

2022 CLIMATE CHANGE REPORT



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We have continued to make advances in the sustainability aspects of our business and are pleased to have undertaken climate change scenario planning during 2022.

CHAIRMAN AND CEO STATEMENT

CAML's purpose is to produce base metals, essential for modern living, profitability in a safe and sustainable environment for all our stakeholders. It is this purpose that shapes our business model and our strategic decisions.

As an organisation, we recognise the growing importance of understanding the impact of climate change on the environment in which we operate and its potential impact on the business. This was confirmed during 2022 when we revisited our stakeholder-based materiality assessment, this time taking into account the 'double materiality' aspects of the Company's impact on the environment as well as the impact of various topics on the Company, and greenhouse gas ('GHG') emissions and energy consumption were categorised as a 'high priority'.

Having set out our Climate Change Strategy in Q2 2022, we made further progress towards our strategic objectives. To understand our resilience in terms of our climate risks and opportunities, we undertook scenario analysis work during the year. This analysis has broadly validated our climate strategy and has helped us to identify our risks and opportunities as well as key workstreams for us to focus on going forwards.

Since our 1 July 2021 power purchase agreement ('PPA') in North Macedonia, we are pleased to report a full year of solely renewable power purchases during 2022. During Q4 2022, we commenced groundworks for our Kounrad solar power plant in Kazakhstan. Construction of this renewable power facility should be complete during H2 2023, and it should contribute 16-18% of Kounrad's electrical power needs on an annual basis.

In 2023, we will begin to implement key outstanding recommendations from the scenario analysis work that was undertaken. We will also begin to estimate our Scope 3 emissions with a view to reporting those for 2023 in 2024.

We have set ourselves two climate related targets:

- ▶ A 50% reduction in our Kounrad and Sasa Scope 1 and 2 emissions by 2030, from a 2020 base; and
- ▶ Achieving net zero by 2050.

We are therefore pleased to report a 27% reduction in our 2022 GHG emissions versus 2021 and a 40% reduction on our emissions versus our 2020 base year.

Our reporting related to Task Force on Climate-Related Financial Disclosures ('TCFD') is contained within this 'CAML Climate Change Report 2022', coupled with summary information in both our 2022 Annual Report and 2022 Sustainability Report. During 2023, we also became an official TCFD 'supporter'.

Tackling climate change is one of the most important challenges of our time and we believe that every government, community, company and individual has a vital role to play in reducing carbon emissions and safeguarding the future of the planet. We therefore remain steadfast in our corporate purpose to produce base metals which are essential for modern living. Copper is one of the key metals required in the clean energy transition, with lead being required in hybrid and electric vehicles and zinc playing a significant role in extending the useful life of steel.

As always, we are grateful for the sustained support of our stakeholders in 2022, and continue to encourage open, transparent and constructive engagement as an important means of shaping our strategy - we welcome any feedback on our climate change approach.

NICK CLARKE
Non-Executive Chairman

NIGEL ROBINSON
Chief Executive Officer



2022 PERFORMANCE

- ▶ 59,082tCO₂e Group GHG emissions
- ▶ 27% reduction in Group GHG emissions year on year
- ▶ Undertook climate change scenario analysis
- ▶ Sasa purchase of solely renewable power from energy provider, EVN
- ▶ Construction of Kounrad solar power plant commenced Q4 2022

IMPERATIVE

Tackling climate change is one of the most important challenges of our time and we believe that every government, community, company and individual has a vital role to play in reducing carbon emissions and safeguarding the future of the planet. As an organisation, we recognise the growing importance of understanding and addressing the impact of climate change on the environment and its potential impact on the business.

OUR APPROACH TO ENERGY USAGE AND EMISSIONS

Base metals, particularly copper which is used in wiring, electric motors, wind turbines and other technologies, are integral components of the clean energy transition and therefore we believe that CAML's most material way of supporting this global effort is by producing these metals which contribute positively to the energy transition.

The environmental teams at both operations carry out calculations and analysis of GHG emissions which are reported to senior management on a monthly basis.

In North Macedonia, the development of a Law on Climate Action commenced at the end of 2022, with the draft expected in Q3 2023. Kazakhstan's government is also working on an action plan for the implementation of the Concept of Kazakhstan's Transition to a green economy, however, no official strategy has been finalised.

CAML'S CLIMATE-RELATED UN SUSTAINABLE DEVELOPMENT GOALS ('SDGS')



Ensure access to affordable, reliable, sustainable and modern energy for all



Take urgent action to combat climate change and its impacts



For more information see our Annual and Sustainability Reports
www.centralasiametals.com/AR22
www.centralasiametals.com/SR22



TASKFORCE ON CLIMATE-RELATED
FINANCIAL DISCLOSURES

As an organisation, we recognise the growing importance of understanding the impact of climate change on the environment in which we operate and its potential impact on the business. TCFD was established in 2015 to improve and increase reporting of climate related financial information and provides information to investors about the actions companies are taking to mitigate the risks of climate change, as well as providing increased clarity on the way in which they are governed.

We have adopted the TCFD framework and recommendations as a guide to understand how climate change could impact a broad range of our business drivers. This provides a

structured approach for us, in embedding climate into our decision making, and also enables us to learn from and apply best practice on reporting. We see this as an opportunity to build on the work we have already done in this area, increase the quality of, and provide meaningful transparency in, our disclosures and continue our roadmap of TCFD reporting.

In doing so, we hope to ensure our stakeholders have a better understanding of CAML's operational and business resilience to climate change as well as how we are currently, and are planning to, incorporate climate-related risks and opportunities into our business model.

The table below provides a brief statement on our current activities to understand and begin aligning with the TCFD recommendations. For greater TCFD and climate-related information, please refer to our 2022 Climate Change Report.

2022 PROGRESS SUMMARY & NEXT STEPS

In our 2021 Sustainability Report, we began moving towards TCFD reporting. We shared our climate strategy and our medium- and long-term goals that were the result of internal work and we felt able to commit to a 50% reduction in our Kounrad and Sasa Scope 1 and Scope 2 emissions by 2030 from a 2020 base, and to being net zero by 2050. To that end, we were delighted to report a 40% reduction in our CAML Group GHG emissions in 2022 versus 2020.

During 2022 we confirmed our decision to construct the Kounrad Solar Power Plant. Earthworks for the 4.77MW facility that should contribute to 16-18% of Kounrad's power needs commenced in Q4 2022 and construction should be complete in H2 2023. We were also delighted to have sourced solely renewable power for our Sasa operations, as confirmed in North Macedonia by assurers, PwC.

