

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Kernel (www.kernel.ua, WSE: KER) is one of the largest agribusiness companies in Ukraine, with extensive operations across the entire value chain. Kernel operates in production, refining, bottling and marketing of bulk and bottled sunflower oil, both internationally and domestically, as well as in farming, origination, handling and international marketing of grain and oilseeds. As an agriculture commodity supply chain manager, the company operates an extensive asset base with the largest private inland silo network in Ukraine, oilseed crushing plants located across the sunflower production belt in Ukraine, and deep-water export terminals on the Black Sea for trading of agriculture commodities. Kernel's upstream operations include one of the largest landbanks in the world, located in the fertile and water-rich regions of Ukraine. Business model is supported by leading positions in all business segments of the company, an experienced team of professionals and comprehensive risk management framework. The company is headquartered in Kyiv, Ukraine.

Key indicators:

1. Leader in sunflower oil production (~5% of global production) and export in the world (~8% of global exports) ;
2. Leader in bottled sunflower oil production in Ukraine;
3. Leader in grains export in Ukraine (15% of the country's total grain export);
4. Annual oilseed crushing capacity is 3.5 million tons of oilseeds;
5. Producer of renewable energy from biomass
6. Leader in private inland grain silos network in Ukraine with 2.3 million tons of one-time grain storage capacity,
7. Leader in private grain railcars fleet in Ukraine with 3.2 thousand of accessible own railcars railcars
8. Leader in grain export terminal operations with total annual capacity to transship 10 million tons of soft commodities
9. The company's origination team annually procures over 5 million tons of grains and 3 million tons of sunflower seeds from market,
10. Leading producer in Ukraine operating 363 thousand hectares of leasehold farmland
11. Modern large-scale machinery, sustainable agronomic practices, cluster management system and export-oriented crop mix
11. Employer for around 10,223 people.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

July 1 2022

End date

June 30 2023

Indicate if you are providing emissions data for past reporting years

No

Select the number of past reporting years you will be providing Scope 1 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 2 emissions data for

<Not Applicable>

Select the number of past reporting years you will be providing Scope 3 emissions data for

<Not Applicable>

C0.3

(C0.3) Select the countries/areas in which you operate.

Ukraine

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Both own land and elsewhere in the value chain [Agriculture/Forestry only]
Processing/Manufacturing	Direct operations only [Processing/manufacturing/Distribution only]
Distribution	Direct operations only [Processing/manufacturing/Distribution only]
Consumption	Yes [Consumption only]

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity

Soy

% of revenue dependent on this agricultural commodity

Less than 10%

Produced or sourced

Both

Please explain

Kernel is a major Ukrainian trader and processor of oilseeds and grains. Soy is the one of the main crops Kernel produce under the company's Farming segment. In FY2022 revenue of the Farming segment was 12% of the total revenues. Please refer to our FY2022 annual report for audited financials and other information.

Agricultural commodity

Wheat

% of revenue dependent on this agricultural commodity

Less than 10%

Produced or sourced

Both

Please explain

The company is a major Ukrainian trader and processor of oilseeds and grains. Wheat is the one of the main crops Kernel produce under the company's Farming segment. In FY2022 revenue of the Farming segment was 12% of the total revenues. Please refer to our FY2022 annual report for audited financials and other information.

Agricultural commodity

Other, please specify (Corn)

% of revenue dependent on this agricultural commodity

Less than 10%

Produced or sourced

Both

Please explain

The company is a major Ukrainian trader and processor of oilseeds and grains. Corn is the one of the main crops Kernel produce under the company's Farming segment. In FY2022 revenue of the Farming segment was 12% of the total revenues. Please refer to our FY2022 annual report for audited financials and other information.

Agricultural commodity

Other, please specify (Sunflower)

% of revenue dependent on this agricultural commodity

Less than 10%

Produced or sourced

Produced

Please explain

The company is a major Ukrainian trader and processor of oilseeds and grains. Sunflower is the one of the main crops Kernel produce under the company's Farming segment. In FY2022 revenue of the Farming segment was 12% of the total revenues. Please refer to our FY2022 annual report for audited financials and other information.

Agricultural commodity

Other, please specify (Rapeseed)

% of revenue dependent on this agricultural commodity

Less than 10%

Produced or sourced

Produced

Please explain

The company is a major Ukrainian trader and processor of oilseeds and grains. Rapeseed is the one of the main crops Kernel produce under the company's Farming segment. In FY2022 revenue of the Farming segment was 12% of the total revenues. Please refer to our FY2022 annual report for audited financials and other information.

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	LU0327357389

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	Sustainability Board Committee (hereinafter - the Committee) is the body responsible to oversee the overall performance of the sustainability and climate corporate function; ensure the implementation of the environment, social and sustainability governance agendas across all business operations; and connect these agendas with Kernel's business strategy, business objectives and capital allocation decisions. The Committee consists of at least three members, appointed by the Board of Directors upon proposal of the Nomination and Remuneration Committee. In practical terms, the role of the Committee is to assist the Board in reviewing the company's strategy regarding environmental, social and governance concerns in line with ESG regulatory requirements, the values and commitments made by the Company and applicable international market standards (hereinafter - ESG strategy). Within Kernel's ESG strategy, the Committee is responsible for overseeing Kernel's climate corporate strategy. It assist in monitoring the Company's progress on the ESG goals it has set for itself, including climate-related targets, and the reliability and integrity of its reporting. The Committee acts as an effective link between the Board of Directors and the Executive Management Team. The chair of the Committee appoints a Secretary of the Committee, who is typically a Sustainability manager, responsible for leading the sustainability and climate corporate function at the operational level. Secretary is responsible for reporting to members of the Sustainability Board Committee on the developments in the sustainability and climate corporate function, as well as for generally supporting the Committee in the exercise of its duty. In FY2022, among other agenda items, the Committee reviewed materiality assessment of strategic areas for the short- and medium-term development of the sustainability and climate corporate governance agenda of Company. It was decided that key focus areas of the sustainability function will be (1) access to sustainable finance, (2) development of identified climate-related opportunities and (3) market leadership, which implies dissemination of the company's low-carbon development practices with peer companies, policy-makers and partners to increase maturity of the climate agenda within agriculture sector.
Director on board	The chair of the Sustainability Board Committee is an independent non-executive Director and a member of the Board of Directors, with a deep competence in areas related to sustainable business development, climate finance and sustainability governance. The chair is elected by the members of the Sustainability Board Committee from among themselves. The chair reports to the Board of Directors on proceedings of the Sustainability Board Committee after each meeting. The chair of the Sustainability Board Committee also maintains a regular dialogue with the Sustainability manager, informally providing feedback and insights on issues related to the development of Kernel's sustainability and climate corporate function. Such interactions help to constantly improve practices of sustainability and climate corporate governance, and contribute to the overall maturity of the function.
Chief Executive Officer (CEO)	Kernel's CEO plays a central role in the integration of the sustainability and climate corporate strategy in the company's business strategy and ensuring control of its implementation across all business operations. CEO is one of the members of the Sustainability Board Committee, actively engaging in the Committee's dialogue with the Board of Director on matters related to the sustainability and climate corporate strategy, including establishment of GHG emission reduction targets, their implementation and business opportunities related to decarbonization of business operations. Within the Executive Management Team, the CEO provides a critical review and feedback on the development of Kernel's sustainability and climate corporate strategy, including GHG emission reduction targets, approaches to the development of the sustainability and climate corporate strategy across operations, as well as on engagement in relevant business opportunities related to decarbonization.
Other, please specify (Executive Management Team)	Kernel's integrates sustainability and climate corporate strategy in the company's overall business strategy. For that reason, members of the Executive Management Team are engaged in the implementation of relevant sustainability and climate action practices within their respective functions. In the reporting period, the company continued assigning climate-related KPIs for executive managers, which cascade throughout their corporate function. In the reporting year climate KPIs were assigned to Chief Financial Officer, Director and deputy Directors of Agribusiness, Director of Marketing and Sales of packaged products, Heads of Trading, Head of HR Department.
Other C-Suite Officer	HR Director ensures the overall oversight of the development Kernel's sustainability and climate governance and provides supervision to the Sustainability manager. Among specific responsibilities of the HR Director t is the development of the system of climate KPIs for the Executive Management Team and their cascading throughout each corporate function. HR Director is also responsible for communicating the importance and benefits of sustainability practices and climate actions within the company, and support their implementation from the behavioural perspective.
Other, please specify (Sustainability manager)	Sustainability manager (hereinafter - the Manager) is responsible for leading the development and improvement of Kernel's sustainability and climate corporate function. The Manager reports to the Head of HR Department. Responsibilities of the Sustainability Manager include development of the ESG and climate corporate strategy (which includes improvement of the GHG emission accounting system, calculation of possible emission reduction targets, formulation of relevant policies and procedures); research and development of new business opportunities related to decarbonization and climate actions; development of maturity of the sustainability and climate corporate function; and practical support of each business function in the implementation of provision of the sustainability climate strategy.
Board-level committee	In FY2022, Audit Committee was given an additional task related to review and approval of material climate-related physical and transitional risks. The Committee is presented updates in climate regulations, scenarios of carbon prices and financial impacts of risks on an annual basis. The primary function of the Audit Committee is to assist in monitoring the reliability and integrity of the financial information provided by the company and in generally reviewing and assessing the auditing, accounting and financial reporting processes of the Company. The audit committee is composed of non-executive directors, two of those are also members of the Sustainability committee.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Overseeing and guiding employee incentives Reviewing and guiding strategy Monitoring progress towards corporate targets Overseeing and guiding public policy engagement Other, please specify (Reviewing and prioritization of climate-related opportunities)	<Not Applicable>	In practical terms responsibilities of the Sustainability committee at the Board of Directors are in the following forms: (1) Agreement of policies and procedures (2) Reviewing and guiding the climate related risks and opportunities (3) Establishing monitoring plan and evaluating the GHG emissions baseline (4) Reviewing of the sectoral pathways and setting the Climate related targets (5) Reviewing climate related KPIs (6) Other climate related issues Sustainability manager can initiate a meeting with the HR Director, CEO and CFO, the purpose of which is to present, analyze and prioritize climate-related opportunities that arise; or to consult on other important matters, such as approval and introduction of climate-oriented KPIs. Sporadic consultations can also be organized with the chair of the Sustainability committee to agree upon matters like provisions of a relevant policy or to receive a feedback from the chair on a deliverables of relevant projects.
Scheduled – some meetings	Overseeing and guiding scenario analysis Reviewing and guiding the risk management process	<Not Applicable>	Audit Committee at the Board of Directors reviews and approves of material climate-related physical and transitional risks, as part of the annual process of risk materiality assessment, review of top-10 risks and risk appetite. The Committee is presented updates in climate regulations, scenarios of carbon prices and financial impacts of risks on an annual basis.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	Understanding sectoral trends within the climate agenda, knowledge of relevant regulatory frameworks and initiatives, proved practical experience in sustainability and climate related matters, specifically in the agriculture and food sectors.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Other C-Suite Officer, please specify (HR Director)

Climate-related responsibilities of this position

Providing climate-related employee incentives
Monitoring progress against climate-related corporate targets
Managing public policy engagement that may impact the climate

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

HR Director ensures the overall oversight of the development Kernel's sustainability and climate governance and provides supervision to the Sustainability manager, who is the main operational executor of the company's climate-related agenda. Among specific responsibilities of the HR Director is the development of the system of climate KPIs for the Executive Management Team and their cascading throughout each corporate function. HR Director is also responsible for communicating the importance and benefits of sustainability practices and climate actions within the company, and support their implementation from the behavioral perspective.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	Financial results of the company's each business segment, or EBITDA, are integral to the KPIs and monetary incentive of the executive management team. Physical acute impacts of climate change is an inherent risk to the agriculture business: it directly influences the company's own farming operations, and indirectly affects determines capacity utilization of oilseed crushing plants and silos (which may stem from physical deficit of oilseeds on the market due to decreased harvest in Ukraine in general). Therefore, the EBITDA indicator of Farming and Infrastructure and Trading segments has a link to climate physical acute risks.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive

Chief Executive Officer (CEO)

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Other (please specify) (Management of climate physical risks)

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Incentive is linked to the company's EBITDA performance, which has a direct link to climate physical (acute) risks, due to the nature of the company's operations and their sensibility to impacts of climate change. Indeed, financial performance of the company's Farming segment is a subject to direct climate change impacts, whereas other segments are impacted by the overall decline in harvest in Ukraine due to extreme weather events, which reflects in low capacity utilization of the company's oilseed processing plants due to physical deficit of the oilseeds on the market and low profitability of grain export value chain (underutilized infrastructure capacities or depressed margins) given that major portion of our grain export volumes is originated from third-party farmers.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

The risk of acute climate events in the production cycle is embedded in the risk 'weak harvest in Ukraine', which is included in the matrix of top-10 risks each year by default. The risk of weak harvest is applied to each business segment of the company, allowing its efficient management.

Entitled to incentive

Corporate executive team

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Energy efficiency improvement

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Improvement of the Company's energy performance including: (1) Processing operations – kWh/t oilseed processed; (2) Farming operations – liters of diesel fuel per ha; (3) Silo/storage operations – m3 of natural gas per t-% of grain drying;

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Motivated the establishment of accessible and rigorous accounting of energy consumption, allowing to closely monitor efficiency performance and to effectively plan optimization measures leading to Scope 2 emissions reduction.

