reduction projects in its business planning process, as outlined in its Emissions Reduction Action Plan, which is summarised in its 2022 ESG Report, page **11**.

Climate Change Metrics and Targets

Metrics used to assess climate-related risks and opportunities

Carbon emissions data are collected from its assets, including operated and partnered facilities. This data is assured for consistency and comparability throughout the Serica portfolio over time. The data are used to ensure compliance with UKCS emissions regulation and to comply with all operating permits and consents associated with Serica assets and forms part of the licence to operate.

Carbon emissions and climate risk levels, including Scope 1, 2 and 3 GHG emissions

Serica reports to all mandatory carbon-related regulations, including the Pollution Prevention Control (PPC) permit and the requirements of the UK Emissions Trading Scheme (UK-ETS). The Company emissions targets for 2022 are described in the 'Greenhouse Gas Emissions' section of the ESG report. The Company has set emissions related targets which relate directly to employee remuneration, flare reductions on the Bruce asset and emissions reductions across operations. With the acquisition of Tailwind, Serica is working to integrate the legacy Tailwind assets into its environmental performance tracking systems.

Current and historic emissions disclosures and the methodologies used are presented in Serica's 2022 ESG Report.

Targets used to assess climate-related risks and opportunities, and performance against these targets

Serica sets annual emissions targets as part of its annual bonus scheme. Performance against these targets is directly linked to the remuneration of its staff and executives. Serica has implemented ESG bonus linked targets since 2021. These targets are designed to focus the Company's efforts in driving environmental performance improvements and ultimately linked to achieving its longer-term emissions targets in line with the North Sea Transition Deal targets.

The environmental targets put in place in 2022 included:

- Reducing routine daily flaring to under 9.5 tonnes per day
- Limiting total volumes of flared gas to under 5,000 tonnes
- Limiting Scope 1 emissions to below 210,000 tonnes
- Developing a methane action plan

Performance against these targets is presented in Serica's 2022 ESG Report.

In 2023, Serica will again tie emissions reductions initiatives to its remuneration and corporate bonus scheme. Serica has implemented the following emissions related targets:

- Limiting total Scope 1 emissions to below 200,000 tonnes
- Limiting total volumes of flared gas to under 5,000 tonnes

The above targets are absolute based, rather than intensity based, and are for the full year (January 1st to December 31st) of 2023. Performance against these targets is monitored on a regular basis and performance is reported across the organisation from its Board to staff and contractors via Serica's Environmental Performance Dashboard.

These targets are set by incorporating performance data from previous years and looking ahead to future work scopes and activities to identify achievable but challenging targets to drive performance improvement. These targets are approved by Serica's Remuneration Committee and Board.

As mentioned earlier in the report, Serica's longer-term emissions targets are aligned with those set out in the North Sea Transition Deal, whereby reductions in emissions from offshore production in the UKCS reach 10% by 2025, 25% by 2027, 50% by 2030 and 100% by 2050.

This Alignment Table provides information as to the alignment of Serica Energy's reporting with the Task Force on Climate-related Financial Disclosures (TCFD), implementing the recommendations of the Task Force on Climate-related Financial Disclosures (2021 report). The information herein is associated with the 2022 calendar year. This Alignment Table was produced by ITP Energised.

Serica understands that climate change resilience is integral to the long-term success of our organisation. We have used the TCFD recommendations to further develop our climate-related strategies, programmes, and reporting. While our reporting is not in full alignment with the TCFD requirements at this stage, Serica will focus on maturing its reporting process to enable further disclosure. For example, in 2023 Serica will continue to evaluate scenario analyses to support strategic planning and capital allocation.

Governance		Disclosure Alignment	Reporting Location
a	Describe the board's oversight of climate-related risks and opportunities	Full	page 58
b	Describe management's role in assessing and managing climate-related risks and opportunities	Full	page 58

Serica fully discloses with the TCFD Governance reporting recommendations. Both our board and management teams recognise climate change as a material risk to Serica with potential financial implications. As such, climate-related risks and opportunities are integrated into board and management accountabilities and decision making. Regular reviews, evaluations and discussions are part of Serica's proactive approach to manage climate change and further organisational resilience.

Strategy		Disclosure Alignment	Reporting Location
a	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term	Full	page 60
b	Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning	Full	page 60
c	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	Partial	page 61

Serica partially discloses with the TCFD Strategy reporting recommendations. Our disclosure of a and b are generally aligned with the guidance. We will continue to progress and improve our reporting of the financial impact of the identified risks. As part of this, we will also review reporting of how these risks influence our financial planning. Serica is in partial alignment with c. While we have completed analysis guided by the International Energy Agency's (IEA) 2022 Net Zero and Stated Policies scenarios, we are still maturing how this information can best be integrated into our decision making and reporting. We have made important progress in developing our scenario analysis in 2022, and we will look to continue to expand our scenario models in 2023.

Risk Management		Disclosure Alignment	Reporting Location
a	Describe the organisation's processes for identifying and assessing climate-related risks	Full	page 61
b	Describe the organisation's processes for managing climate-related risks	Partial	page 58
c	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organisation's overall risk management	Full	page 61

Serica aligns with the Risk Management guidelines regarding the reporting of our procedures for identifying, evaluating, and mitigating climate-related risks and how they are integrated into our comprehensive risk management strategy (a and c). We provide an account of our methodology for determining materiality, including climate-related risks, within our company, which outlines the relative importance of climate-related risks in relation to other risks in our materiality matrix. We include reference to transition and physical risks and opportunities; however, we do not include comprehensive evaluation of all the risks included in Tables A1.1 and A1.2 (pp. 75–76) (or b). We will also look to improve on a specific and practical review of these risks in 2023.

Metrics and Targets		Disclosure Alignment	Reporting Location
a	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	Partial	page 62
b	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions and the related risks	Full	page 106
c	Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets	Full	page 62 & 11

Serica partially aligns with a of the Metrics and Targets recommendations, and fully aligns with the scope disclosures of component b as well as the target setting of part c of the guidance. While our disclosure of climate-related metrics includes GHG emissions, air emissions and others (ESG Report page 106), our reporting does not include the complete range of metrics outlined in Tables A1.1 and A2.2. We also do not disclose our internal carbon prices for confidentiality reasons.