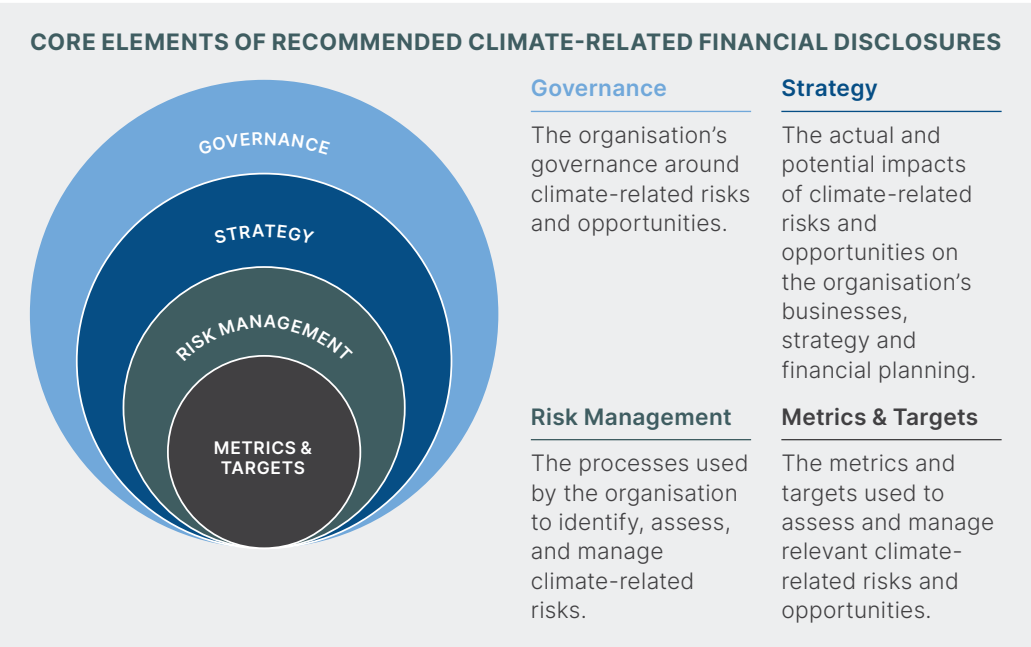
We previously disclosed that we had undertaken a detailed review of heat sources that could potentially replace coal at Kounrad. Though the proposed alternatives were not viable due to a combination of limited GHG reduction potential and significant operating and capital cost implications, opportunities to reduce coal consumption were identified.

The Sasa team, alongside mobile plant contractors Epiroc, undertook an analysis into the practical and financial implications of purchasing electric underground machines

for drilling, loading, and hauling of ore. Further details will be provided in due course and consideration to switching to electric machines will be given as and when equipment is due to be replaced. In 2022, Sasa planted 6,000 trees in the local area and is working with 'Public Enterprise National Forests' to identify other areas for seedling planting. During 2022, Sasa installed an energy monitoring system, Honeywell, throughout the milling process. We will continue to identify further energy saving measures in 2023.

To understand our strategic resilience in terms of our climate risks and opportunities, we undertook scenario analysis work during 2022. This analysis has broadly validated our climate strategy and has helped us to identify our risks and opportunities as well as key workstreams for us to focus on going forwards.

In 2023, we plan to collect data to enable us to report our Scope 3 emissions estimates in 2024 for the 2023 operating year.



SUMMARY TABLE

Recommendation	Disclosure topic	Alignment status
Governance	Board oversight	Our Board receives regular climate-related updates from Committees and Management in most meetings, and these findings shape our strategies and decision-making processes
	Management's role	We have several committees and management-level positions with climate-related responsibilities, including assessing and managing climate-related risks.
Strategy	Risks and opportunities	Our 2021 climate risk assessment work resulted in us developing a risk register and beginning to identify risks and opportunities over the short, medium and long term. Our 2022 scenario analysis work has enabled us to appraise these risks and opportunities in a fuller manner.
	Impact on organisation	Our 2021 climate risk assessment work assisted us in developing our Climate Change Strategy. This was further tested by our climate scenario analysis that was undertaken in 2022, which deepened our understanding of the direct and indirect climate-related impacts to our business, financial planning, and strategy.
	Resilience of strategy	Following completion of our scenario analysis in Q4 2022, we have been able to understand and test our strategic resilience under three possible climate futures. While our strategic rationale has been broadly confirmed by this work, we have identified a list of recommendations on which to work. This helped to validate our existing strategy and further develop our risk assessments. In 2023, we will assess our risk mitigation and opportunity realisation options and will refine our Climate Change Strategy or take further action, as appropriate.
Risk management	Risk identification and assessment	We have identified existing and emerging physical and transition climate risks and incorporated these into our Group risk register
	Risk management	Risk owners are identified, and we have established measures to mitigate, transfer, accept or control the impacts of identified climate-related risks. Risks, and our response, are monitored on a quarterly basis.
	Integration of risk management	Our identified climate-related risks are included in our Group-level risk register and are integrated into our established risk management practices.
Metrics and targets	Climate-related metrics	We assess emissions, and proportion of renewable energy. We have established a shadow carbon price, which can be applied to our financial models to aid decision-making. We will continue to evaluate other relevant metrics as we further analyse the results of the risk assessment and begin to act on our climate change strategy.
	Scope 1,2,3	We report Scope 1 and 2 emissions and are working towards reporting Scope 3 emissions for the 2023 operating year in 2024.
	Climate related targets	We are targeting a 50% reduction in Scope 1 and 2 combined GHG emissions by 2030 from a 2020 base. We are also aiming for net zero by 2050. We will continue to evaluate other potential targets, such as for Scope 3 or for risk and opportunity management.

GOVERNANCE

CAML's Board has ultimate responsibility for all Group sustainability matters, including climate. Our response to climate change and our overall approach to this and energy usage are governed in the same way as all our sustainability management practices.

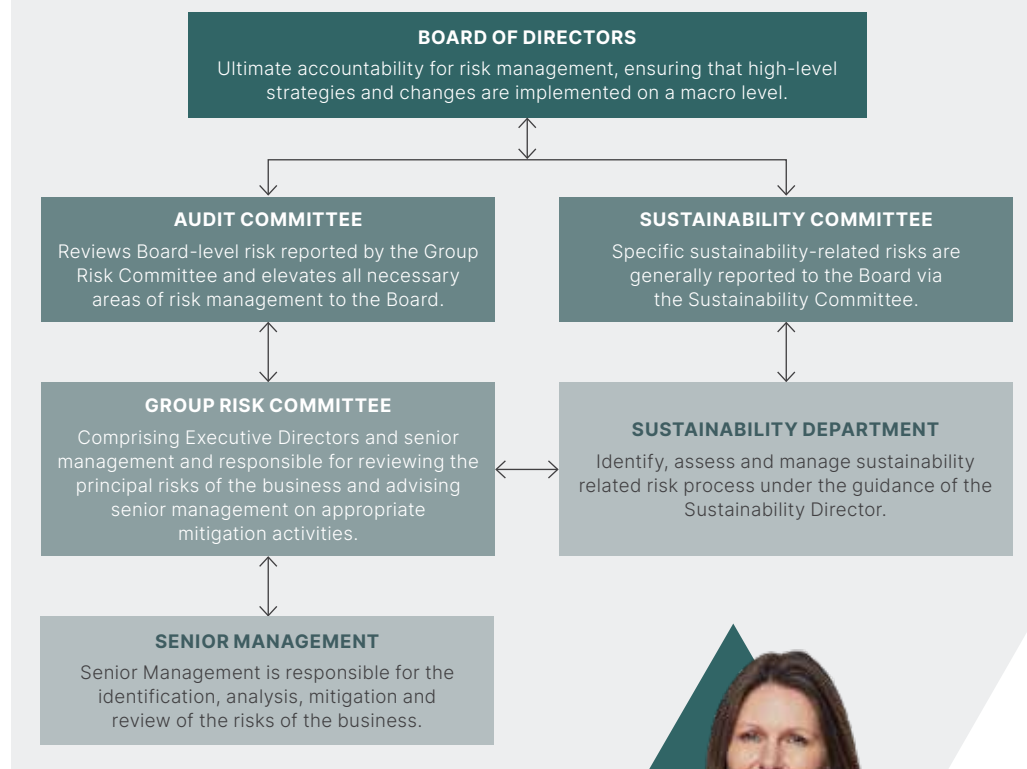
In 2022, we made some changes to Board and Committee memberships, including welcoming new individuals, each of whom have significant experience and knowledge in sustainability and climate related matters. Our new Board and Committee members have relevant climate related experience and responsibilities including:

- ▶ Board - a former institutional investor with knowledge and understanding of shareholder expectations with respect to climate action, and a focus on executive director remuneration;
- ▶ Board - a strategy and corporate development professional who brings a forward-looking climate perspective;
- ▶ Audit Committee - a sustainability professional with a focus on non-financial reporting; and
- ▶ Board and Sustainability Committee - a geoscience professional with a focus on integrating technical and sustainability concerns.