Entitled to incentive

Environment/Sustainability manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The overall performance of the company's sustainability manager is evaluated by the dynamic of CDP score. This is due to the fact that CDP questionnaire covers the majority of aspects of the sustainability manager's work and serves as a guidance on further improvements and gap analysis. It is one of the sustainability manager's KPIs.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

It provides the sustainability manager with a formal mandate to communicate priority areas for improvements in the company's climate performance across business segments and to implement respective initiatives. It also provides for additional arguments in allocation of budget for implementation of climate related initiatives.

Entitled to incentive

Corporate executive team

Type of incentive

Non-monetary reward

Incentive(s)

Internal team/employee of the month/quarter/year recognition
Public recognition

Performance indicator(s)

Energy efficiency improvement
Reduction in total energy consumption

Incentive plan(s) this incentive is linked to

Both Short-Term and Long-Term Incentive Plan

Further details of incentive(s)

Energy efficiency measures with measurable targets are planned by the company's assets on an annual basis. Attainment of targets is the responsibility of Energy Manager, thus the performance evaluation (and corresponding remuneration and benefits) depend on this factor.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

Motivated the establishment of accessible and rigorous accounting of energy consumption, allowing to closely monitor efficiency performance and to effectively plan optimization measures leading to Scope 2 emissions reduction.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	1	<p>Evaluation of exposure to climate impact in the short-term perspective aligns with the operational business planning, which takes place annually due to the dynamic of the commodities market. Specifically, Kernel's farming segment monitors and analyses crop climate parameters on an on-going basis, throughout a crop production cycle (land preparation, fertilization, plantation, plant protection and harvesting). Key crop climate parameters include precipitations, temperature, atmospheric pressure, sum of active temperatures and soil moisture reserve (SMR). Analysts receive this data from Kernel's own meteorological stations. Other parameters used for short-term operational decision-making include normalized difference vegetation index, also known as NDVI, which Kernel obtains from satellite databases. NDVI is used to assess and predict yields through estimation of density of green coverage of land.</p> <p>Analysis of short-term risks is also integrated into the field level of decision-making, undertaken by agronomists who use the company's own digital agribusiness solutions. Indeed, agronomists who oversee sowing and monitor sowing first-hand can advantage from satellite analysis of fields and meteorological data in specialized applications on their phones. This allows to shorten evaluation of risks associated with weather conditions and adjust an agronomic strategy in timely manner in response to such risks.</p>
Medium-term	1	5	<p>On the country level, scientific modelling of changes in Ukraine's climate system demonstrates gradual shift in the boundaries of natural zones (woodlands, forest-steppe, steppe) towards the north-west over the next 10 years. Medium-term climate risks assessment is made over the 5 years timeframe, because it aligns with Kernel's financial modelling. Financial modelling includes assumptions of climate acute events, that might have significant negative impact on harvest (in financial planning one year out of five is by default considered as not compliant with yield targets). Kernel's assessment of medium-term climate risks show that the most impact acute climate events have on oilseed crops, namely sunflower. The company already has experience in adapting to medium-term climate impacts through changes in geographic location of land bank to more suitable areas.</p> <p>Kernel works to introduce a more rigorous and transparent approach of climate risks evaluation and its alignment with the financial model.</p>
Long-term	5	10	<p>When evaluating climate risks in the long-term perspective, Kernel relies on the CMIP 6 models (Coupled Model Intercomparison Project). The assessment is made for the timeframe of 10 years and more. Although the company does not undertake business planning for such long horizon, analysis of projected long-term dynamic of climate system (reference point is 2051-2055) is made to inform the company's decision-making process in the future. This is particularly relevant for any future M&A activities.</p>

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Kernel's overall approach to managing risks, including climate physical and transitional risks, and to evaluating their impact on business is governed by the company's Risk Management Policy and underlying procedures. The policy reflects a comprehensive risk management framework, developed by Kernel, which includes a 5-steps risk identification and mitigation system (1. risk identification; 2. risk assessment and prioritization; 3. development and execution of risk mitigation plan; 4. monitoring of plan execution; 5. enhancement of risk management process). Kernel's CEO is the owner of the risk management process and is responsible for ensuring its effective functioning. Efficiency of the risk management framework and internal controls is assessed during internal audits.

The risk management framework operates five risk categories: strategic (business), operational, financial, regulatory and sustainability. In terms of climate related risks, strategic (business) and operational categories account for physical climate long-term and short-term risks respectively. Transitional climate risks are covered by the regulatory category and sustainability category covers a broader group of environmental and social risks. For the purpose of annual operational planning, the company re-evaluates and updates the matrix of top-10 risks, which are then approved by the Board of Directors. The risk of acute climate events in the production cycle is embedded in the risk 'weak harvest in Ukraine', which is included in the matrix of top-10 risks each year by default. The risk of weak harvest is applied to each business segment of the company: (1) Kernel's own farming operations (direct impact); (2) capacity utilization of Kernel's silos due to physical shortage of grain on the market and oil crushing margins due to limited supply of oilseeds (indirect impact); (3) export value chain, because the majority of Kernel's grain export volumes originates from third-party suppliers.

The risk management process is implemented by the Board of Directors, executive management and operational management on an on-going basis. If the monetary implications of a risk are assumed to be higher than USD200 million, they are marked as a substantial financial impact and therefore are considered at the Board of Directors. Risks of lower financial impact are maintained at the executive management and operational management levels. Indeed, the executive management team ensures that all risks are systematically identified, quantified, monitored, mitigated and managed daily.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

Annually

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Since FY2021, Kernel has integrated an articulated approach to identification, evaluation and management of climate physical and transitional risks in line with the TCFD recommendations and works on its continuous improvement. In FY2022, the company started working on the development of the comprehensive Climate Risks Management Policy, which would outline a set of concrete guidelines on climate risk evaluation and management across all business segments and roles of respective segments.

With regards to climate physical risks, such approach involves regular assessment of climate change information, provided by the Regional Climate Models (specifically CMIP6 Projections using SSP 2.6-4.5 and SSP 8.5 scenarios to inform management decisions) to understand the dynamic of climate change impact across Kernel's landbank in the long-term perspective. Relevant parameters of these scenarios are used for stress-testing of Kernel's financial model, allowing to evaluate the company's exposure to long-term climate change impacts and their monetary interpretation (i.e. impact on EBIDTA). Evaluation of transitional climate risks is also to be reflected in the company's financial model and accounts for implications of both domestic and European carbon regulations.

The interconnection between climate physical and transitional risks is linked to the assumption that SSP 2.6-4.5 scenarios would imply that carbon regulations will be tightened significantly and strongly affect the Company's performance, but the Company will be less exposed to the physical risks; whereas SSP 8.5 scenario implies that carbon regulations will be tightened moderately and softly affect the company's performance, but in turns the company will be more exposed to the physical risks.

Kernel's approaches to identify, assess and manage climate risks are the following:

1. Climate physical risks are evaluated on the operational level. Kernel's modelling and monitoring team (consist of experts in practical application of geographic information systems, or GIS) as well as financial and business analytics undertake an on-going monitoring of key climatic indicators (data obtained from the company's own meteorological stations and satellite data which reflects vegetational response to weather conditions, such as NDVI indicators) and their interconnections with financial and business performance. Further, farming segment holds strategic sessions twice a year before spring and winter sowing campaign where Kernel's agricultural experts, building up on this analysis, undertake short-term business planning, profound consultation and decision-making on management of climate acute risks and adaptation practices.

In terms of climate chronic risks, the monitoring is based on the company's practical observations and analysis of available agrometeorological research on changes in Ukraine's climate zones and yields dynamic. To that end, Kernel's business analytics undertake a regular analysis of harvest results of both Kernel and other agriculture companies in Ukraine and compare these indicators between geographic regions. Such exercises help to identify climate patters and tendencies across the company's landbank, which are used to make informed long-term strategic decisions regarding the geographic location of assets. Such decisions are made at the level of the executive management team, or at the level of the Board of Directors if monetary implication of a risk is higher than established substantial strategic impact threshold.

2. Identification of climate transitional risks is undertaken by Kernel's sustainability manager, throughout on-going monitoring of developments in domestic and EU carbon regulations. Transitional risks, flagged by the sustainability manager, are evaluated in terms of its monetary impact together with financial and business analytics. It is then raised to the executive management team, or to the Board of Directors if the impact of the risk is considered significant. Evaluation of climate transitional risks is based on analysis of NGFS (Network for Greening the Financial System) scenarios of carbon price within EU ETS and in Ukraine. Analysis of these scenarios and financial implication of climate transitional risks, as well as information on key drivers of these risks (i.e. developments in EU and domestic climate regulations) are updated on an annual basis and approved by the Audit Committee at the Board of Directors.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	As a producer of electricity from biomass (the company invested in construction 7 combined heat and power plants, or CHPs, of total installed electric capacity of 94 MW, which work on biomass, namely sunflower seed husk), Kernel closely monitors developments around carbon tax regulation in Ukraine. In Ukraine, GHG emissions, resulted from biomass combustion are subject to carbon tax. This contradicts with EU regulation on monitoring, reporting and verification of GHG emissions, because emissions from combustion of biomass are considered to be zero. Nevertheless, in FY2021 the rate of carbon tax increased from 10 UAH to 30 UAH (EUR 0.3 to EUR 1.0) per tonne of CO2. Although the rate of carbon tax remained the same in FY2022, Kernel expects it to grow gradually in next years to become aligned with average rate of carbon tax in the EU member countries (up to EUR 100/tCO2 and more).
Emerging regulation	Relevant, sometimes included	According to Ukraine's GHG Inventory, agricultural sector is responsible for 13% of the total national volume of GHG emissions. For that reason, Kernel's sustainability manager regularly monitors developments in domestic regulations related to strengthening of climate agenda in agriculture sector and adjacent sectors namely bioenergy and biofuels. National policy-making in this area is significantly influenced by relevant EU frameworks (i.e. Green Deal, Fit for 55, REpowerEU) given Ukraine's candidacy to the EU; as well as development on the international climate change arena (i.e. finalization of the Rulebook on Carbon Markets under Article 6 of the Paris Agreement). For that reason, sustainability manager is also responsible for monitoring international context. Identified risks, related to emerging regulations are reported to the executive management. The company works to establish a more rigorous process to analysing emerging climate regulations, applicable to agriculture, which would involve legal office.
Technology	Relevant, sometimes included	Integration of low-carbon farming technologies, or regenerating planting techniques (i.e. reduced soil tillage, reduced nitrification, application of cover crops), allow to reduce and sequester emissions, but pose a risk of decreased yields in the first year of their application. Such changes to the established farming practices require longer planning, additional analysis of possible GHG emission reduction scenarios and testing of such practices on pilot areas of landbank. When integrating such practices, the company must also account for the significant size of the company's landbank, which spreads across differentiated nature zones, soil types and agroclimatic conditions. As part of addressing this risk in a long-term perspective, Kernel has started integrating operational GHG emission accounting system to better understand emission reduction and sequestration potential across fields and crop rotations. Detailed data on carbon footprint of farming operations will allow to develop tailored programs of low-carbon practices, increasing efficiency of emissions reduction and sequestration.
Legal	Relevant, sometimes included	Climate-related risks of legal nature stem from potential non-compliance with environmental regulations or procedures of environmental impact assessment, identified during environmental inspection or as the result of complaints (or lawsuits) submitted by third parties via the company's grievance mechanism. Such risks could be transformed into fines for non-compliance and reputational damage. Kernel has environmental protection professionals within each business segment, responsible for managing such risks by ensuring correct and timely submission of environmental data to governmental bodies, diligent compliance with environmental regulations and procedures of environmental impact assessment. Any complains from third parties are processed by the company's compliance officer, with involvement of environmental protection professionals, as well as legal and IR teams where required.
Market	Relevant, sometimes included	In the context of climate agenda, market developments are considered by Kernel more as drivers of business opportunities rather than risks. Opportunities are associated with the growing demand for biofuels and bioenergy, as well as low indirect land-use change risk commodities. Such opportunities are emerging amid stronger carbon regulations in EU, as well as in light of public commitments of major market players (specifically Kernel's trade partners) to take stronger climate actions regarding their supply chains.
Reputation	Relevant, always included	Kernel is a public company, listed on the Warsaw Stock Exchange (WSE). For that reason, potential climate-related risks of reputational nature are linked to poor incorporation of WSE guidelines on corporate governance (namely 'Best practice of WSE listed companies 2021') and its guidelines on the ESG reporting. Reputational risks are also associated with potential failure to meet direct expectations of Kernel's investors and shareholders.
Acute physical	Relevant, always included	Physical climate risks are inherent to Kernel's operations. Extreme temperatures and droughts during crops vegetation period are key acute physical risks for Kernel's farming operations. The risk of acute weather events is also indirectly applicable to Kernel's infrastructure segment, given that decrease in yields across the whole country (due to adverse weather conditions) leads to lower capacity utilization of Kernel's silos and oil crushing plants. The most recent materialization of acute physical was observed in 2020, when harvest decreased throughout the territory of Ukraine. For Kernel, such events led to slight decrease in EBITDA of all business segments.
Chronic physical	Relevant, always included	The risk of chronic physical changes in the climate system is embedded in long-terms pathways of temperature dynamic and precipitation patterns for the regions of Kernel's operational activities. Such risk is applicable to the company's long-term business vision, particularly its decision-making on optimizing and improving of profitability of existing landbank and supporting its strategy to perform M&A of the assets in the locations most suitable for key crops in mid- and long-term perspective.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Chronic physical	Changing temperature (air, freshwater, marine water)
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Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

For Kernel's operations climate chronic physical risks are relevant from the perspective of long-term strategic impact on location of assets. Analysis of the overall dynamic in climate system across the territory of Ukraine demonstrates gradual shift in the boundaries of natural zones (woodlands, forest-steppe, steppe) towards the north-west over the next 10 years. Shift in climate zones leads to extension of land that falls under the category of risky farming and, therefore, to increased price of lease agreements for agricultural land suitable for growing grain and oilseeds (the so-called 'corn belt of Ukraine').