Regular updates on sustainability, including climate-related matters, are given by the Sustainability Committee and management at most Board meetings. In addition, the Audit Committee and its Risk Committee monitor and manage risks, including new and emerging risks such as climate change, and co-ordinates with the Sustainability Committee in presenting these to the Board where appropriate. Together, these shape our decision-making process and strategy.

Our Remuneration Committee is instrumental in our efforts to evaluate relevant and meaningful KPIs to support monitoring and measurement of progress in our approach to climate governance at the Board and management levels. The Committee sets ESG targets as part of our long- and short-term incentive plans to ensure management accountability for all aspects of business performance. In 2023, we will be including construction of the Kounrad solar plant in the 2023 short-term incentive plan and will include additional climate change initiatives and targets where appropriate regarding STIP and LTIP timelines. Integrating these measures will demonstrate that Executive Director and senior management remuneration is intrinsically linked to climate and sustainability performance, and aligned with the Group's long-term strategy and purpose.

MANAGEMENT'S ROLE IN ASSESSING AND MANAGING RISKS AND OPPORTUNITIES



DR GILLIAN DAVIDSON
(Chair of Sustainability Committee)



STRATEGY

In 2021, we developed our Climate Change Strategy. In 2022, we completed our scenario planning exercise (see pages 9-10), which concluded in Q4 2022 and helped validate our existing strategy and further develop our risk assessments. Our Climate Change Strategy takes the following aspects into account:

OUR GEOGRAPHIES OF OPERATION

Kounrad is in the Karaganda region of Kazakhstan and Sasa is in North Macedonia. We currently receive grid power at both operations. The majority of grid power in both of our operating areas is from fossil fuels. While we have been able to secure solely renewable power for our operations in North Macedonia, we will also continue looking for additional opportunities to reduce our residual GHG emissions, such as the construction of our Kounrad solar power plant, which should be completed in H2 2023 (see page 19). We will continue to explore how we can progress our climate objectives whilst recognising the climate landscape and existing constraints of the countries we operate in.

THE LIVES OF OUR ASSETS

We currently expect the lives of our operations to be until 2034 at Kounrad and 2039 at Sasa. This introduces economic and practical constraints to progression towards net zero for our current assets. We will therefore focus on identifying meaningful GHG emission reduction targets for Sasa and Kounrad, which should see us reduce our carbon footprint and thereby contribute to the global climate change effort. Additionally, we can commit to working towards net zero by 2050 by embedding climate considerations into our long-term business development decisions.

ENSURING OUR OBJECTIVES ARE DELIVERABLE

We will not overpromise and under deliver, so our GHG reduction targets are stretching, yet we believe achievable. Our interim target of 50% by 2030 (compared to 2020 baseline) and our net zero 2050 target are supported by our Climate Change Strategy. We support the UN SDGs and firmly believe there are also other important sustainability priorities, such as those identified by our own stakeholders. As a relatively small company with limited financial means and many stakeholders with which to share our value creation, we believe that we must focus on achievable and affordable climate change solutions that are the right size for our business and meaningful to our stakeholders.



STRATEGY PILLARS

Incorporating these considerations, we developed a Climate Change Strategy with five pillars, which we integrate into many aspects of our business. These pillars are:

1. Producing metals which contribute positively to the energy transition

We produce copper, zinc and lead. Demand for copper is expected to increase due to its use in renewable energy technologies and electric vehicles ('EVs'). Zinc is used to galvanise steel and iron, which reduces corrosion and increases the lifespan of these products. Additionally, zinc is used in batteries and may offer a cheaper alternative to lithium-ion batteries. Lead is used in lead-acid batteries, which are required in EVs.

2. Working towards decarbonisation

We are planning and have implemented several decarbonisation initiatives, many of which are discussed (later in this report). In 2022, we announced our interim target of 50% scope 1 and 2 emissions reduction by 2030 compared to a 2020 base year, which supports our long-term target of net zero by 2050. To achieve these targets, we will continue to identify decarbonisation and energy efficiency opportunities. For 2022, our initiatives included commencing construction of the Kounrad solar power plant (see page 19) and the installation of temperature sensors on our raffinate drip system at Kounrad in order to minimise unnecessary coal consumption (see page 16 – mentioned in Metrics and Targets).

We continue to explore the use of electric vehicles at Sasa. Additionally, we will continue to purchase solely renewable power in North Macedonia.

3. Ensuring we are operationally resilient

We have identified our physical risks for Sasa and Kounrad as well as relevant transition risks. These are incorporated into our Group-level risk register and we will continue to monitor these risks and our mitigation responses on a quarterly basis. This year we undertook scenario planning, which has increased our understanding of transition risks that may affect our operations as well as extending our physical risk analysis to our supply chain. In 2023, we will start implementing recommendations from the scenario planning exercise to further increase our operational resilience.

4. Focusing on our strategic and business resilience

Our financial model has the functionality to incorporate shadow carbon pricing, which helps us to future-proof our decision making. We consider climate change in our business development activities, such as power supply, GHG statistics, and continuing to produce base metals that are essential for modern living.

5. Delivering clear and transparent climate-related reporting and disclosures

We understand that clear and transparent disclosures are crucial for our stakeholders, and we are working towards further alignment with TCFD recommendations. In 2022, we completed our TCFD-aligned scenario analysis to better understand our transition risks and opportunities in a range of possible climate futures and extended our physical risk assessment to our supply chain. This will allow us to generate strategic and operational responses that will increase our resilience to climate change. We also remain committed to reporting our Scope 3 emissions for 2023 in 2024.



**SCENARIO PLANNING – OUR KEY 2022
CLIMATE CHANGE WORK STREAM****WHAT IS A CLIMATE SCENARIO?**

“A scenario describes a path of development leading to a particular outcome. Scenarios are not intended to represent a full description of the future, but rather to highlight central elements of a possible future and to draw attention to the key factors that will drive future developments. It is important to remember that scenarios are hypothetical constructs; they are not forecasts or predictions nor are they sensitivity analyses.

Scenario analysis is a tool to enhance critical strategic thinking. A key feature of scenarios is that they should challenge conventional wisdom about the future. In a world of uncertainty, scenarios are intended to explore alternatives that may significantly alter the basis for “business-as-usual” assumptions.”

From TCFD’s The Use of Scenario Analysis in Disclosure of Climate-Related Risks and Opportunities Technical Supplement



TCFD recommends the use of at least two scenarios, a high physical risk scenario and a transition risk scenario aligned with 2°C of warming or less. We chose three reference scenarios from the Intergovernmental Panel on Climate Change (‘IPCC’) and utilised relevant data and research for each.

- ▲ an orderly transition risk scenario aligned with 1.5°C of warming supported by SSP1-1.9 ‘Net zero 2050’
- ▲ a disorderly transition risk scenario aligned with approximately 2.0°C of warming supported by SSP4-2.6. ‘Net zero 2090’
- ▲ a high physical risk scenario supported by SSP5-8.5, ‘High physical risk’

We had several goals and objectives for our scenario planning exercise, including:

- ▶ identifying climate-related trends and drivers, which will shape the world and the mining industry;
- ▶ identifying climate-related risks and opportunities and developing responses to mitigate risks and realise opportunities;
- ▶ stress-testing CAML against physical and transition risks;
- ▶ understanding our current level of climate resilience and revisiting our Climate Change Strategy; and
- ▶ educating our teams on the potential impacts from climate change, which will help drive the process of embedding climate resiliency throughout the Group.

Our scenario planning process consists of four distinct steps:

Step one – Developing scenarios

In a series of workshops and with the assistance of an external specialist consultant, we customised three reference scenarios to increase their relevance and decision-usefulness to CAML. We considered global trends and overarching driving forces that could shape the future of the world and the mining industry with respect to climate. We also contextualised the scenarios for CAML further by considering the jurisdictions in which we operate, our commodities, the unique complexities of the mining industry, and our stakeholder groups.

To achieve the best results, our scenarios team comprised a diverse group of CAML employees with active participation from our senior and executive management team, including our CEO and CFO, through to Sasa and Kounrad site representatives. Our workshop team also spanned multiple business functions, which will provide the support we need as we take our next steps to embedding climate resilience throughout our organisation.

At the conclusion of this first stage, we had scenario narratives for each of the reference scenarios, summarised on page 10, that reflect both global and mining-specific trends and driving forces and incorporate our unique context and circumstances.



OUR SCENARIO NARRATIVES



A rapid and orderly transition scenario to net zero emissions, requiring significant international co-operation and investment.

- Fossil fuels systematically phased out.
- Rapid increase in carbon prices and emissions trading schemes.
- Developing countries receive adequate funding for a just energy transition to renewable energy.
- Solar and wind become the dominant energy sources
- Mining commodities essential to the green transition, such as copper, lithium and rare earth elements ('REEs'), attract greater levels of investment.
- Countries may seek to nationalise mines to secure their own supply of transition-relevant commodities.
- Growing emphasis on local and circular economies.
- Biodiversity and natural capital are valued, leading to stricter mining permitting requirements.



A disorderly and slower paced transition scenario to net zero emissions in which increased inequality within and across regions hampers the efforts to reach net zero.

- Developed country citizens continue to enjoy energy intensive lifestyles.
- Developed countries begin to remove fossil fuel subsidies and introduce carbon taxes, encouraging the use of low carbon technologies.
- Investment in renewable energy and nuclear technologies increases.
- Developed countries are focused on biodiversity afforestation and reforestation.
- Developed countries are less focused on supporting developing countries, which therefore have limited funds to push their energy transition measures, still meeting their energy needs through affordable fossil fuels.
- Developing countries experience physical hazards precipitating significant financial and human cost.
- Deforestation continues in these countries, contributing to biodiversity and ecosystem losses and food shortages.

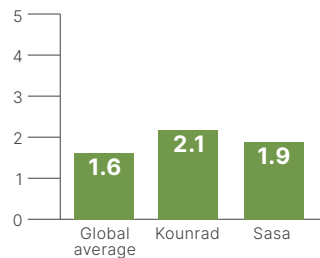


A high physical risk scenario in which the global population enjoys energy and resource intensive lifestyles, impacting climatic conditions.

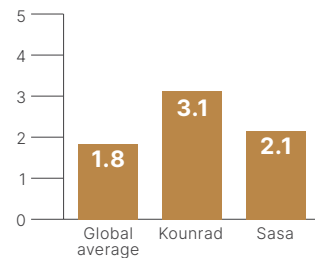
- Reduced inequality enables rapid development of developing countries and global population enjoys a resource-rich lifestyle.
- High demand for energy is met with fossil fuels and GHG emissions continue to rise leading to increased temperatures and physical risks.
- Rising temperatures stress biodiversity and ecosystems reducing the integrity of the biosphere.
- Some regions affected by physical climate hazards are unable to mitigate against them due to hazard severity or financial means.
- With large areas of the globe facing acute and chronic climate related physical hazards, mass migration occurs leading to conflicts.
- Water becomes a scarce commodity and also a source of national and regional conflict.

2050 APPROXIMATE MEDIAN
TEMPERATURE INCREASE (°C)

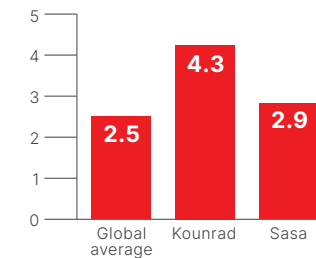
relative to 1850-1900 baseline

2050 APPROXIMATE MEDIAN
TEMPERATURE INCREASE (°C)

relative to 1850-1900 baseline

2050 APPROXIMATE MEDIAN
TEMPERATURE INCREASE (°C)

relative to 1850-1900 baseline



Step two – Assessing impacts

In the second stage of our scenario planning process, we placed CAML into the three possible future states of the world described within our scenario narratives. To understand the potential impacts to the Group, we looked across three broad categories and several sub-categories and aimed to understand the risks and opportunities that may materialise, as well as their probabilities, impacts and speed of onset, in each scenario.

TRANSITION RISKS:	PHYSICAL RISKS:	INDIRECT RISKS:
<ul style="list-style-type: none">► Policy and Regulatory► Market► Technology► Reputation	<ul style="list-style-type: none">► Coastal flooding► River flooding► Heat stress and cold stress► Heat wave and cold wave► Drought► Erosion	<ul style="list-style-type: none">► Mass migration► Changes to agriculture► Water resources► Losses to ecosystem services and biodiversity

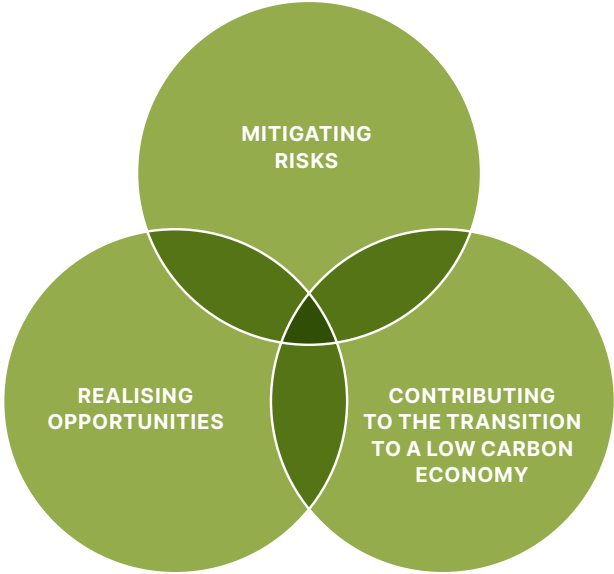
When assessing the risks and opportunities of each scenario, we considered our sites, Sasa and Kounrad, as well as CAML as a corporate entity headquartered in London and listed on the AIM market of the London Stock Exchange. Many of the risk and opportunities categories shown above hold implications for our stakeholders, such as suppliers and local communities, so indirect risks and opportunities were also discussed. Some of the specific results from the Impact Assessment report are described in more detail in the Risk Management section.