Assessment and monitoring of dynamics in climate conditions on Kernel's landbank is ongoing and involves : (1) analysis of meteorological data obtained from Kernel's own meteorological stations (a total of 51 stations) and satellite climate change data, obtained from GIS solutions frameworks such as GEOSIS, undertaken by the modelling and monitoring team, and (2) retrospective analysis of harvest from both Kernel's own landbank and in Ukraine in general, made by the team of financial and business analytics.

Time horizon

Long-term

Likelihood

About as likely as not

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

145000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Estimation of financial impact was originally based on Kernel's 2021 strategic target was to increase the area of its landbank by 0,2 million hectares of farmland. Had this target been under active implementation, cost of lease for oilseed-oriented land within the 'corn belt' may have increases up to 1125 USD/ha (given the shifts in suitable climate zones), although in the past the average price in this region was 400 USD/ha.

However, in FY2022 Kernel had to temporarily set aside its growth strategy and operate in survival mode in light of the russian invasion. Considering the uncertainty of the future availability of the maritime exports, as well as the business environment in Ukraine, the company put on hold its strategic initiatives and will revise its long-term strategy once the degree of the uncertainty dwindles. Therefore, the potential financial impact of the chronic climate change risk was re-estimated from a single figure to the range, demonstrating conditionality of the company's return to previously stated strategy. For the same reason time horizon and likelihood of the risk was also re-evaluated.

Cost of response to risk

54130

Description of response and explanation of cost calculation

For the purpose of ongoing monitoring of changes in the vegetation and visualization of climate-related data relevant to the regions of company's operations and potential expansion, Kernel has a subscription to the provider of GIS solutions (geographic information system), GEOSIS Technologies. These solutions allow to consolidate and analyze climate related data and relevant patterns obtained from satellite images. The cost of response to climate chronic physical risks also includes technical maintenance of Kernel's own agrometeorological stations, IT support and development of the company's Digital Agribusiness programme and maintenance of the company's own drones, that undertake remote sensing of the landbank.

Comment**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Drought
----------------	---------

Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The risk of acute climatic events resulting in decreased yields is a basic risk for agriculture business. Within Kernel's risk management framework this risk is reflected in the risk category 'Weak harvest in Ukraine', which is normally included in the top-10 company's risks list. Likewise, the company's financial modelling provides for conservative basic assumptions of reduced yields due to impacts of acute climate impacts. In addition, climate acute physical risks are also applicable to Kernel's infrastructure, since extreme weather conditions would impact farming business across the whole country (impact on Kernel's supply chain and trading operations) leading to decreased capacity operations of the company's silos and oil crushing plants.

In September 2021, Kernel launched the 'Climate corporate governance and low-carbon pathway', which was completed in June 2022. Within this project the company undertook an in-depth evaluation of acute physical risks based on Regional Climate Model (RCM) of climate dynamic on the territory of Ukraine. RCM collects data on single levels from a number of experiments, models, domains, resolutions, ensemble members, time frequencies and periods computed over several regional domains all over the World - particularly in the CMIP 6 of the Coordinated Regional Climate Downscaling Experiment (CORDEX) framework.

The analysis showed that the frequency of acute climate events (droughts) in northern parts of Kernel's landbank would increase under the SSP 8.5 scenario in long term perspective.

Time horizon

Long-term

Likelihood

Likely

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

15400000

Potential financial impact figure – maximum (currency)

22000000

Explanation of financial impact figure

The financial impact of acute climate events is evaluated approximately as 7-10% of the company's group EBITDA following the increase in frequency of acute physical events/droughts from once in 5 years to once in 2-3 years in SSP 8.5 scenario for the regions of "corn belt of Ukraine" over the long-term interval. In Farming segment it is estimated that 2-3 thousand hectares (USD 1,316,633 in recalculation in the segment's EBITDA) of crops are lost due to extreme weather events such as droughts and strong winds.

Cost of response to risk

47000

Description of response and explanation of cost calculation

The company's response to this risk includes organization of strategic session of the Farming segment twice a year, before spring and winter sowing campaign. During this meeting directors of Kernel's farming clusters (cluster is an organizational unit in Kernel's landbank and farming operations; there are a total of 6 clusters), agricultural experts, as well as business and financial analytics undertake broad consultations on results of previous harvest seasons; identify areas for improvement in agriculture practices; analyze available data and projections of weather conditions during the next harvest season; undertake short-term business planning, profound consultation and decision-making on management of climate acute risks and adaptation practices. The cost of response also covers technical expenses to support research and development centers, which are specifically dedicated fields where the company tests new farming practices, including resistant FAO hybrids, inhibitors of nitrification, biological destructors etc.

Comment**Identifier**

Risk 3

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
---------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

One of Kernel's key transitional climate risk is associated with developments in domestic carbon regulations. This group of risks includes two types of regulations: (1) Current Ukraine's tax on GHG emissions (hereinafter - carbon tax), and (2) Ukraine's national emission trading scheme that is currently under development.

In case of Ukraine's carbon tax, it increased from 10 UAH to 30 UAH (approximately 1 EUR) per tonne of CO2 over the 2021. Although the tax rate did not change in FY2022, the company expects that the rate of carbon tax will continue growing over the next years to become aligned with average price of tonne of CO2 in EU (these expectations are based on Ukraine's commitment under EU Association Agreement and its candidacy to EU, as well as Ukraine's possible response to EU CBAM requirements). Kernel evaluates risk of the expected growth of carbon tax in the following years based on the average carbon tax value in EU member countries (EUR 20-120/tCO2), which would lead to significant annual expenditures. Ukraine's carbon tax is applicable to Kernel's combined heat and power plants, that produce electricity from sunflower seed husk (side product to the oilseed crushing process, approved as a feedstock to provide advanced biofuels as per Annex IX.A. of RED II Directive). The nature of this risks lies in the fact that such regulation contradicts Ukraine's regulation on Monitoring, Verification and Reporting (MRV) and EU's position on combustion of biomass, production of advanced biofuels GHG emissions from which are considered to be zero.

With regards to Ukraine's national emission trading scheme, the key risk for Kernel's is the significant increase in electricity price, when ETS is finalized and launched. Assumption of potential impact of such risk is based on average wholesale electricity prices in EU, which fell to the average of EUR 110/MWh in 2022. To compare, industry electricity price in Ukraine in 2022 accounted for approximately EUR 70/MWh. The company keeps a close monitoring of such risk, despite that development of Ukraine's ETS is at its initial stage and is expected to be finalized not sooner than in seven years.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

137057

Potential financial impact figure – maximum (currency)

90928787

Explanation of financial impact figure

At current tax rate, annual expenditures to cover carbon tax would account for up to USD 1.4 million per year, assuming that all seven plants work to their fullest capacity (686 GWh per year) generating 538 949,88 tones of CO2. Potential financial implication is evaluated according to the NGFS (Network for Greening the Financial System) climate modelling of carbon price dynamic in Ukraine. In FY2022 the company updated assumptions of carbon price in line with new NGFS model for Ukraine (which was re-scaled to Eastern Europe) "GCAM 5.3+ NGFS".

In line with updated scenarios, under the SSP 2.6-4.5 scenario carbon price in Ukraine is projected to increase up to EUR 63.33/tCO₂, and under the SSP 8.5 the price would reach EUR 1.1/tCO₂ by 2030. In the range of potential financial impact the minimum figure is the combined impact of increased carbon tax and increased price of electricity once the UA ETS is implemented in 2030 under the SSP 8.5, whereas the maximum figure – under the SSP 2.6-4.5 scenario.

Cost of response to risk

21600

Description of response and explanation of cost calculation

In FY2022 Kernel spent USD 21,600 on its membership in professional associations, such as European Business Association and American Chamber of Commerce in Ukraine. As part of such associations, Kernel actively contributes to development of common business positions on different matters (i.e. energy transition, food-energy balance, as well as bioenergy and biofuels as integral pillars of the REpowerEU initiative) and their communication to the government. Tax on GHG emissions, generated from biomass combustion is one of the key issues where Kernel demonstrates a strong position, as the largest in Ukraine producer of electricity from biomass.

Comment

Identifier

Risk 4

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
---------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

EU's 'Fit for 55' packages (under which EU seeks to cut its emissions by at least 55% before 2030) includes provisions on Emission Trading Scheme, namely the target to reduce the emissions by 61% before 2030 and to reduce the number of free allowances by 4.2% each year. GHG emissions from production of nitric acid, ammonia and hydrogen are covered by the EU ETS. Considering that nitric acid, ammonia and hydrogen are intermediates in the production of NPK fertilizers, it is expected that price of EU originated fertilizers will increase following the implementation of Fit for 55 provisions. In 2022, at least 8% of the total volume of nitrogen fertilizers, purchased by Kernel, were made in the EU.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

2027609

Potential financial impact figure – maximum (currency)

41795444

Explanation of financial impact figure

In FY2022 the company updated assumptions of carbon price in line with new NGFS model for EU - "REMIND-MAgPIE 3.0-4.4", as well as integrated these assumptions into the renewed financial model. If produced in the EU, the price of fertilizers would reflect price of EU allowances on GHG emissions, which are projected to increase up to EUR 162.68/tCO₂ under the SSP 2.6-4.5 scenario and to EUR 67.43/tCO₂ under the SSP 8.5 scenario by 2030 (according to NGFS climate data projections). In case of domestically produced fertilizers, their price would account for a projected carbon price in Ukraine: EUR 63.33/tCO₂ under SSP 2.6-4.5 scenario and EUR 1.1/tCO₂ under SSP 8.5 scenario by 2030 (according to NGFS climate data projections). In the range of potential financial impact, the minimum figure is the combined impact of increased price of carbon allowances under the EU ETS and the UA ETS once implemented in 2030 under the SSP 8.5, whereas the maximum figure – under the SSP 2.6-4.5 scenario.

Cost of response to risk

10000

Description of response and explanation of cost calculation

The company started screening of its current suppliers of nitrogen fertilizers and identify areas to optimize the suppliers' portfolio and particular opportunities for bilateral cooperation toward decreasing of purchased fertilizers carbon footprint. The cost of response to risks includes expenditures on marketing activities and proactive interactions with suppliers of N-fertilizers (business trips on producers' production facilities, sectoral conferences, meetings of professional associations).

Comment

Identifier

Risk 5

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms
---------------------	---------------------------

Primary potential financial impact

Increased direct costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

EU's Fit for 55 package (under which EU seeks to cut its emissions by at least 55% before 2030) provides for the extension of the Emission Trading Scheme (ETS) and inclusion of emissions from maritime transport, which would cover all CO2 emissions from large vessel regardless of the flag they fly. It is, therefore, expected that cost of maritime freight will increase significantly since it will also include the cost of ETS emission allowances.

Maritime freight logistics essential to exercise the company's trading activities to its full extend. Up to 24% of the total grain sales are related to the supplying in the ports of EU in the first half 2022. The contracts included both CIF and FOB and thus the risk might be partially passed on Kernel's trading partners. However, since the second half of 2022 the share of EU-oriented export, and therefore financial implication of the risk, remain the subject to high uncertainty and volatility in light of imposed artificial restrictions to usual maritime routes.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

2554573

Potential financial impact figure – maximum (currency)

4789824

Explanation of financial impact figure

In FY2022, emission from downstream transportation by maritime freight accounted for 33% of the total Scope 3 emissions (253,456.06 tonnes CO2e).

Cost of freight operations would reflect the projected price of GHG allowances under the EU ETS, which would increase up to EUR 162.68/tCO2 under the SSP 2.6-4.5 scenario and reach EUR 67.43/tCO2 under the SSP 8.5 scenario by 2030 (according to NGFS climate data projections). In the range of potential financial impact, the minimum figure reflects the impact of increased price of carbon allowances under the EU ETS in 2030 under the SSP 8.5, whereas the maximum figure – under the SSP 2.6-4.5 scenario.

Cost of response to risk

9000

Description of response and explanation of cost calculation

Kernel plans to become a signatory of the Sea Cargo Charter, an international framework for assessing and disclosing the alignment with climate actions and GHG emission reduction targets, including the ambition of the International Maritime Organization to reduce shipping's total annual GHG emissions by at least 50% by 2050. Under the technical guidance of the Sea Cargo Charter, the company seeks to improve accounting of emissions from maritime freight and establish a rigorous process of their monitoring, which would allow to identify areas for decarbonizing Kernel's chartering activities in a more informed way. The cost of response to risk includes the signatory fee and the annual fee.

Comment

Expenditures to become a signatory of the Sea Cargo Charter were postponed until the next reporting period under the precautionary budget optimization amid high levels of uncertainty following russian invasion of Ukraine and on-going military actions.

C2.4**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

C2.4a**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.****Identifier**

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

This opportunity is associated with the access to voluntary carbon markets. The company is currently testing collaboration with an accelerator of agriculture-based carbon offsets; the main purpose of such pilot interaction is to better understand different approaches of carbon marketplaces to calculate a baseline, changes in soil carbon stock due to tillage, crop rotation and application of cover crops for each kind of crops, impact of inhibitors of nitrification on reduction potential and other technical nuances of GHG emissions accounting for agriculture sector. Building on such observations the company seeks to align its operational accounting of carbon footprint and strategies on realizing this opportunity with the rules of global carbon market mechanism (Article 6.2 and Article 6.4 of the Paris Agreement). Exploration of carbon offsets markets, goes hand in hand with in-depth analysis of global market incentives towards decarbonizing supply chain of agriculture commodities, building relevant dialogue with reputable international organizations and exchanging knowledge with key trading partners.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

708160

Potential financial impact figure – maximum (currency)

1180280

Explanation of financial impact figure

Financial impact figure is estimated based on the average price of carbon offsets, secured by forward contracts with investors involved in voluntary carbon market chains and a calculated reduction potential across a pilot set of submitted fields, which ranges from 500kgCO₂e/ha to 1 toneCO₂e/ha depending on tillage practices, crop rotation, application of nitrogen and low-carbon practices.