Step three – Generating response options

In the third stage of the process, we reconvened our workshop team in two short workshops to discuss our climate responses at the corporate and operational levels. The corporate-level workshop focused on financial and strategy relevant responses whereas our operational-level workshop focused on site-level responses, such as decarbonisation and adaptation. In both workshops, response options to identified climate-related risks and opportunities were identified and discussed. Each response was also assessed against whether it would mitigate an identified climate-related risk, would help CAML realise a climate-related opportunity, would contribute to the transition to a low carbon economy, or a combination of these three factors, as shown below. This process will aid our ability to prioritise and allocate budget for our possible responses.

Workshop participants also considered the actions that CAML could take to increase its climate resilience in a particular scenario by 2050. These actions were placed on a timeline to help identify our immediate next steps and establish approximate timelines for other actions in each scenario.



Step four – Embedding climate considerations

As a result of our scenario planning process, we have identified several next steps to be completed in the coming years.

The Impact Assessment report contained recommendations and prompts for quantification and/or further study of several climate-related risks and opportunities. We intend to carry out these recommendations, which will improve our understanding of identified climate-related risks and opportunities. Completing this work will also support CAML as we strive to embed climate resilience into our operations and business functions. We will update our risk management system with our findings as appropriate.

We will also develop early warning indicators for each of our scenarios. The indicators will signpost which scenario we think is currently dominant, if any, and we will actively monitor the status of these indicators on a regular basis. If the indicators suggest a new climate scenario is becoming dominant, we can create an additional scenario narrative and assess our climate-related risks and opportunities, if needed, and we will ultimately refine our climate strategy in response.

Finally, we are committed to the continued growth of the Group. Recognising the significant impact that transition and physical risks could have on future operations, we will embed climate considerations into our policies and processes, such as in our due diligence processes for strategic growth. This will support decision-making and ensure we can foster a climate resilient company.



RISK MANAGEMENT

We identify and monitor our climate-related risks at the corporate and site level. At the site level, physical and transition climate-related risks are incorporated into our risk register. Identified risks are discussed and reviewed on a quarterly basis as part of the site-based Sustainability Risk Committees. These committees include sustainability team members as well as site-based risk coordinators (managers) and the Group Internal Controls and Risk Manager. Principal site and corporate level risks are assessed and reviewed by the Group Risk Committee. Thereafter, our process for managing climate-related risks is described in the Governance section on page 6.

The risks associated with climate change can be either physical risks or transition risks. Physical risks are caused by changing environmental conditions and can be chronic, such as changing precipitation patterns, or acute, such as flooding. Transition risks are related to the global effort to transition to a low carbon and sustainable society and economy, arising through policy and regulation, market shifts, technology, and reputational impacts.

Within our business, there are several avenues by which climate-related risks and opportunities are identified, managed, and monitored. In 2021, the Group engaged a third-party climate specialist to conduct a comprehensive climate risk assessment exercise across our operations. The results have been integrated into the Group's existing risk management processes, serving as a baseline by establishing the risks most consequential and material to the business. In 2022, the physical risk assessment was extended to include our supply chain, such as transport networks, with assistance from our third-party climate specialist. The results from this assessment will be added to our risk register and will be subject to our risk management process. Following completion of our scenario planning exercise, we have a better understanding of climate scenarios and the relative frequency, impact and speed of onset of transition risks for these.

PHYSICAL RISKS

In our 2021 Sustainability Report, we disclosed that we had identified existing and emerging physical risks that Kounrad and Sasa were exposed to using credible data sources, such as World Bank and Water Risk Atlas. Physical risks were assessed against RCP4.5 and RCP8.5 scenarios. Impacts of the physical risks were mapped to several categories, such as financial, health and safety, and reputational. Scores were provided for each physical risk and these were added to our Group risk register.

In 2022, we broadened our knowledge of physical risks that may affect CAML and its supply chain as part of the scenario planning

process. Using credible data for the RCP8.5 scenario and with the assistance of an external climate specialist, hazards were assessed using four time periods: a historical 'baseline' period (1981-2010), short-term (2011-2040), medium-term (2041-2070) and long-term (2071-2100). Three new physical hazards were studied to understand direct physical risks that may impact our operations. Furthermore, we analysed our indirect physical risks that our supply chains and local communities might experience using relevant grid locations, such as airports, local community locations, major road networks, etc. against all physical hazards.

PHYSICAL RISKS:	INDIRECT GLOBAL RISKS:
<ul style="list-style-type: none">▶ Coastal flooding▶ River flooding▶ Heat stress and cold stress▶ Heat wave and cold wave▶ Drought▶ Erosion	<ul style="list-style-type: none">▶ Water resources▶ Losses to ecosystem services and biodiversity

CASE STUDY

ENSURING WE ARE OPERATIONALLY RESILIENT – SASA WATER MANAGEMENT

Sasa mine is located in an area identified by the World Resources Institute as a water stressed area. In addition, during CAML's climate change scenario analysis work undertaken in 2022, water stress was identified as a key physical risk at Sasa.

Since 2021, the Sasa team has been developing a water management strategy to improve operational resilience. The strategy focuses on reducing Sasa's dependence on surface water abstraction, with the aim of achieving a 75% reduction in surface water abstraction (versus 2020) by the end of 2026.

At Sasa, the largest consumer of surface water is the processing plant which is estimated to consume over 90% of the total surface water that is typically abstracted.

Opportunities

Cut and Fill Project

Sasa is in the process of transitioning to paste fill mining methods with dry stack tailings ('DST'). Both of these technologies require the tailings to be dewatered, resulting in excess water being recovered. This water is a potential source for the flotation plant and would account for approximately 52% of the plant's total needs.

Adit water use

As part of its mining operations, Sasa undertakes dewatering activities. The mine already captures in the order of 1,194 ML of these waters for use in the processing plant (equating to 34% of the operation's needs). However, the ability to capture and re-use all of the adit water would significantly reduce Sasa's reliance on surface waters and improve operational resilience 'and therefore reducing water stress as a physical risk. Sasa is currently designing the infrastructure required to allow the process plant to make full use of adit water.

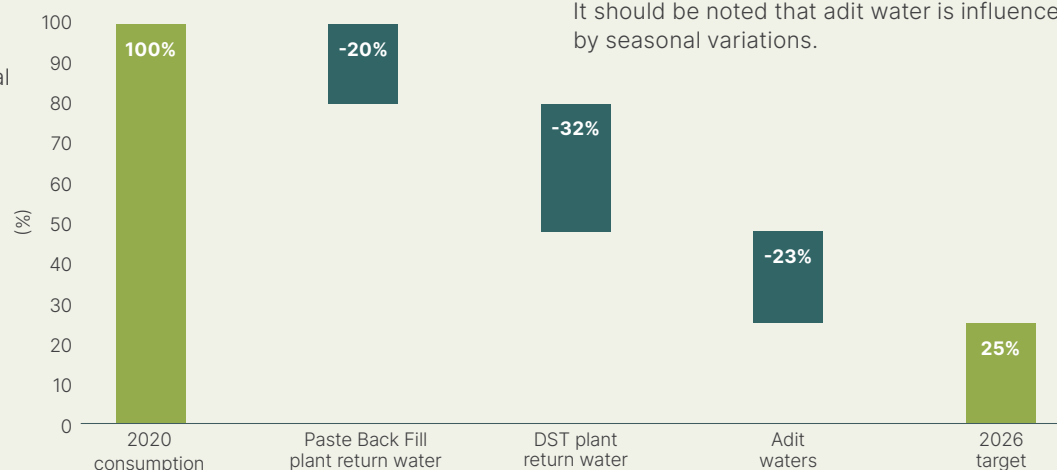
It should be noted that adit water is influenced by seasonal variations.