Cost to realize opportunity

177042

Strategy to realize opportunity and explanation of cost calculation

The company has been building a dialogue with a mentioned accelerator for over a year, focused on exploring opportunities for partnership in low-carbon development initiatives and identifying mutual approaches on advancing decarbonization agenda within the Ukrainian agribusiness. Kernel is currently undergoing initial stages of participation in the carbon offsetting program, for the purpose of which the company proactively supports the validation of the input data with its own satellite monitoring solutions, data on soil organic matter obtained from agrochemical analysis by the company's own laboratories, precise data on fuel consumption by agriculture machinery received from trackers etc. In addition to practical exploration opportunities to access carbon offset markets via accelerators, the company also analyses options for B2B interactions with carbon intensive businesses. An estimated cost to realize the opportunity includes an accelerator's fees, as well as cost of materials and products that allow to achieve decarbonization additionality with regards to farming practices.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased diversification of financial assets

Company-specific description

The company seeks to effectively access markets of sustainability- and climate-linked finance, both in terms of receiving specialized interest rates on loans (linked to specific covenants) and project finance. It's understandable that there are yet no unified rules of such finance, particularly in agriculture sector in Ukraine, and standardized criteria for investing in nature and social capital. Therefore the company started building focused dialogues with key investors, commercial banks and financial institutions to develop tailored approaches of attracting different types of sustainable- and climate finance in an evidence-based manner.

Time horizon

Medium-term

Likelihood

More likely than not

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

365000

Potential financial impact figure – maximum (currency)

500000

Explanation of financial impact figure

Financial impact figures demonstrate potential savings of debt service costs if the average margin adjustment is applied (which was presented by one of one of the international financial institution). Overall, the company identifies current signals regarding sustainability-linked products from financial as weak; however, it is undertaking significant groundwork in preparation to when such products become more accessible.

Cost to realize opportunity

30000

Strategy to realize opportunity and explanation of cost calculation

Kernel seeks to develop a comprehensive sustainable finance framework, building on the outcomes of the 'Corporate climate governance and low-carbon pathway' project. The purpose of such framework is to develop quantifiable criteria (covenants) of sustainability and climate-linked finance, tailored to different types of financial products; and to coordinate them with a pool of potential investors, IFIs, local commercial banks etc. The cost to realize opportunity covers potential cost of the second party opinion on such framework.

Comment**Identifier**

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Kernel explores opportunities associated with the production of biofuels, namely biomethane produced from plant based feedstock such as silage corn or crop residue. This opportunity stems from the growing demand for energy sources both in Ukraine and in the EU (REPowerEU initiative aimed to reduce dependency on russian natural gas), amid changes in regional energy geopolitics following russian invasion of Ukraine. This opportunity is also supported by developments in relevant domestic legislations, which allow injection of biomethane in the gas transportation system and provides for establishment of national registry of renewable gas guarantees of origin (RGGO) for biomethane producers.

Time horizon

Medium-term

Likelihood

About as likely as not

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

146000000

Potential financial impact figure – maximum (currency)

200000000

Explanation of financial impact figure

Financial impact figures cover potential revenue from production of pilot volume of biomethane throughout 20 years of a project life. The range of the financial impact is estimated based on the difference in average prices on biomethane, produced from two types of feedstocks namely silage corn and crop residues which varies due to policy incentives in EU (primarily Annex IX.A. of RED II Directive) to promote bioenergy production from waste rather than food crop. The company already undertook an in-depth analysis of the biomethane market and communicated with several traders to better understand price indicatives.

Cost to realize opportunity

16000000

Strategy to realize opportunity and explanation of cost calculation

As a strategy to realize this opportunity the company seeks to perform a detailed feasibility study, including analysis of market practices and regulatory conditions related to operation of the national gas transportation system etc. The feasibility study would then be a subject of extensive dialogue with potential off-takers (both in terms of price and conditions of forward agreements) and investors, specifically regarding sustainability-linked project financing.

Cost to realize opportunity includes constructing biomethane production facilities, estimated in line with industry benchmarks.

Comment**Identifier**

Opp4

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient production and distribution processes

Primary potential financial impact

Reduced direct costs

Company-specific description

The opportunity lies around the system of farming practices that promote accumulation of soil organic carbon, reduction of GHG emissions from tillage and nitrification, improving soil health and biodiversity. These practices are commonly referred to as regenerative, or carbon, farming which is one of the key pillars of the company's corporate climate strategy. We believe that this is a long-term direction of development, which would have a visible impact on capitalization, and over the last several years this subject has moved from purely theoretical discussion toward practical consideration during operational planning and testing. The company is undertaking an ongoing screening of possible channels for comprehensive monetization of carbon farming practices through its focused engagement with trade partners and other stakeholders (more details in C12.1d). For now, the performance of carbon farming practices can be quantified through optimization of nutrition rates (including through application of inhibitors of nitrification) and, therefore, operational expenses on nitrogen fertilizers. As of now, the potential impact of such measures can lead up to 20% lower application of N per hectare; this figure may vary as the company scales up its regenerative farming practices.

Time horizon

Medium-term

Likelihood

Very likely

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

21103739

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Financial impact demonstrates a calculated savings of operational expenditures on nitrogen fertilizers if the 20% reduction in application of Nitrogen across the whole landbank is achieved, based on an average market price.

Cost to realize opportunity

350000

Strategy to realize opportunity and explanation of cost calculation

The cost of opportunity is calculate based on the assumption that the 20% decrease in N rate application per hectare is achieved with inhibitors of nitrification and their average market price.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Publicly available climate transition plan

<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)

<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

In FY2022 Kernel finalized the "Climate corporate governance and low-carbon pathway" project, in partnership with EBRD, which involved assessment of climate related risks and opportunities (in line with TCFD recommendations), gap analysis of climate governance, feasibility analysis mitigation and adaptation measures. Building on results of this project the company developed a comprehensive action plan, which includes actions of organizational and investment nature aiming to improve Kernel's climate corporate governance performance. Such actions were developed across material groups: agribusiness, production, energy, carbon offsets, production, supply chain, GHG accounting, risk, strategy, governance, and sustainable finance. The action plan was reviewed by the Sustainability committee at the Board of Directors, prioritizing actions and reflecting them in respective KPIs for executive and operational managers. The action plan will act as a cornerstone of the company's future transition plan.

As part of preparing and implementing such action plan, the company is actively evaluating options of corporate GHG emission reduction targets, by integrating detailed operational accounting system and addressing business opportunities and risks associated with application of low-carbon farming practices. However, in FY2022 setting targets in line with the SBTi FLAG was once again postponed until next reporting periods due to high levels of uncertainty regarding the company's operational boundaries (i.e. some share of the company's landbank is located in close proximity to the frontline and, therefore, is not operated; however this situation is dynamic and may change depending on pace of de-occupation), crop rotations (which may be altered depending on export routes), availability of export routes etc.

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios	RCP 2.6	Company-wide	<Not Applicable>	The company undertakes assessments of climate change data, provided by the Regional Climate Models, specifically CMIP6 projections using SSP 2.6-4.5 (temperature alignment is 1.5C) and SSP 8.5 (temperature alignment is 3.1-4C) scenarios to better understand the potential impacts of climate change on Kernel's operations in the long-term perspective. Key parameters analyzed are ambient air temperature, mean precipitation flux and mean evaporation flux. The key assumption is that under the SSP 2.6-4.5, climate transitional risks would prevail given that this scenario implies introduction of tight carbon regulations, whereas under the SSP 8.5 climate physical risks would be dominant due to weaker carbon regulations. Analysis of data under these scenarios is applied to evaluate the financial impact of climate physical risks and make more informed decision on risk management. More information of the company's key climate physical risks is disclosed in C2.
Physical climate scenarios	RCP 8.5	Company-wide	<Not Applicable>	The company undertakes assessments of climate change data, provided by the Regional Climate Models, specifically CMIP6 projections using SSP 2.6-4.5 (temperature alignment is 1.5C) and SSP 8.5 (temperature alignment is 3.1-4C) scenarios to better understand the potential impacts of climate change on Kernel's operations in the long-term perspective. Key parameters analyzed are ambient air temperature, mean precipitation flux and mean evaporation flux. The key assumption is that under the SSP 2.6-4.5, climate transitional risks would prevail given that this scenario implies introduction of tight carbon regulations, whereas under the SSP 8.5 climate physical risks would be dominant due to weaker carbon regulations. Analysis of data under these scenarios is applied to evaluate the financial impact of climate physical risks and make more informed decision on risk management. More information of the company's key climate physical risks is disclosed in C2.
Transition scenarios	Customized publicly available transition scenario	Company-wide	1.5°C	The company undertakes assessments of climate change data, provided by the Regional Climate Models, specifically CMIP6 projections using SSP 2.6-4.5 (temperature alignment is 1.5C) and SSP 8.5 (temperature alignment is 3.1-4C) scenarios to better understand the potential impacts of climate change on Kernel's operations in the long-term perspective. Key parameters analyzed are ambient air temperature, mean precipitation flux and mean evaporation flux. The key assumption is that under the SSP 2.6-4.5, climate transitional risks would prevail given that this scenario implies introduction of tight carbon regulations, whereas under the SSP 8.5 climate physical risks would be dominant due to weaker carbon regulations. Analysis of data under these scenarios is applied to evaluate the financial impact of climate transitional risks and make more informed decision on risk management. More information of the company's key climate transitional risks is disclosed in C2.
Transition scenarios	Customized publicly available transition scenario	Company-wide	3.1°C - 4°C	The company undertakes assessments of climate change data, provided by the Regional Climate Models, specifically CMIP6 projections using SSP 2.6-4.5 (temperature alignment is 1.5C) and SSP 8.5 (temperature alignment is 3.1-4C) scenarios to better understand the potential impacts of climate change on Kernel's operations in the long-term perspective. Key parameters analyzed are ambient air temperature, mean precipitation flux and mean evaporation flux. The key assumption is that under the SSP 2.6-4.5, climate transitional risks would prevail given that this scenario implies introduction of tight carbon regulations, whereas under the SSP 8.5 climate physical risks would be dominant due to weaker carbon regulations. Analysis of data under these scenarios is applied to evaluate the financial impact of climate transitional risks and make more informed decision on risk management. More information of the company's key climate transitional risks is disclosed in C2.

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

In terms of scenarios of physical climate impacts the key questions are the following:

1. What climate data is considered reliable to undertake projections of climate change impacts on the company's operations;
2. How changes in crop yields, resulted from climate change physical impacts, influence the company's profitability, namely EBITDA. It is important to understand how the agriculture commodity market would respond to significant increase in extreme weather events (acute climate physical risks) and long-term changes in the climate system making lands unsuitable for agriculture (chronic climate physical risks), because occasional decrease in yields among market participants may be compensated with growth in commodity price. From other side our analysis based on CMIP 6 forecast data provides oilseed yield increase outcomes for some periods of time in mid-century for some regions of presence in Ukraine.

In terms of scenarios of transitional climate impacts the key questions are the following:

1. How can stronger climate EU regulations impact the company's operational costs. Similarly to climate physical impacts, the market may compensate additional costs associated with carbon regulations by increasing price of a commodity.
2. How can domestic regulatory framework on climate change impact the company's operational costs (i.e. UA ETS when it will be finalized and domestic carbon tax). Currently, there is a high level of uncertainty as for how Ukraine's carbon regulations would develop, due to economic stagnation as the result of Russia's military invasion of Ukraine.

Results of the climate-related scenario analysis with respect to the focal questions

In terms of scenarios of physical climate impacts:

1. Kernel is using CMIP 6 datasets for climate projections and local statistics of historical data on temperatures, precipitation and evaporation flux to make correlation analysis of the frequency of unfavorable agro-climatic conditions. The company is also in touch with local scientific agro-climatic society to find more advanced forecasts of concrete climate parameters change in long-term dynamics and their impact on the yields of our crops.
2. At the moment the company is using simple analysis of the impact on the EBITDA by using driver-related model (costs, revenue and CAPEX impact). We plan to incorporate sector-related corrections and commodity price curves after overall adoption of the long-term climate analysis by sectoral companies and elaborating of the relevant assumptions data.