Supporting initiatives

A number of initiatives have already been undertaken or are planned for 2023. These include:

- finalising Sasa's water management strategy for the future;
- the installation of flowmeters with the aim of improving data collection; and
- establishing a water hierarchy that focuses of all water sources (surface water, ground water, produced water, contact water, treated water) to minimise the reliance on surface water abstraction.

SASA SURFACE WATER CONSUMPTION (%)



Relevant SDGs:



TRANSITION RISKS

In 2021 we disclosed that we had completed a preliminary assessment of transition risks and opportunities. With the completion of scenario planning in 2022, we have deepened our knowledge of our transition risks across four categories: policy and regulation, market, technology, and reputation. Our transition

risks were assessed using two scenarios, an orderly net zero 2050 transition implying a rapid pace of change and coordinated global action, and a disorderly net zero 2090 transition implying a slower pace of change and hampered by an unequal global response. Our scenarios are described in more detail on page 9.

POLICY AND REGULATION	MARKET	TECHNOLOGY	REPUTATION
<ul style="list-style-type: none">▶ GHG targets▶ External carbon pricing▶ Carbon border adjustment mechanism▶ Design standards▶ Regulatory disclosure requirements▶ Permitting▶ Mining nationalisation▶ Adapting to the future	<ul style="list-style-type: none">▶ CAMLs commodities▶ Other commodities▶ M&A▶ Supply chains▶ Insurance▶ Green standards▶ Circularity▶ Carbon offsets	<ul style="list-style-type: none">▶ Energy decarbonisation▶ Mining decarbonisation▶ Barriers to new technology	<ul style="list-style-type: none">▶ GHG Emissions targets▶ GHG Emissions performance▶ Carbon offsets▶ Climate-related disclosures▶ Stakeholder perceptions of CAML

INDIRECT GLOBAL RISKS

In our 2022 scenario planning, we also looked at indirect global risks that may impact CAML’s operations and our resilience. We recognise that these indirect global risks will not be unique to the Company and could bring significant future challenges to our operations, communities and stakeholders, as well as the regions in which we operate.

We believe CAML can contribute to reducing the potential severity of these indirect global risks by reducing our GHG emissions (strategic pillar 2). We have several decarbonisation initiatives planned and ongoing, such as the construction of our Kounrad solar power plant (see page 19 for more details). Furthermore, we can respond to some of these indirect global risks by implementing adaptation measures to improve our operational resilience (strategic pillar 3). For example, we have established a 75% reduction in surface water abstraction at Sasa by end 2026 compared to a 2020 baseline.

Going forward, we will continue to assess mitigation responses to identified risks.

NEXT STEPS

Following completion of our Scenario Planning exercise, we will continue to analyse our identified physical and transition risks. Additionally, we will implement other climate-related risk and opportunity management recommendations, which will contribute to embedding climate resilience into CAML.

As part of our standard risk management process, we will add the results of the updated physical risk assessment to our Group risk register. Risk owners will be identified, and control and mitigation measures will be established for all risks.

METRICS AND TARGETS

EMISSIONS REDUCTION TARGETS

Within the constraints of our current assets, we recognise that the double materiality of climate risk means we have a responsibility to contribute to climate mitigation as well as to manage risks potentially arising from our emissions footprint. We further recognise that managing emissions has a role to play in how we grow the company. For our existing assets, Kounrad and Sasa, we have set a target to reduce our Group-level Scope 1 and 2 emissions by 50% overall by 2030 as compared to a 2020 base year. Additionally, we are committed to achieving net zero by 2050 and we will apply this commitment through our business development activities by ensuring that climate and carbon emissions are embedded in our decision-making processes.

EMISSIONS REDUCTIONS INITIATIVES

To achieve our decarbonisation target of 50% by 2030 compared to a 2020 base year, we have developed a preliminary set of initiatives that should support decarbonisation through the lives of the asset. These initiatives focus initially on renewable energy acquisition or generation and fuel improvements. Our initiatives include:

Renewable power for Sasa

In mid-2021, Sasa negotiated the acquisition of renewable power from its North Macedonian power provider, EVN. At the end of 2021, EVN's auditor, PwC, confirmed that Sasa purchased 100% renewable power in the H2 2021 period and this assurance has now been received for 2022 as well. We will continue to seek ongoing assurance to substantiate our GHG emission reduction disclosures.

Renewable power for Kounrad

Page 19 outlines the Kounrad solar power project, which is advancing to the construction phase, with earthworks commenced in Q4 2022. The project is expected to replace 16-18% of Kounrad's energy and reduce Kounrad's Scope 1 and 2 emissions by approximately 10% compared to a 2020 baseline.

Reducing coal consumption at Kounrad

In 2021, we disclosed that we had undertaken a detailed review of heat sources that could potentially replace coal. The proposed alternatives were not viable due to a combination of limited GHG reduction potential and significant operating and capital cost implications, an opportunity to reduce coal consumption were identified.

Kounrad installed temperature sensors at the end of the raffinate drip system to ensure the raffinate is kept at optimal temperature to prohibit freezing in pipes. The results from the 2021-2022 winter period were positive and showed a decrease in coal consumption of 15% compared to 2021, which is attributed to the newly installed temperature sensors and a milder winter.

Evaluating fuel switch

The Sasa team, alongside mobile plant contractors Epiroc, undertook an analysis into the practical and financial implications of purchasing electric underground machines for drilling, loading, and hauling of ore. In addition, Sasa's new Central Decline has been developed at widths suitable for larger electric vehicles. The purchase of electric vehicles will be considered once the current mobile plant needs replacing.

Tree planting

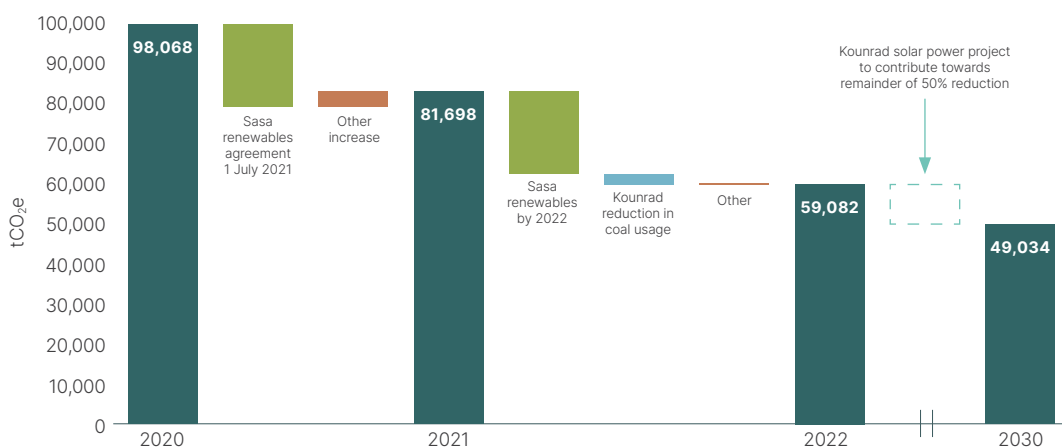
In 2021, we began investigating the possibility of off-setting Sasa's scope 1 emissions through seedling planting in North Macedonia and have continued to do so during 2022.