In terms of scenarios of transitional climate impacts:

1. At the moment Kernel is using simple analysis of the impact on the EBITDA by using driver-related model (costs, revenue and CAPEX impact) using scenarios of EU regulations strengthening. We plan to incorporate sector-related corrections and commodity price curves after overall adoption of the long-term climate analysis by sectoral companies and elaborating of the relevant assumptions data.
2. Some pragmatic forecasts of Ukrainian ETS establishment and strengthening of local carbon tax over time elaborated into our financial model with the relevant impact analysis onto the purchased electricity costs and direct tax costs. We are in a close contact with local stakeholders and decision makers to drive the local carbon regulation policies and relevant transition in agricultural sector.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	Systematic analysis of climate-related opportunities (primarily opportunities linked to access and participation in carbon markets) drives gradual integration of low-carbon development aspect into strategic planning and risk evaluation of the company's Farming segment. Kernel started practically evaluating additionality of GHG emissions reduction potential of carbon practices, such as application of inhibitor of nitrification and cover crops on pilot fields in response to arising opportunities of carbon offsets markets and to increasing appetite of the global food market to decarbonization of supply chains.
Supply chain and/or value chain	Yes	Climate transitional risks cover the company's supply chain, namely through increased costs of fertilizers, produced in the EU; and increased cost of maritime freight due to its inclusion in the EU ETS. The company started screening its suppliers of nitrogen fertilizers by requesting data on carbon footprint of their production, aiming to optimize the suppliers' portfolio and particular opportunities for bilateral cooperation toward decreasing of purchased fertilizers carbon footprint. Kernel is also improving accounting of Scope 3 emissions associated with maritime freight and analyses areas for optimization considering the company's own investments in the development of own river port infrastructure, investments in own fleet expansion (barges, tankers and bulkers). Kernel also consider to become a signatory of the Sea Cargo Charter, under which to improve accounting of emissions from maritime freight and establish a rigorous process of their monitoring, that would allow to identify areas for decarbonizing Kernel's chartering activities in a more informed way.
Investment in R&D	Evaluation in progress	Given that Kernel is in the process of practically evaluating financial implications of climate opportunities, as well as risks associated with broader application of decarbonization farming practices, they have not yet impacted the company's R&D investment strategy; currently all relevant R&D expenditures are associated with technical support of fields where measures and substances are tested. The company will re-evaluate its R&D expenditures when pilot groundwork on climate opportunities materializes.
Operations	Evaluation in progress	Kernel continues evaluating the potential impact of climate-related risk on operations, specifically in Farming segment. In addition to the physical climate risks affecting our key crop yields (described in section C2) agriculture technology related risk is associated with the increase in operational cost and possible decrease in yields in the first year of introducing low-carbon agriculture practices. Interim results of such evaluation are reflected in the action plan on climate corporate governance, described in C3.1.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures	Kernel uses the driver analysis of climate change factors on its EBITDA by incorporating climate-related risks and opportunities into the financial model in the following forms: 1. Impact on costs: (I) integration of the transitional plan might have a potential impact (discount) on cost of debt, both bonds and loans, cost of equity, weighted average cost of capital; (II) increase in operational cost (i.e. growing carbon tax, cost of low-carbon agriculture practices) and (III) capital cost, namely expenditures on technological solutions to support the development and implementation of the company's transition plan, including climate-related opportunities, mitigate climate-related risks, implement necessary low carbon technologies and equipment; 2. Impact on revenue: impact of risk of yields volatility, impact of opportunities associated with value added products (i.e. low indirect land-use change risk commodities), impact of opportunities associated with generation and trading of carbon offsets; 3. Impact on market capitalization: potential upside effect on multiples (P/E, EV/EBITDA, MV/BV, etc) and market capitalization dynamics; 4. Impact on profitability: potential upside impact on profitability performance (gross and EBITDA margin) and return (ROE, ROA).

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with a sustainable finance taxonomy	At the company level only

C3.5a

(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.

Financial Metric

Revenue/Turnover

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

5332000

Percentage share of selected financial metric aligned in the reporting year (%)

0.25

Percentage share of selected financial metric planned to align in 2025 (%)

2.5

Percentage share of selected financial metric planned to align in 2030 (%)

2.3

Describe the methodology used to identify spending/revenue that is aligned

Through screening the company's activities against the Taxonomy's mitigation and adaptation criteria. The identified taxonomy-eligible economic activity falls under the category 'Electricity generation from bioenergy' (NACE code D35.11 in accordance with the statistical classification of economic activities, established by Regulation EC No 1893/2006) and refers to production of electricity from biomass, namely sunflower seed husk, at our combined heat and power plants (CHP). This 'green CapEx' investment project was launched in 2018, aiming to construct seven CHPs with a total installed capacity of 94MW. When commissioned, all CHPs are expected to produce and sell to the national grid up to 650 GWh of electricity annually, making Kernel the largest producer of biomass-originated electric energy in Ukraine. The financial metrics used for analysis are provided in the company's public FY2022 financial statement.

Financial Metric

CAPEX

Type of alignment being reported for this financial metric

Alignment with a sustainable finance taxonomy

Taxonomy under which information is being reported

EU Taxonomy for Sustainable Activities

Objective under which alignment is being reported

Climate change mitigation

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

110000

Percentage share of selected financial metric aligned in the reporting year (%)

19.58

Percentage share of selected financial metric planned to align in 2025 (%)

1.8

Percentage share of selected financial metric planned to align in 2030 (%)

0

Describe the methodology used to identify spending/revenue that is aligned

Through screening the company's activities against the Taxonomy's mitigation and adaptation criteria. The identified taxonomy-eligible economic activity falls under the category 'Electricity generation from bioenergy' (NACE code D35.11 in accordance with the statistical classification of economic activities, established by Regulation EC No 1893/2006) and refers to production of electricity from biomass, namely sunflower seed husk, at our combined heat and power plants (CHP). This 'green CapEx' investment project was launched in 2018, aiming to construct seven CHPs with a total installed capacity of 94MW. When commissioned, all CHPs are expected to produce and sell to the national grid up to 650 GWh of electricity annually, making Kernel the largest producer of biomass-originated electric energy in Ukraine. The financial metrics used for analysis are provided in the company's public FY2022 financial statement.

Financial Metric

OPEX

Type of alignment being reported for this financial metric

Please select

Taxonomy under which information is being reported

<Not Applicable>

Objective under which alignment is being reported

<Not Applicable>

Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)

9500

Percentage share of selected financial metric aligned in the reporting year (%)

0.18

Percentage share of selected financial metric planned to align in 2025 (%)

2.6

Percentage share of selected financial metric planned to align in 2030 (%)

2.3

Describe the methodology used to identify spending/revenue that is aligned

Through screening the company's activities against the Taxonomy's mitigation and adaptation criteria. The identified taxonomy-eligible economic activity falls under the category 'Electricity generation from bioenergy' (NACE code D35.11 in accordance with the statistical classification of economic activities, established by Regulation EC No 1893/2006) and refers to production of electricity from biomass, namely sunflower seed husk, at our combined heat and power plants (CHP). This 'green CapEx' investment project was launched in 2018, aiming to construct seven CHPs with a total installed capacity of 94MW. When commissioned, all CHPs are expected to produce and sell to the national grid up to 650 GWh of electricity annually, making Kernel the largest producer of biomass-originated electric energy in Ukraine. The financial metrics used for analysis are provided in the company's public FY2022 financial statement.

C3.5c**(C3.5c) Provide any additional contextual and/or verification/assurance information relevant to your organization's taxonomy alignment.**

A particular value from our 'green' electricity is that we do not produce biomass separately to be combusted on CHPs; but rather use sunflower seed husk, which is a side product of the main operational activity and is approved as a feedstock to provide advanced biofuels in accordance with Annex IX.A. of RED II EU Directive. When sold to the national energy grid, electricity produced at our CHPs substitutes electricity produced from fossil fuels. When fully implemented, our taxonomy-eligible activity will be able to save up to 700,000 tCO₂e of national emissions every year, contributing significantly to Ukraine's transition to a net-zero emissions economy. As of FY2022 Kernel has been operating three CHPs with the remaining four to be commissioned in the following periods

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

No target

C4.1c

(C4.1c) Explain why you did not have an emissions target, and forecast how your emissions will change over the next five years.

	Primary reason	Five-year forecast	Please explain
Row 1	We are planning to introduce a target in the next two years	<p>Kernel seeks to establish targets of GHG emissions per tonne of commodity in line with SBTi FLAG guidelines. The company currently works to integrate an operational GHG emission accounting system and to analyze different scenarios of GHG emission reduction for our key crops, which is possible with incorporation and various combinations of low carbon farming practices such as reduced tillage, application of nitrification inhibitors and introduction of cover crops to crop rotations. According to prior estimations such practices can potentially have the following emission reduction capacity: (1) nitrification inhibitors up to 10% reduction, (2) cover crops up to 31% reduction and (3) reduced tillage up to 85% reduction.</p> <p>Building up on these assumptions and considering the company's previous business strategy to increase own land bank by 1.4 times (to 706 000 ha) by 2026, the company may potentially achieve a total of 15% reduction in GHG emissions associated with farming operations over the next five years, if the geopolitical situation stabilizes and levels of uncertainty decrease.</p> <p>In terms of oilseed processing operations, the company may potentially achieve carbon neutrality over the next five years, given that the 90% of energy consumed by the company's plants is already low carbon and the rest is related to Scope 2 electricity consumption (might be compensated by allocating of the self-generated renewable electricity for own operation or supplying external low carbon electricity by using available market instruments such as Corporate PPA).</p>	<p>In 2021 Kernel launched a comprehensive study, which has been paralleled with the EBRD-financed 'Climate corporate governance and low-carbon pathway' project. The purpose of the study is to identify the role of agriculture, and specifically Kernel, in the achievement of the Paris Agreement targets; and therefore to understand what emission reduction targets the company should pursue and what business opportunities can be implemented to empower the company's low-carbon pathway development.</p> <p>As part of this the company's representatives attended the 26-th Conference of Parties to the UN Convention on Climate Change, where the dialogue with major agriculture commodity companies was initiated following their common statement to strengthen their climate actions and decarbonize their supply chain. The idea behind such long-term dialogue between the companies' sustainability and trade functions is to explore areas for partnership, specifically to identify mutual initiatives where Kernel may contribute to the implementation of climate targets of its trade-partners. These initiatives will be directly reflected in Kernel's own emission reduction targets.</p> <p>As per the methodological approach for setting emission reduction targets, Kernel will rely on the SBTi Forest, Land and Agriculture (FLAG) guidance. In line with this guidance Kernel seeks to set two categories of emission reduction targets: an absolute target and specific targets for each key crop. The company closely monitors developments in this area: when SBTi opened public consultations for its FLAG guidance, Kernel submitted its suggestion to include corn in the list of specific targets.</p> <p>With regards to the timeframe, Kernel originally planned to finalize the work under the EBRD-financed 'Climate corporate governance and low-carbon pathway' project and make a decision on emission reduction targets by June 2022. However, due to the uncertainty resulting from Russia's invasion of Ukraine and on-going military actions, the company had to postpone decision-making on emission reduction targets until next two years. The situation remained unchanged in FY2022. Nevertheless, the company continues working of developing business opportunities related to decarbonization of its operations and remains committed to its climate ambitions of achieving carbon neutrality .</p>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2019

Target coverage

Business activity

Target type: energy carrier

Electricity

Target type: activity

Production

Target type: energy source

Renewable energy source(s) only

Base year

2019

Consumption or production of selected energy carrier in base year (MWh)

10400

% share of low-carbon or renewable energy in base year

1.61

Target year

2025

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

17

% of target achieved relative to base year [auto-calculated]

15.6418335196666

Target status in reporting year

Underway

Is this target part of an emissions target?

No, this target is related to the production of electricity from biomass (sunflower seed husk, which is a side product in the sunflower seed crushing process) on Kernel's own combined heat and power plants (CHPs). All Kernel's own CHPs are currently fully contracted to sell 100% of generated electricity to Guaranteed Buyer (<https://www.gpee.com.ua>) receiving Feed-In Tariff related revenue.

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

This target is related to the production of electricity from biomass (sunflower seed husk, which is a side product in the sunflower seed crushing process) on Kernel's own combined heat and power plants (CHPs). The company seeks to exploit the the full installed electric capacity of CHPs by 2025 (94MW of seven plants) to produce up to 645.8 GWh of green electricity annually. This would make Kernel the largest in Ukraine producer of electricity generated from biomass. In the reporting period the company produced 107.5 GWh, which constitutes 17% of planned amount. The electricity is sold to the national energy grid, substituting electricity produced from fossil fuels and saving up to 700,000 tones of CO2e once the target is achieved. The company therefore would indirectly contributes to Ukraine's 2060 goal on carbon neutrality. Currently the plants are subject to Ukraine's Feed-In-Tariff in line with the Law of Ukraine on Alternative Energy Sources. Allocation of CAPEX to construct CHP at our sunflower seeds crushing facilities – up to USD 192 million during period of 2017-2022.

Plan for achieving target, and progress made to the end of the reporting year

Achievement of this target is dependent on the completion of the construction and commission of all seven CHPs. In the reporting year constructions were paused in the light of martial law.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	29	540000
To be implemented*	3	29000
Implementation commenced*	0	0
Implemented*	2	49304
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

159.34

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

3200

Investment required (unit currency – as specified in C0.4)

21500000

Payback period

1-3 years

Estimated lifetime of the initiative

16-20 years

Comment

Shown estimated annual CO2e savings is a side effect of the Taxonomy-aligned investments in combined heat and power plants, related to increased steam production from combustion of sunflower seed husk and, therefore, substitution of natural gas. Total revenues from main activities of selling generated electricity to the grid accounted for USD 13400000.

Initiative category & Initiative type

Energy efficiency in production processes	Process optimization
---	----------------------

Estimated annual CO2e savings (metric tonnes CO2e)

49145

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

15369362

Investment required (unit currency – as specified in C0.4)

1200000

Payback period

1-3 years

Estimated lifetime of the initiative

11-15 years

Comment

Shown estimated annual CO2e savings demonstrate performance of the company's precision farming practices, specifically with regards to optimization of fuel consumption by agriculture machinery. Investments include IT support of RTK-guided autopilot system, which allows to avoid overlaps in application, saving around 4.2% of both fuel

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	The company applies NPV/IRR methods to evaluate and select investments in emissions reduction activities. Some initiatives aim at extending the life span of equipment that would allow company to get financial optimization.
Dedicated budget for energy efficiency	Some units have been using old equipment that need to be replaced in order to support energy efficiency and co-generation of energy when applicable, increasing the return on investment.
Internal price on carbon	The company evaluates marginal abatement cost assessment to support our relevant program of low carbon activities in agriculture (MACC CO2 value range is from -183 to 77 USD/tCO2) and energy (MACC CO2 value range is from -142 to 260 USD/tCO2)

C-AC4.4/C-FB4.4/C-PF4.4

(C-AC4.4/C-FB4.4/C-PF4.4) Do you implement agriculture or forest management practices on your own land with a climate change mitigation and/or adaptation benefit?

Yes

C-AC4.4a/C-FB4.4a/C-PF4.4a

(C-AC4.4a/C-FB4.4a/C-PF4.4a) Specify the agricultural or forest management practice(s) implemented on your own land with climate change mitigation and/or adaptation benefits and provide a corresponding emissions figure, if known.

Management practice reference number

MP1

Management practice

Low tillage and residue management

Description of management practice

Reduced tillage for key crops (namely sunflower, corn, winter wheat, rapeseed) as a part of the company's carbon farming practices.

Primary climate change-related benefit

Increase carbon sink (mitigation)

Estimated CO2e savings (metric tons CO2e)

212099.5

Please explain

According to the pilot calculations performed by using IPCC approach and Cool Farm Tool, use of mini till operation allows for carbon sink of 572 kgCO2/ha for winter wheat crops.

Management practice reference number

MP2

Management practice

Fertilizer management

Description of management practice

To reduce N2O emission, Kernel applies different mineral fertilization that prevents excessive volumes of nitrogen ending up in the atmosphere. Based on crop monitoring data, this technique allows to reduce the portion of fertilizer by 10-15%.

Proper application timing is equally important. For corn, winter wheat, rapeseed and sunflower annual portion of nitrogen is applied in 2-3 phases. The company applies stabilized liquid nitrogen fertilizer (urea-ammonia mixture) in spring to ensure minimum time between its application and consumption by crops. In autumn only ammonia-based fertilizers are used, when average daily soil temperature falls below 10°C.

Primary climate change-related benefit

Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)

44123

Please explain

CO2e savings imply avoided emissions due to fertilization application across key crops, namely corn, sunflower, winter wheat, rapeseed and soy.

Management practice reference number

MP3

Management practice

Nitrogen-fixing plants as cover crop

Description of management practice

In FY2022, the company sowed 2,790 hectares of cover crops.

Primary climate change-related benefit

Emission reductions (mitigation)

Estimated CO2e savings (metric tons CO2e)

4965

Please explain

According to the pilot calculations performed by using IPCC approach and the Cool Farm Tool use of cover crops allows for carbon sink of up to 862 kgCO2/ha.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

The EU Taxonomy for environmentally sustainable economic activities

Type of product(s) or service(s)

Power	Other, please specify (Combined heat and power plants, working on sunflower seed husk)
-------	---

Description of product(s) or service(s)

Renewable electricity that generated at Kernel's own CHPs – contracted to sell 100% of generated electricity to Guaranteed Buyer (<https://www.gpee.com.ua>) receiving Feed-In Tariff related revenue.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Substitution of electricity comes from available generation capacity mix into Ukrainian energy system – standardized emission factor used in our location-based calculation is 0.384 kgCO₂/kWh)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

Unit of electricity produced and injected into the grid/sold (MWh)

Reference product/service or baseline scenario used

Weighted average electricity in Ukrainian energy system with emission factor 0.384 kgCO₂/kWh.

Life cycle stage(s) covered for the reference product/service or baseline scenario

Cradle-to-gate

Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

107500

Explain your calculation of avoided emissions, including any assumptions

Assumption of the substitution of weighted standard energy mix of generation capacities in Ukrainian energy system (Coal TPPs, Gas CHPs, Nuclear, Hydro, Renewables) by injection our low carbon electricity

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.25

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

1025904

Comment

Scope 1 includes direct GHG emissions from core agriculture, logistics, storage and processing operations includes fossil fuel stationary and mobile combustion, cattle farming, farmland cultivation (soil carbon stock change) and N-fertilizers application.

Company's total biogenic GHG emissions value includes combustion of sunflower seed husk and changes in organic carbon stocks, and is reported as a separate figure. Baseline year was redefined due to significant M&A activities in 2017-2020.

In FY2022 Kernel started working on the development of operational accounting of GHG emissions from farming operations across field level, which is the highest level of granularity, for each crop. The end goal is to automatize such accounting by integrating the methodology into existing ERP systems and to ensure traceability of carbon footprint of each batch of grain (originating from a particular field) across the value chain. For these purposes the company seeks to ensure minimization of data uncertainty: calculation of changes in soil carbon due to tillage is performed using "measure and model" and "measure and re-measure" approaches (aligned with the Verified Carbon Standard methodology, VM0042) that account for availability of laboratory agrochemical data on soil organic carbon. The company has already undertaken calculations for a pilot selection of fields and currently works on further scaling on the remaining landbank.

The company seeks to monitor field related carbon footprint of its commodities (in kgCO2e/t of yield) and operations (in kgCO2e/ha) from the stage of sowing planning and until harvest. This would allow the company to better evaluate the overall potential for decarbonization of farming operations, allowing to prioritize geographic location and intensity of low-carbon practices and achieve reduction of GHG emissions with higher monetary efficacy. Due to the ongoing work on integration of improved accounting of GHG emissions, the company did not undertake verification of its GHG emissions data in the reporting period and plans to do it in the next period.

Scope 2 (location-based)

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

95514

Comment

This refers to GHG emissions generated from energy (electricity and heating) the company supplied. 95,274 metric tons CO2e are attributed to electricity; 240 metric tons CO2e are associated with production of purchased heat.

Scope 2 (market-based)

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

101341

Comment

This refers to GHG emissions from energy (electricity and heating) purchased. Carbon intensity of heating both location and market-based approach is the same due to vertically integrated market and heating monopoly supply.

Market-based carbon intensity of electricity supplied is higher than grid average (location-based) due to decreased share of low carbon capacities in the electricity trade portfolio allocated for the relevant supplying contract (data from Kernel's electricity supplier) – significant share of nuclear and hydro capacities in Ukraine are contracted for households by using special purpose agreements.

Scope 3 category 1: Purchased goods and services

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

466125.6

Comment

This category of emissions includes those associated with three material types of purchased products: (1) purchased grains, (2) purchased agriculture machinery, and (3) purchased fertilizers.

Scope 3 category 2: Capital goods

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

45605.2

Comment

In this category, Kernel accounted emissions associated with production of metal and cement, used for the construction of assets (capital investments).

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

66686.4

Comment

This category includes emissions from three categories of fuel-and-energy related activities: (1) upstream emissions associated with purchased fossil fuels, (2) upstream emissions from generation of purchased electricity and (3) transmission and distribution losses

Scope 3 category 4: Upstream transportation and distribution

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

16989.4

Comment

This category includes emissions from transportation of purchased goods and internal logistics (i.e. transportation of grains from fields to silos and from silos to terminals).

Scope 3 category 5: Waste generated in operations

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

5073.6

Comment

This category includes emissions generated from utilization of waste by third parties by landfilling, open-loop recycling, closed-loop recycling or combustion.

Scope 3 category 6: Business travel

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

59.95

Comment

This category of emissions is not material in comparison to the total volume of Scope 3 GHG emissions.

Scope 3 category 7: Employee commuting

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

6424.5

Comment

This category includes emissions generated from employees commute to work, which they commit either by personal cars, metro or by walking.

Scope 3 category 8: Upstream leased assets

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

91.85

Comment

Kernel does not have leased assets within its operations. The company, however, lease vehicles for the purposes of internal logistics, but emission associated with them are immaterial and accounted for 91,85 tons CO2e.

Scope 3 category 9: Downstream transportation and distribution

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

350826.17

Comment

This category includes emissions associated with marine freight of sold products (grain and oil).

Scope 3 category 10: Processing of sold products

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

47463.7

Comment

This category includes emissions associated with external refining of sunflower oil, purchased from Kernel.

Scope 3 category 11: Use of sold products

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

Kernel sells final products, including grains, sunflower oil and animal meal. In case if sold products are used in energy sector, sunflower oil related biodiesel component of fuel is considered as zero-carbon.

Scope 3 category 12: End of life treatment of sold products

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

548.81

Comment

This category includes emission associated with treatment of sold waste, and is not material in comparison to the total volume of Scope 3 emissions.

Scope 3 category 13: Downstream leased assets

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

This category of emissions is not relevant to Kernel's business, as the company does not provide leased assets.

Scope 3 category 14: Franchises

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

This category of emissions is not relevant to Kernel's business as the company does not have franchises.

Scope 3 category 15: Investments

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

This category of emissions is not relevant to Kernel's business as the company does not act as an investor neither has shares in emission-related portfolios.

Scope 3: Other (upstream)

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

This category of emissions is not relevant to Kernel's business as the company acts neither as an investor nor does it has shares in emission-related portfolios.

Scope 3: Other (downstream)

Base year start

July 1 2020

Base year end

June 30 2021

Base year emissions (metric tons CO2e)

0

Comment

During the process of accounting Scope 3 emissions, no other material categories of emissions associated with downstream operations were identified.

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

IPCC Guidelines for National Greenhouse Gas Inventories, 2006
The Cool Farm Tool
The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
The Greenhouse Gas Protocol Agricultural Guidance: Interpreting the Corporate Accounting and Reporting Standard for the Agricultural Sector
The Greenhouse Gas Protocol: Scope 2 Guidance

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

1264231

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Gross total Scope 1 emissions include emissions from use of fuels in oilseed processing, farming operations (combustion of fuels by agriculture machinery, application of fertilizers, changes in stocks of organic carbon in soil and enteric fermentation in cattle) and use of fuels in infrastructure and trading.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

Location-based for electricity supplied: by using Ukrainian Energy System weighted average carbon intensity factor for electricity.

Market-based for electricity supplied: by using supplier disclosures of electricity trade portfolio supplied for Kernel's needs.

Heating: Same approach for location-based and market-based reporting figures for the heating produced from natural gas fuel.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

79501

Scope 2, market-based (if applicable)

84360

Start date

<Not Applicable>

End date

<Not Applicable>

Comment

Difference between location-based and market-based calculation figures is explained in C6.2

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**Purchased goods and services****Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

414208

Emissions calculation methodologyAverage data method
Average spend-based method**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

10

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This category of emissions includes three material types of purchased products: (1) purchased grains, (2) purchased agriculture machinery, and (3) purchased fertilizers. In case of emissions associated with purchased grains, the accounting approach lies in application of carbon intensity factors of Kernel's own crops to the volumes of purchased grains. In case of emissions associated with purchased agriculture machinery a spend-based method was used, where emission factors were calculated based on carbon intensity of net revenue of machinery producers (material producers included CNH Industrial, John Deere, MAN, Palfinger). In case of emissions associated with production of nitrogen fertilizers purchased by Kernel, the content of nitrogen for the majority of fertilizers was calculated and a sector average emission factor was applied (kg CO₂e/kg N). For 10% of the total volume of nitrogen fertilizers, Kernel used carbon footprint data declared by one of the suppliers. The supplier's data on carbon footprint covers emissions from production of raw materials, as well as energy consumption for production of final products and storage in the place of manufacture. The supplier calculated carbon footprint using standard sector-specific methodology, developed by Fertilizers Europe, and verified it by an independent third party (DNV GL). According to the supplier's declaration on carbon footprint, the purchased fertilizer is produced using catalysts on the installation for production of nitric acid.

Capital goods**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

22523

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. In this category, Kernel accounted emissions associated with production of metal and concrete, used for the construction of assets. The company applied material use emission factors for metal and concrete from the UK Department of Environment, Food and Rural Affairs (DEFRA).

Fuel-and-energy-related activities (not included in Scope 1 or 2)**Evaluation status**

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

52440

Emissions calculation methodology

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The company used primary data on energy consumption and applied Well-to-tank indicators (Activity A) from the UK Department of Environment, Food and Rural Affairs (DEFRA); transmission and distribution losses data for Ukraine (Activity C); as well as average heat rate of local thermal power plants (Activity B) to calculate emissions across three types of activities:

Activity A (36,706.5 tons CO₂e), Activity B (8,706.3 tons CO₂e), Activity C (7,027.0 tons CO₂e).

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

16445

Emissions calculation methodology

Spend-based method
Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This category includes emissions from transportation of purchased goods and internal logistics (i.e. transportation of grains from fields to silos and from silos to terminals). The company applied Freightings goods emission factors for vans and HGV from the UK Department of Environment, Food and Rural Affairs (DEFRA). In case of spend-based method of emission accounting, emission factors were calculated based on carbon intensity of net revenue of providers of logistics services.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

4987

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. For this category, Kernel used primary data on waste generation and approaches to waste utilization. The company applied Waste disposal emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA).

Business travel

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category of emissions is not material in comparison to the total volume of Scope 3 GHG emissions. In the reporting period emissions associated with Kernel's employees business travels accounted to only 60,35 tonnes CO2e. It was calculated using data on distance travelled, derived from the database of purchased tickets, and Business travel emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA) were applied.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

6414

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. For this category, Kernel used data on employees' selected choice of commute to work and distance of their commute to work back home, calculated based on the database of employees addresses. Respective emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA) were applied.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Kernel does not have leased assets within its operations. The company, however, lease vehicles for the purposes of internal logistics, but emission associated with them are immaterial and accounted for 91,85 tons CO2e. Emissions were calculated using distance-based method and respective emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA).