In 2022, Sasa planted 6,000 trees in the local area and is working with 'Public Enterprise National Forests' to identify other areas for seedling planting.

Energy efficiency at Sasa

In 2022, Sasa installed an energy monitoring system throughout the milling process. The system will enable us to better understand the energy needs of the milling process, which will allow us to identify and assess energy savings measures, where possible. We will continue to identify further energy saving measures in 2023.

CAML GHG EMISSIONS – SCOPE 1 & 2



GREEN HOUSE GAS EMISSIONS

Scope 1 and 2 emissions from Sasa and Kounrad are calculated and reported annually.

Group Scope 1 and 2 emissions continue to decrease from 2019. Scope 1 and 2 emissions totalled 59,082 tCO₂e for 2022, a 27% reduction from 2021, primarily driven by the Sasa renewable energy PPA. Scope 1 and 2 GHG intensity also continued to show improvement in 2022 to 2.14 tCO₂e/tCuEq (2021: 3.11 tCO₂e/tCuEq). We have achieved a 40% reduction in Scope 1 and 2 emissions since the baseline year of 2020, working towards our target of a 50% reduction by 2030.

At Sasa, total emissions decreased to 3,150 tCO₂e in 2022 (2021: 23,266 tCO₂e) representing an 86% reduction year on year, predominantly due to the 100% reduction in Scope 2 emissions. These savings have resulted in a GHG intensity at Sasa of 0.24 tCO₂e/tCuEq in 2022, a reduction of 88% compared to 2021 (2.02 tCO₂e/tCuEq in 2021).

REDUCTION IN GROUP 2022 GHG EMISSIONS¹

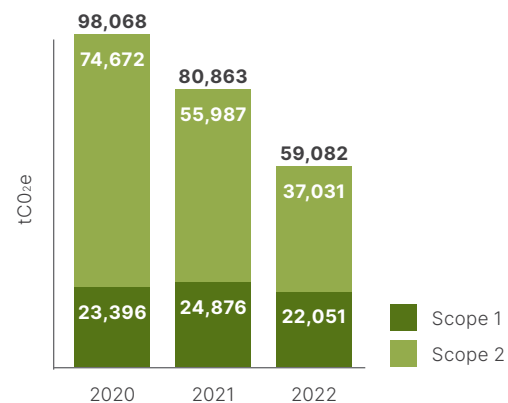
40%

¹ Versus baseline of 2020

At Kounrad, total GHG emissions reduced by 3% in 2022 to 55,932 tCO₂e compared to 57,597 tCO₂e in 2021.

Whilst we have calculated Scope 1 and 2 emissions for five years at CAML, we recognise that these do not show the entire situation and have therefore committed to reporting Scope 3 by 2024. This will enable us to understand impacts throughout our value chain and could inform our future choices with regards to suppliers.

GROUP SCOPE 1 AND SCOPE 2 GHG EMISSIONS



2022 GROUP CARBON EMISSIONS INTENSITY

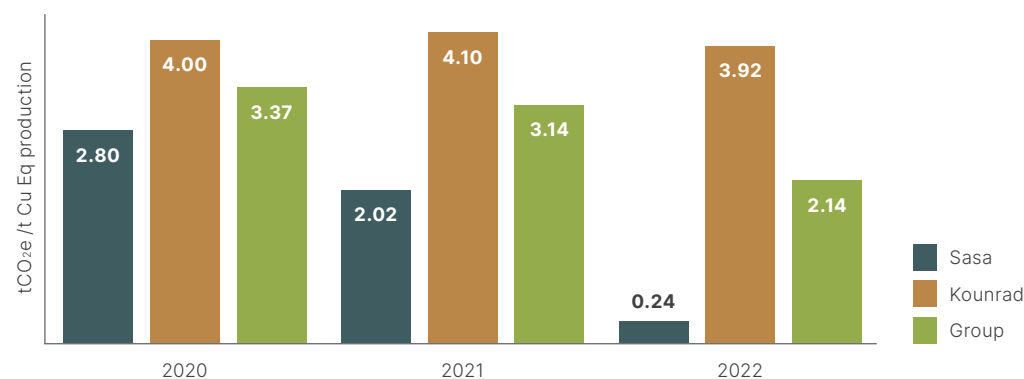
2.14 tCO₂e

(2021: 3.14 tCO₂e)

Tonnes of Cu Equivalent Production

	2020	2021	2022
Copper equivalent production (tonnes)	29,082	26,000	27,656

CARBON EMISSIONS INTENSITY



ENERGY MANAGEMENT

OUR APPROACH

As a Group, we have always operated a firm policy of strict cost control. Energy efficiency is a key component in cost minimisation, given its significant contributions to operating expenditure. By monitoring both costs and energy intensity on an ongoing basis, we assess the robustness of our energy efficiency strategies at our operations, as well as their related carbon intensity. We ensure that energy is used responsibly and provide appropriate training to our employees in this regard. We apply energy-saving measures and work to improve the energy performance of all our technological processes wherever possible. Both operations are required to continually review and assess the potential for further energy efficiencies.

The Company adheres to various energy regulations in its countries of operations, which include the Law on Energy Conservation and Energy Efficiency Improvement at Kounrad and the Law on Energy, the Law on Energy and Energy Efficiency, Long Term strategy for Climate Action and the Law on Climate Action (Draft) at Sasa.

At Sasa, we also operate in accordance with the relevant European Union Framework Directives, as these have largely been adapted into North Macedonian Law.

ENERGY REDUCTION INITIATIVES

Energy reduction initiatives form an important part of our work towards decarbonisation, and we are continually exploring ways of further improving efficiency across our operations. Reducing electricity consumption remains a top priority. It should be noted that energy consumption at Sasa is expected to rise during the construction and operational phases of the Cut and Fill Project.

Specific energy efficiency programmes at Sasa include:

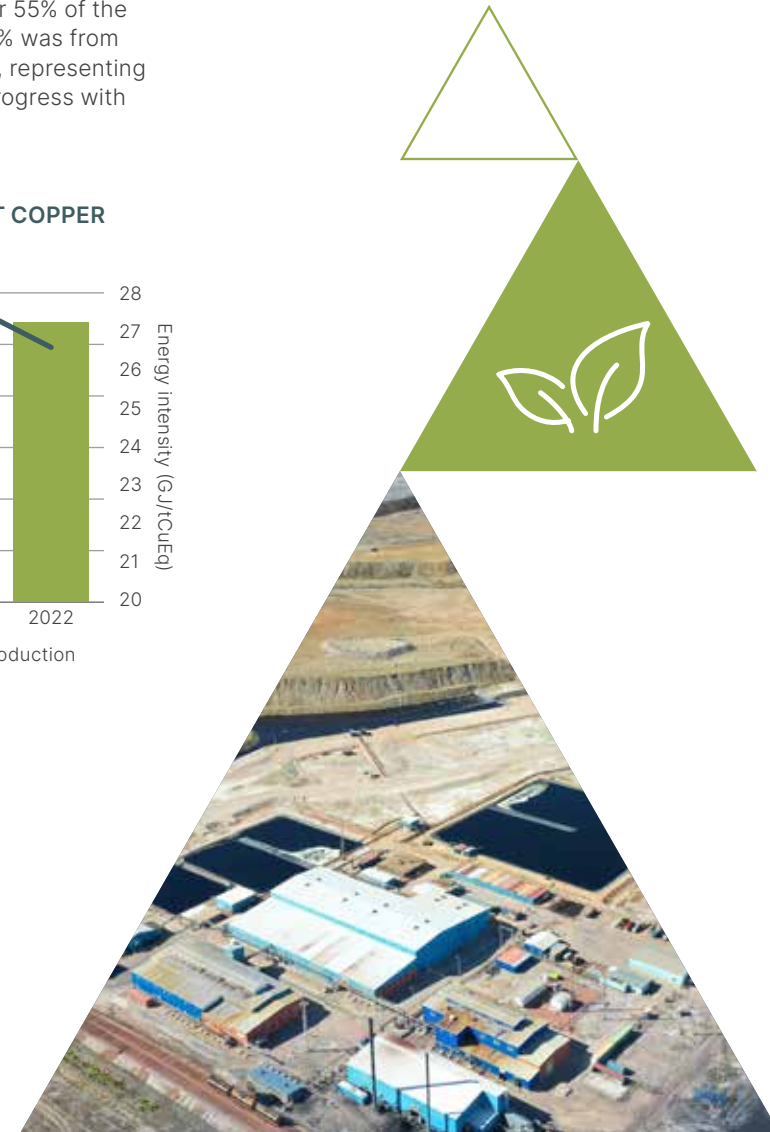
- ▶ installation of a Honeywell energy monitoring system throughout the milling process;
- ▶ installation of air-water pumps for heating and cooling in the chemical laboratory, main office building and safety building;
- ▶ pumps for heating and cooling in the main office building and safety building;
- ▶ the purchase of three new highly efficient compressors;
- ▶ optimisation of the crushing plant working hours; and
- ▶ replacement of three electrical motors with more efficient motors.

An energy efficiency audit was conducted at Kounrad in 2021. Due to the relatively young age of the operation's equipment, no material savings were identified. However, we have implemented an initiative at Kounrad to reduce coal consumption involving the installation of temperature sensors to prohibit freezing in pipes – see page 16 for further detail.

ENERGY USAGE

Total energy consumption increased marginally in 2022 to 673,511 GJ (2021: 694,441 GJ), due to a slight increase in diesel and electricity consumption across the Group. Electricity usage accounted for 55% of the total energy consumed and 19% was from renewable sources (2021: 11%), representing an important shift as well as progress with our decarbonisation initiatives.

ENERGY INTENSITY AGAINST COPPER EQUIVALENT PRODUCTION





CASE STUDY

KOUNRAD SOLAR POWER PROJECT

In our 2021 Sustainability Report, we disclosed that our Board had approved the development of the Kounrad Solar Power Plant and the team had been instructed to commence detailed engineering design. Since then, detailed engineering work was undertaken to confirm our approach and costs and we are pleased to report that construction commenced in Q4 2022, with the initiation of earthworks at a 10-hectare site close to the SX-EW plant, with completion on track for H2 2023.

The Kounrad Solar Power Plant will consist of a 4.77MW unit, which is expected to:

- ▶ provide approximately 16-18% of Kounrad's electrical power needs;
- ▶ marginally reduce our cash cost per lb and therefore modestly improve our profitability;
- ▶ reduce Kounrad's Scope 1 and 2 emissions by approximately 10% compared to a 2020 baseline;
- ▶ reduce our Group GHG (Scope 1 and 2) emissions profile by an estimated 6%;
- ▶ reduce our exposure to external carbon pricing risk;

- ▶ improve our reputation with Kazakh authorities and with other local and international stakeholders and shareholders; and,
- ▶ contribute to the UN SDGs.

This engineering project confirms CAML's commitment to our strategic climate change pillars of working towards decarbonisation, ensuring we are operationally resilient, and focusing on our strategic and business resilience.

Relevant SDGs:



ENERGY CONSUMPTION

		2022	2021	2020
Group				
Total fuel consumption from non-renewable sources	GJ	300,011	328,537	334,525
Coal	GJ	247,154	276,921	285,160
Diesel / petroleum	GJ	52,857	51,615	49,365
Total electricity consumption	GJ	373,500	365,904	361,095
Electricity from renewables	GJ	155,669	85,526	9,480
Electricity from non-renewables	GJ	217,831	280,378	351,715
Total energy consumption	GJ	673,511	694,441	695,620
Tonnes of Cu equivalent production	t Cu Eq	27,656	26,000	29,082
Energy intensity	GJ/t Cu Eq	24.35	26.71	23.92
Sasa				
Total fuel consumption from non-renewable sources	GJ	39,354	36,927	36,071
Coal	GJ	–	–	–
Diesel / petroleum	GJ	39,354	36,927	36,071
Total electricity consumption	GJ	155,669	155,969	157,853
Electricity from renewables	GJ	155,669	85,526	9,480
Electricity from non-renewables	GJ	–	70,443	148,373
Total energy consumption	GJ	195,023	192,897	193,924
Tonnes of Cu equivalent production	t Cu Eq	13,402	11,959	15,227
Energy intensity	GJ/t Cu Eq	14.55	16.13	12.74
Kounrad				
Total fuel consumption from non-renewable sources	GJ	260,657	291,609	298,454
Coal	GJ	247,154	276,921	285,160
Diesel / petroleum	GJ	13,503	14,688	13,294
Total electricity consumption	GJ	217,831	209,935	203,242
Electricity from renewables	GJ	–	–	–
Electricity from non-renewables	GJ	217,831	209,935	203,342
Total energy consumption	GJ	478,488	501,544	501,696
Tonnes of Cu equivalent production	t Cu Eq	14,254	14,041	13,855
Energy intensity	GJ/t Cu Eq	33.57	35.72	36.21

EMISSIONS¹

		2022	2021	2020
Group				
Scope 1 emissions	tCO ₂ e	22,051	24,876	23,396
Scope 2 emissions	tCO ₂ e	37,031	55,987	74,672
Total emissions	tCO ₂ e	59,082	80,863	98,068
Tonnes Cu equivalent production	t	27,656	26,000	29,082
GHG intensity	tCO ₂ e/t Cu Eq	2.14	3.11	3.37
Sasa				
Scope 1 emissions	tCO ₂ e	3,150	2,968	2,561
Scope 2 emissions	tCO ₂ e	–	20,298	40,121
Total emissions	tCO ₂ e	3,150	23,266	42,682
Tonnes Cu equivalent production	t	13,402	11,959	15,227
GHG intensity	tCO ₂ e/t Cu Eq	0.24	1.95	2.80
Kounrad				
Scope 1 emissions	tCO ₂ e	18,901	21,908	20,835
Scope 2 emissions	tCO ₂ e	37,031	35,689	34,551
Total emissions	tCO ₂ e	55,932	57,597	55,386
Tonnes Cu equivalent production	t	14,254	14,041	13,855
GHG intensity	tCO ₂ e/t Cu Eq	3.92	4.10	4.00

1 Gases included in the calculation: CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃.

GHG EMISSIONS CONTEXT

Sasa - Sasa is an underground mine where ore is transported to the surface by shaft and trucks. Scope 1 emissions reflect the site's fuel consumption together with explosives, and other consumables. The processing plant is a standard froth flotation system, operated by grid power.

Kounrad - Scope 1 emissions at Kounrad predominantly reflect an essential part of our processing, which requires the heating of leaching and copper-bearing solutions in winter with coal-fired boilers to prevent freezing.

Calculation - Emissions were calculated using the methodology of the GHG Protocol and this methodology was supplemented by country and sector-specific information.



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