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

253456

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This category includes emissions associated with marine freight of sold products (grain and oil) – from combustion of fuel by ships, mostly Panamax class. Respective emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA) for burning of marine fuel oil were applied considering the shipping costs and average fuel spend share.

Processing of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

3144

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This category includes emissions associated with refining of sunflower oil. Unrefined sunflower oil purchased from Kernel typically undergoes refining process at the facilities of a buyer. To calculate such emissions the company used average electricity efficiency factor for its own refining process and applied grid emission factors for each country where sunflower oil was exported (The IFI Dataset of Default Grid Factors).

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Kernel sells final products, including grains, sunflower oil and animal meal. In case if sold products are used in energy sector, sunflower oil related biodiesel component of fuel is considered as zero-carbon.

End of life treatment of sold products

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

140

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

To calculate Scope 3 emissions, Kernel applies methodology, provided by the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. This category includes emission associated with treatment of sold waste. Kernel used primary data on sold waste and approaches to its utilization. Relevant Waste disposal emission factors from the UK Department of Environment, Food and Rural Affairs (DEFRA) were applied. However, this category of emissions is not material in comparison to the total volume of Scope 3 emissions.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category of emissions is not relevant to Kernel's business, as the company does not provide leased assets.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category of emissions is not relevant to Kernel's business, as the company does not provide leased assets.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category of emissions is not relevant to Kernel's business, as the company does not provide leased assets.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

During the process of accounting Scope 3 emissions, no other material categories of emissions associated with upstream operations were identified.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

During the process of accounting Scope 3 emissions, no other material categories of emissions associated with downstream operations were identified.

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from land use management

Emissions (metric tons CO2)

227200

Methodology

Region-specific emissions factors

Please explain

To account CO2 emissions from land use management the company is using the approach harmonized with the Ukrainian National Inventory Report (NIR) methodology. For estimation of carbon emissions in the pool of mineral soils, the nitrogen flow estimation balance method was used with subsequent recalculation for carbon. The method is based on estimation of the balance between the amount of nitrogen outflow from soil, its removal from the field, and nitrogen inflow into the soil surface, taking into account the intensity and vectors of flows, its further movements. Removal of nitrogen from soil takes place with main products (side products, post harvest crop residues, and plant roots. Inflow of nitrogen on the soil surface (or into the upper soil layer) occurs with post harvest crop residues, roots, organic and nitrogen mineral fertilizers, as a result of nitrogen fixation by legume crops, with precipitations. Not included into the total Scope 1 reported figure.

Currently, the company is integrating operational accounting of CO2 emissions from land use management based on empirical models and field measurement, namely laboratory analysis of soil samples to identify soil organic matter across fields. Data on soil organic matter is further recalculated into soil organic carbon. Changes in soil carbon as the result of tillage and cover crops is calculated using "measure and model" and "measure and re-measure" approaches in line with the Verra methodology (VM0042). Within such accounting system emissions from application of fertilizers are calculated for each type of fertilizer, based on a nutrition factor (kgN/ha) and taking into consideration for of nitrogen (NO, N2O, NH4).

CO2 removals from land use management

Emissions (metric tons CO2)

110024

Methodology

Field measurements

Please explain

The indicated CO2 removals from land use management were calculated for the pilot selection of field based on which the company is developing the operational GHG emission accounting system mentioned earlier. The full potential of CO2 removals is ongoing further calculations. These removals were achieved as the result of switch from conventional to reduced tillage and application of cover crops.

Sequestration during land use change

Emissions (metric tons CO2)

2197

Methodology

Field measurements

Please explain

The indicated volume of sequestered CO2 during land use change was calculated for the pilot selection of field based on which the company is developing the operational GHG emission accounting system mentioned earlier. Sequestration was achieved on fields under convertible husbandry.

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)

0

Methodology

Please explain

Kernel does not exploit agriculture machinery that run on biofuels.

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)

348938.1

Methodology

Field measurements

Please explain

Emission factor of combustion of husk was calculated during experimental studies at one of Kernel's combined heat and power plants. Not included in the total Scope 1 reported figure.

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2)

0

Methodology

Please explain

There are no other sources of CO2 emissions from biofuel combustion among Kernel's operations.

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities

Other, please specify (Corn)

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.13

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

The figure includes weighted average emissions associated with tillage, application of nitrogen fertilizers, consumption of fuels by agriculture machinery.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

Agricultural commodities

Other, please specify (Sunflower)

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.42

Denominator: unit of production

Metric tons

Change from last reporting year

About the same

Please explain

The figure includes weighted average emissions associated with tillage, application of nitrogen fertilizers, consumption of fuels by agriculture machinery.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

Agricultural commodities

Wheat

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.17

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

The figure includes weighted average emissions associated with tillage, application of nitrogen fertilizers, consumption of fuels by agriculture machinery.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

Agricultural commodities

Other, please specify (Rapeseed)

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.41

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

The figure includes weighted average emissions associated with tillage, application of nitrogen fertilizers, consumption of fuels by agriculture machinery.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

Agricultural commodities

Soy

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Unit of production

Emissions (metric tons CO2e)

0.45

Denominator: unit of production

Metric tons

Change from last reporting year

Lower

Please explain

The figure includes weighted average emissions associated with tillage, application of nitrogen fertilizers, consumption of fuels by agriculture machinery.

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.00024

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

1272100

Metric denominator

unit total revenue

Metric denominator: Unit total

5332000000

Scope 2 figure used

Location-based

% change from previous year

33

Direction of change

Increased

Reason(s) for change

Change in output

Change in revenue

Please explain

An increase in the carbon intensity of revenue is associated with an increase in Scope 1 emissions (by 16%), specifically within the following categories - application of nitrogen fertilizers and changes in stock of soil carbon. This is associated primarily with an increase in acreage under sunflower. At the same time in FY2022, Kernel achieved the revenue of US\$ 5,332 million, down 5% y-o-y on the back of lower sunflower oil and meal sales volumes due to the difficulties with exporting produce from Ukraine in March-June 2022 associated with grain ports blockade.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	413300	IPCC Fourth Assessment Report (AR4 - 50 year)
CH4	22800	IPCC Fourth Assessment Report (AR4 - 50 year)
N2O	757400	IPCC Fourth Assessment Report (AR4 - 50 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Ukraine	1193600

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By business division

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Oilseed processing	9100
Infrastructure and Trading	81300
Farming	1102100
Head quarters	1200

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Yes

C-AC7.4a/C-FB7.4a/C-PF7.4a

(C-AC7.4a/C-FB7.4a/C-PF7.4a) Select the form(s) in which you are reporting your agricultural/forestry emissions.

Emissions disaggregated by category (advised by the GHG Protocol)

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity

Agriculture/Forestry

Emissions category

Non-mechanical

Emissions (metric tons CO2e)

771702

Methodology

Default emissions factor

Please explain

GHG emissions from Kernel's farming operations account for more than 90% of the company total gross Scope 1 emissions. The non-mechanical category of emission include emissions from application of fertilizers (746,200 tCO2e, excluding emissions from production of fertilizers) and emissions from enteric fermentation in cattle (25,502 tCO2e).

Activity

Agriculture/Forestry

Emissions category

Land use change

Emissions (metric tons CO2e)

227200

Methodology

Default emissions factor

Please explain

The category of emissions from land use specifically account for changes in stocks of organic carbon, or carbon mineralization in soil due to soil tillage and introduction of cover crops.

Activity

Agriculture/Forestry

Emissions category

Mechanical

Emissions (metric tons CO2e)

103151

Methodology

Default emissions factor

Please explain

The category of mechanical emissions account for emissions from combustion of fuel, namely diesel, by the company's agriculture machinery; as well as emissions from fuel use, such as petroleum and LNG, by cars used by agriculture experts when monitoring the situation on land.

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Ukraine	78500	83300

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Oilseed processing	54572	57909
Infrastructure and Trading	16299	17296
Farming	7311	7758
Head quarters	319	338

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Not relevant as we do not have any subsidiaries

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	159.34	Decreased	0.01	Increased consumption of heating, generated from biomass (sunflower seed husk) at the company's own combined heat and power plants (CHPs).
Other emissions reduction activities	49145	Decreased	4.38	Optimization of electricity consumption at oilseed processing plants and optimization of fuel consumption by agriculture machinery fleet. Kernel constantly researches the market and development projects of major global producers of agriculture machines; and upgrade its machines every 5-6 years to replace them with more efficient options in terms of fuel consumption. In addition, the company's existing machines, especially fuel-intensive, are equipped with GPS trackers and remote system of monitoring fuel consumption. This help the company to optimize usage of fuel and decrease fuel intensity of standard operations. For example, the operation of deep loosening with mineral fertilizers application executed by a machine using RTK-guided autopilot system, which allows to avoid overlaps in application, saving around 4.2% of both fuel and fertilizers. In FY2022, Kernel also increased the area coverage of drone-sprayers to 52,5 thousand hectares (drone sprayers allow to reduce diesel consumption by 1.5-2.5 liters per hectare).
Divestment	0	No change	0	No divestment made during the reporting period.
Acquisitions	0	No change	0	No acquisitions made during the reporting period.
Mergers	0	No change	0	No mergers were made during the reporting period.
Change in output	22891.4	Increased	2.04	Increased fuel consumption related to infrastructural and trading activities, amid complications in logistic patterns associated with the wartime. Until blockade of grain ports was resolved (in August 2022) most of export logistic was performed by more carbon-intensive transport, namely automotive and railroad, and was oriented on Western parts of Ukraine.
Change in methodology	0	No change	0	No changes in methodology were made in the reporting period.
Change in boundary	0	No change	0	No changes in boundary were made in the reporting period.
Change in physical operating conditions	9907.5	Decreased	0.88	Decrease in emissions from oilseed processing segment associated with the drop in sunflower oil production. At the beginning of the war in February 2022, as well as at the end of the reported period, two of Kernel's oilseed processing plants were occupied by russia, reducing the total crushing capacity of the company from 3.7 million tons to 3.0 million tons.
Unidentified	0	No change	0	All reasons for change in total GHG emissions were identified.
Other	192188	Increased	17.14	Carbon footprint of agriculture operations is dynamic and depends on a crop rotation scheme each year. Cultivation of Kernel's key crops (sunflower, corn, winter wheat) is associated with different carbon footprint - higher for oilseeds and lower for cereals. Therefore, emissions from arable fields is changing from year to year, increase is followed by decline and vise versa depending on the crop rotation. Increase in FY2022 emissions associated with farming operations, specifically application of nitrogen fertilizers and changes in stock of soil carbon. This is explained by an increase in acreage of sunflower (by 3.7%), and decrease in acreage of winter wheat (by 12%); sunflower is more carbon-intensive in comparison to winter wheat due to application of cover crops for the latter.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Location-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	987317	810399	1797716
Consumption of purchased or acquired electricity	<Not Applicable>	74600	130119	204719
Consumption of purchased or acquired heat	<Not Applicable>	0	241	241
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	1061917	940759	2002676

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

987317

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

987317

Comment

Sunflower husk combustion for own CHPs – production of electricity, steam and heat.

Sunflower husk is a side product in the sunflower seed crushing process, and therefore is considered a suitable material for production of advanced biofuels under the Annex IX.A. of RED II Directive.

Other biomass

Heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

The company neither consumes other kinds of biomass in its operations nor uses it for electricity generation.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

The company neither consumes other kinds of renewable fuels in its operations nor uses it for electricity generation.

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No coal was consumed by the company in FY2022.

Oil**Heating value**

LHV

Total fuel MWh consumed by the organization

357789

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

357789

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

The company consumes petrol and diesel fuel for agriculture machinery and other transport.

Gas**Heating value****Total fuel MWh consumed by the organization**

438906

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

396516

MWh fuel consumed for self-generation of steam

42390

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

9.7% of consumed natural gas is used for steam generation at the company's sunflower seed crushing plants (autonomous steam boilers). The remaining 90.3% of natural gas is used for grain drying at silos by air heaters, however it's considered as technological consumption, rather than used for the purpose of energy transformation.

Other non-renewable fuels (e.g. non-renewable hydrogen)**Heating value**

LHV

Total fuel MWh consumed by the organization

13704

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

13704

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

The total volume of other non-renewable fuels include consumption of liquified petroleum gas by agriculture machinery and other transport.

Total fuel**Heating value**

LHV

Total fuel MWh consumed by the organization

1797716

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

42390

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

987317

Comment

768,009 MWh of fuel accounted for consumed diesel, petroleum and liquified petroleum gas by agriculture machinery (371,493 MWh), as well as natural gas used for grain drying at silos by air heaters (396,516 MWh) fall under the category of technological consumption, not for the purpose of energy transformation. Therefore, these indicators were not disclosed above as fuel consumed for self-generation of heat.

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	89574.35	0	89574.35	0
Heat	396516	396516	0	0
Steam	767000	767000	767000	767000
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.

Country/area of low-carbon energy consumption

Ukraine

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Nuclear

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

104801

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Ukraine

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1982

Comment

Nuclear energy that was purchased by the company's supplier from state owned Energoatom facilities at specialized auctions to include into supplying portfolio. Information on supplied portfolio mix disclosed by the company's supplier, energy attribute certificates in Ukraine are in the process of development (EU Energy Community initiative).

Country/area of low-carbon energy consumption

Ukraine

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

10430

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Ukraine

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1950

Comment

Hydro energy that was purchased by the company's supplier from state owned Ukrhydroenergo facilities at specialized auctions to include into supplying portfolio. Information on supplied portfolio mix disclosed by the company's supplier, energy attribute certificates in Ukraine are in the process of development (EU Energy Community initiative).

Country/area of low-carbon energy consumption

Ukraine

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Solar, Wind, Biomass, Small Hydro)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

14939

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Ukraine

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Comment

Renewable energy mix (Solar, Wind, Biomass, Small Hydro) that was purchased by the company's supplier at specialized bilateral auctions (organized by Guaranteed supplier for those renewable facilities that are not receiving revenue from Feed-in-Tariff) to include into supplying portfolio. Information on supplied portfolio mix disclosed by the company's supplier, energy attribute certificates in Ukraine are in the process of development (EU Energy Community initiative).

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Ukraine

Consumption of purchased electricity (MWh)

204719

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

241

Consumption of self-generated heat, steam, and cooling (MWh)

1163516

Total non-fuel energy consumption (MWh) [Auto-calculated]

1368476

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

Ukraine carbon tax

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Ukraine carbon tax

Period start date

July 1 2021

Period end date

June 30 2022

% of total Scope 1 emissions covered by tax

23

Total cost of tax paid

217000

Comment

The tax covers CO2 emissions from natural gas combustion on the company's silos and oilseed crushing plants, as well as from combustion of sunflower seed husk at the CHPs.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

To comply with the provisions of the Tax Code of Ukraine pertaining to taxation of CO2 emissions (Articles 242, 243) Kernel exercises accurate accounting of emissions and timely payments. Updates to the Code are monitored by the legal department and accounting department specialists.

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

Yes

C11.3a

(C11.3a) Provide details of how your organization uses an internal price on carbon.

Type of internal carbon price

Shadow price

How the price is determined

Other, please specify (Projected price of EU ETS allowance by 2030 under the NGFS scenarios)

Objective(s) for implementing this internal carbon price

Change internal behavior

Identify and seize low-carbon opportunities

Navigate GHG regulations

Stress test investments

Scope(s) covered

Scope 1

Scope 2

Pricing approach used – spatial variance

Differentiated

Pricing approach used – temporal variance

Evolutionary

Indicate how you expect the price to change over time

The company uses the indicative price of carbon projected by 2030 in line with the NGFS (Network for Greening the Financial System) climate modelling of carbon price dynamic in the EU, namely two transition scenarios - hard (Net Zero 2050, which is linked to SSP 2.6-4.5) and soft (below 2 degrees, which is linked to SSP 8.5). In FY2022, the company used an indicative price of carbon of USD 67.43, which is the projected price of one EU ETS carbon allowance in 2030 under the NGFS Below 2°C (soft) scenario of climate impact dynamic. Under the NGFS Net Zero 2050 (hard) scenario of climate impact dynamic the price of an allowance is projected to increase up to USD 162.68 in 2030. According to current estimations, the price of one EU ETS carbon allowance is expected to increase to USD 134.85 under the soft (below 2 degrees) scenario, and up to 988.07 under the hard (Net Zero 2050) scenario by 2050.

Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)

67.43

Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)

162.68

Business decision-making processes this internal carbon price is applied to

Risk management

Opportunity management

Value chain engagement

Public policy engagement

Mandatory enforcement of this internal carbon price within these business decision-making processes

Yes, for some decision-making processes, please specify (Materiality assessment of risks and decision regarding including climate-related risks in top-10 risks)

Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan

Used indicative carbon price is applied in driver analysis of climate change factors on the company's EBITDA stress testing under different climate scenarios (more information is disclosed in C2). These estimations are used in the decision making regarding risk management and appropriate response to arising opportunities (more information is disclosed in C3). Kernel's transition plan is undergoing continuous update, with new low-carbon practices and investment solutions analyzed and reviewed. Carbon pricing plays a key role in understanding financial additionality of a relevant project and, therefore, in making final decisions on its implementation.

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, other partners in the value chain

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Information collection (understanding supplier behavior)

Details of engagement

Collect GHG emissions data at least annually from suppliers

% of suppliers by number

1

% total procurement spend (direct and indirect)

1

% of supplier-related Scope 3 emissions as reported in C6.5

5

Rationale for the coverage of your engagement

Kernel started collecting carbon footprint of production of nitrogen fertilizer from suppliers, aiming to improve Scope 3 accounting for this material category of emissions.

Impact of engagement, including measures of success

When communicating with suppliers to receive the carbon footprint data, Kernel offers to share its own data (in this case GHG emissions from application of particular nitrogen fertilizers) in return, contributing to the improvement of Scope 3 accounting across the supply chains.

Comment

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number

2.5

% total procurement spend (direct and indirect)

2

% of supplier-related Scope 3 emissions as reported in C6.5

3

Rationale for the coverage of your engagement

Kernel engages its key trade partners (grain purchasing) into the program of knowledge sharing related to carbon farming practices, methodological approaches to GHG emission accounting and verification, aiming to standardize metrics of emissions reduction and to negotiate monetization approaches .

Impact of engagement, including measures of success

Kernel assumes that its trade partners, namely small farmers, will adopt decarbonization measures and will be ready to issue the relevant carbon offsets and participate in common initiatives focused at low ILUC commodities.

Comment

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

At the basis of Kernel's climate-related engagement strategy is the focus on raising demand of global agriculture market for decarbonization of supply chains (i.e. corporate statement of purpose by world's largest agriculture commodity traders on accelerated action towards net-zero emissions) and assessment of Kernel's potential to contribute to such targets. In FY2021 Kernel's launched a dialogue with its major trading partners in the EU, specifically their sustainability and trading partners. The purpose of such dialogue is to establish a practice of knowledge-sharing on low carbon development with international players of the agriculture market and to explore areas for collaboration and implementation of mutual initiatives, that would contribute to climate actions. The long-term goal of such interactions is for Kernel to identify its specific role in the international climate change agenda and in the delivery of Paris Agreements goals from the perspective of agriculture sector, supporting low ILUC agricultural commodities production and SBTi sectoral pathways. In FY2022 the company continued developing this initiative, focusing a constructive dialogue on one of the ABCD companies. Key issues of this dialogue include methodological approaches to calculate and verify ILUC emissions (including usage of laboratory data on soil organic carbon), as well as impact of decarbonization practices; standardization of key climate- and sustainability-related metrics for disclosures, as well their monetization. For the latter, Kernel involves expertise of international organizations, such as Food and Agriculture Organization (FAO) and European Bank of Reconstruction and Development (EBRD) to account for best market practices. In FY2022 Kernel also initiated a similar interaction with one of the largest food processing companies, aiming to address the case of low ILUC agricultural commodities production from the downstream perspective. For this initiative the company would address the issue of calculating and assigning carbon footprint to final product, as well as ensuring its traceability throughout the value chain.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C-AC12.2/C-FB12.2/C-PF12.2

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number

MP1

Management practice

Crop rotation

Description of management practice

Changes in crop rotation schemes and introduction of energy related perennial crops.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Knowledge sharing, related to relevant carbon farming practices that are in process of development for within Kernel's own operations. The overarching goal is to extrapolate low-carbon agriculture practices across the supply chain and align them with Kernel's SBTi related targets. This initiative also seeks to support issuance of carbon offsets.

Climate change related benefit

Emissions reductions (mitigation)
Reduced demand for fossil fuel (adaptation)

Comment

Under this initiative the company also explore the possibility of production of biomass related commodities by our supply chain partners.

Management practice reference number

MP2

Management practice

Fertilizer management

Description of management practice

Use of nitrification inhibitors, improvement of Nitrogen Use Efficiency index and optimization of fertilizers use.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Knowledge sharing, related to relevant carbon farming practices that are in process of development for within Kernel's own operations. The overarching goal is to extrapolate low-carbon agriculture practices across the supply chain and align them with Kernel's SBTi related targets. This initiative also seeks to support issuance of carbon offsets.

Climate change related benefit

Emissions reductions (mitigation)
Reduced demand for fertilizers (adaptation)

Comment

Implementation of this practice allows to reduce expenditures on NPK fertilizers as the result of increased Nitrogen Use Efficiency index.

Management practice reference number

MP3

Management practice

Low tillage and residue management

Description of management practice

Introduction of reduced tillage practices including mini-till and no-till.

Your role in the implementation

Knowledge sharing

Explanation of how you encourage implementation

Knowledge sharing, related to relevant carbon farming practices that are in process of development for within Kernel's own operations. The overarching goal is to extrapolate low-carbon agriculture practices across the supply chain and align them with Kernel's SBTi related targets. This initiative also seeks to support issuance of carbon offsets.

Climate change related benefit

Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)

Comment

Implementation of this practice allows to improve soil moisture stock parameters to ensure climate resilience of the company's supply chain partners.

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

Yes

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

No, but we plan to have one in the next two years

Attach commitment or position statement(s)

<Not Applicable>

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Kernel is a member of a number of professional business association. As a regional leader in climate governance the company seeks to communicate to stakeholders its position regarding alignment with Paris Agreement goals and relevant challenges and opportunities for the companies of agricultural sector. In FY2022 the company also started engaging with the Chapter Zero with the purpose of exploring channels to extrapolate its experience in developing corporate climate governance across the market.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (European Business Association)

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

Kernel is a member of EBA's committee on Industrial Ecology and Sustainable Development. One of key priorities of the committee is promotion of industry's reduction of greenhouse gas emissions, including CO2. The committee develops advocacy materials, commentaries to relevant law projects and communication to governmental bodies on low-carbon development matters, including Ukraine's carbon tax (specifically exclusion of emissions from biomass combustion from the scope of the tax); Ukraine's commitments under EU Association agreement and expectations following EU candidacy (i.e. EU Green Deal, Fir for 55) including development of UA Emission Trading Scheme; the role of Ukraine in delivering goals of REPowerEU initiative etc. Kernel actively contributes to relevant positions developed by the committee.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

3000

Describe the aim of your organization's funding

Annual membership fees.

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

FY2022_Kernel_Annual_Report.pdf

Page/Section reference

pp.50-56, section 'TCFD disclosure'

Content elements

Governance
Strategy
Risks & opportunities
Emissions figures
Other metrics

Comment

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	International Sustainability & Carbon Certification (ISCC) Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact	ISCC: As of FY2022 Kernel had certified 363 thousand hectares of landbank, three oilseed processing plants and its trading hubs. TCFD: In FY2022 Kernel released a first TCFD disclosure, which provides a detailed information on corporate climate governance, assessment of climate risks and opportunities. As part of this framework the company seeks to communicate its practices with peers, investors and other key stakeholders, contributing to the market maturity. UN Global Compact: Kernel became a signatory in 2020; the company envisions its role as a driver of best corporate climate governance practices and sharing its expertise with other market players.

C13. Other land management impacts

C-AC13.1/C-FB13.1/C-PF13.1

(C-AC13.1/C-FB13.1/C-PF13.1) Do you know if any of the management practices implemented on your own land disclosed in C-AC4.4a/C-FB4.4a/C-PF4.4a have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.1a/C-FB13.1a/C-PF13.1a

(C-AC13.1a/C-FB13.1a/C-PF13.1a) Provide details on those management practices that have other impacts besides climate change mitigation/adaptation and on your management response.

Management practice reference number

MP1

Overall effect

Mixed

Which of the following has been impacted?

Biodiversity
Soil
Water
Yield

Description of impact

Introduction of reduced tillage in the land management practices framework allows to conserve soil moisture, preserves and minimizes destruction of soil biome, as well as positively impacts on the overall soil health.

At the same time reduced tillage practices can negatively impact on yields in the first years of their application.

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

Impacts from reduced tillage are considered as positive from the perspective of soil health. Kernel applies reduced tillage only for winter wheat crops; for others the company exploring technical approaches to implement such practice with minimum losses in yields.

Management practice reference number

MP3

Overall effect

Positive

Which of the following has been impacted?

Soil
Yield

Description of impact

Apart from N2O emission reduction, introduction of fertilizer management practices delivers positive impact on crops nutrition. At the same time a very careful and precise application of fertilizers is required to ensure the most optimal saturation of soil with nitrogen.

Have you implemented any response(s) to these impacts?

Yes

Description of the response(s)

The company plans to integrate operational evaluation and monitoring of Nitrogen Use Efficiency (NUE) index to ensure optimal application of fertilizers.

C-AC13.2/C-FB13.2/C-PF13.2

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?

Yes

C-AC13.2a/C-FB13.2a/C-PF13.2a

(C-AC13.2a/C-FB13.2a/C-PF13.2a) Provide details of those management practices implemented by your suppliers that have other impacts besides climate change mitigation/adaptation.

Management practice reference number

MP2

Overall effect

Positive

Which of the following has been impacted?

Soil
Yield

Description of impacts

Apart from N2O emission reduction, introduction of fertilizer management practices delivers positive impact on crops nutrition. At the same time a very careful and precise application of fertilizers is required to ensure the most optimal saturation of soil with nitrogen.

Have any response to these impacts been implemented?

Yes

Description of the response(s)

The company plans to integrate operational evaluation and monitoring of Nitrogen Use Efficiency (NUE) index to ensure optimal application of fertilizers; and share this expertise with the company's supply chain partners, primarily local farmers who are participants of the OpenAgribusiness program.

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, board-level oversight	Kernel considers biodiversity matters as part of its sustainability agenda, which is covered by mandate of the Board-level sustainability committee.	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	No, but we plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

No

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Species management Livelihood, economic & other incentives

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No, we do not use indicators, but plan to within the next two years	Please select

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	Impacts on biodiversity	pp.48-49 , section 'Biodiversity management' FY2022_Kernel_Annual_Report.pdf

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

No additional information.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Non-executive director, chair of the Sustainability committee.	Director on board

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms