DRIVING PERFORMANCE TO SUSTAIN OUR PURPOSE

TCFD Report
November 2021

PPC

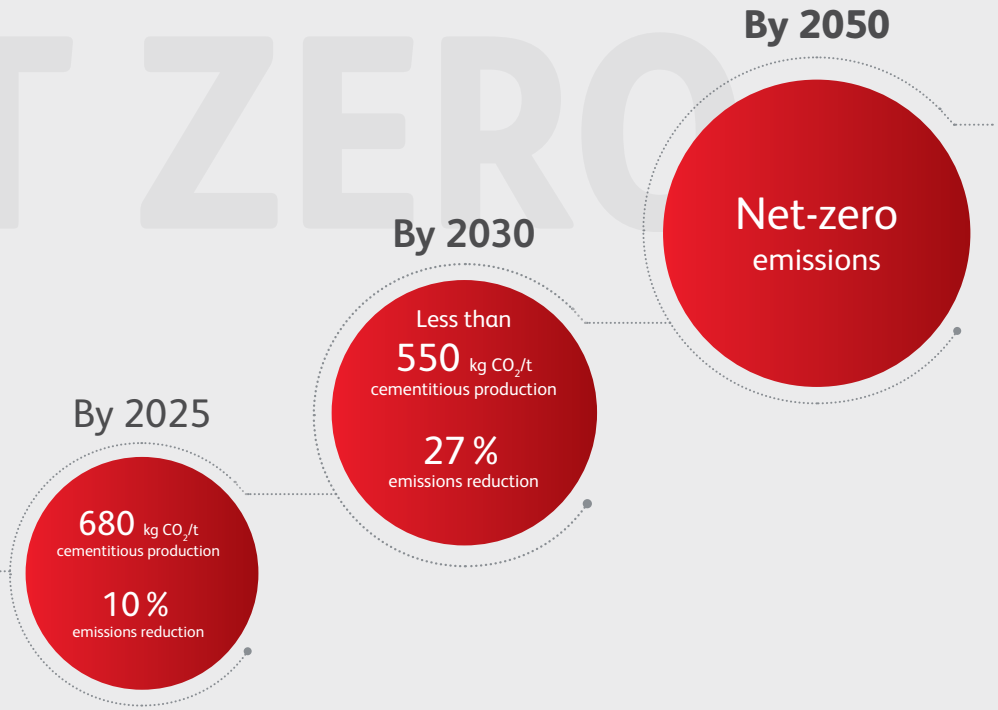
2021 CONTENTS

www.ppc.africa

INTRODUCTION

At PPC we recognise the global threat of climate change and the immensity of the challenges associated with achieving net-zero emissions by 2050. Yet, we are committed to reducing our carbon footprint, and committed to participating in the collective actions needed to address key barriers to decarbonisation.

OUR TARGETS* AND AMBITION



* Targets use FY2020 as a base year (756 CO_2/t cementitious product), and are only for operations under PPC's control (i.e. exclude PPC Barnet in the DRC).

PPC AT A GLANCE

PPC is a leading multinational producer of building materials and solutions in multiple countries across sub-Saharan Africa, and we strive to grow a thriving business and create sustainable value for stakeholders. We maintain a simultaneous focus on being a responsible corporate citizen and on using effective environmental and energy management to minimise our impact on the environment.

PPC was established almost 130 years ago outside Tshwane in South Africa. From its beginning as the country's first cement manufacturer, PPC expanded its footprint and now operates across six countries – proving to be a resilient organisation that responds to challenges and captures opportunities in various operating environments. PPC provides quality cement, aggregates, limestone, readymix and fly ash across sub-Saharan Africa.

OUR PURPOSE

To empower people to experience a better quality of life.

OUR VALUES

R — **PPC always does the RIGHT thing**

Holding each other accountable and always acting with integrity

E — **PPC strives for EXCELLENCE**

Striving for excellence in everything

P — **PPC's PEOPLE are its strength**

PPC values its people and recognises that every person is essential to the company's success

P — **PPC has a PASSION for performance**

Inspiring each other with a positive attitude and energy in striving to be the best

C — **PPC is CUSTOMER-focused**

Customers are at the heart of everything as PPC strives to exceed expectations every time

STRENGTH BEYOND

It is the strength of PPC's name and promise to customers, shareholders, investors, employees and communities.

It is the strength of PPC's guarantee – the integrity placed behind every purchase and every interaction, and the knowledge that when customers buy a PPC product, they place their trust and name on PPC's word.

It is the strength of PPC's purposeful and sustainable partnerships with like-minded organisations that will foster growth in its environment and help improve societies.

It is the strength of PPC's people to go beyond – to provide support beyond the ordinary and take an active role in helping stakeholders reach their full potential and transform their societies.

ABOUT THE REPORT

This report is a special publication that details PPC's evolving climate change strategy and outlines the scenario analysis and greenhouse gas (GHG) reduction ambitions underpinning it.

It is our first comprehensive response to the recommendations of the **Task Force on Climate-Related Financial Disclosures** (TCFD) for climate disclosures. Created by the Financial Stability Board in 2015, the TCFD provides a framework for companies, banks, and investors to include more effective climate-related financial disclosures in their reporting processes. We have structured the report to address the TCFD's themes of Governance, Strategy, Risk Management, and Metrics and Targets. A reference table that cross-references sections of this report to specific TCFD recommendations is included as an appendix.

Sections of this report also align with the **Global Reporting Initiative** (GRI) standards for sustainability reporting, the United Nations **Sustainable Development Goals** (SDGs) (most notably SDG 7, SDG 12 and SDG 13), and the Institute of Directors, South Africa, **King IV Report on Corporate Governance for South Africa, 2016 (King IV™*)** on the responsibilities of governing bodies in responding to climate change.

This report follows the reporting boundary used in PPC's integrated reporting. As such, our climate change strategy and targets (Section 4) cover only the operations that are under PPC's control. However, for the scenario analysis (Section 3) we included the operations of PPC Barnet (which became classified as a discontinued operation in March 2021) in the DRC on the basis that PPC provides operational services, although PPC no longer has management control.

FORWARD-LOOKING STATEMENTS

This report includes "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of historical facts included in this report, including, without limitation, those regarding PPC's financial position, business strategy, plans and objectives of management for future operations (including development plans and objectives relating to PPC's products, production forecasts and reserve and resource positions), are forward-looking statements. The words "intend", "aim", "project", "anticipate", "estimate", "plan", "believes", "expects", "may", "should", "will", "target", "set to" or similar expressions, commonly identify such forward-looking statements.

Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of PPC, or industry results, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such forward-looking statements are based on numerous assumptions regarding PPC's present and future business strategies and the environment in which PPC will operate in the future. Among the important factors that could cause PPC's actual results, performance or achievements to differ materially from those in the forward-looking statements are levels of actual production during any period, levels of demand and market prices, the ability to produce and transport products profitably, the impact of foreign currency exchange rates on market prices and operating costs, operational problems, political uncertainty and economic conditions in relevant areas of the world, the actions of competitors, activities by governmental authorities such as changes in taxation or regulation and such other risk factors identified in PPC's most recent annual report.

Forward-looking statements should, therefore, be construed in light of such risk factors and undue reliance should not be placed on forward-looking statements. These forward-looking statements speak only as of the date of this report. PPC expressly disclaims any obligation or undertaking (except as required by applicable law, the UK Listing Rules, the Disclosure Guidance and Transparency Rules of the Financial Conduct Authority and the Listing Rules of the Australian Securities Exchange) to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in PPC's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Nothing in this report should be interpreted to mean that future earnings per share of PPC will necessarily match or exceed its historical published earnings per share.

CHAIRMAN AND CEO FOREWORD

Welcome to PPC's first TCFD report. We are publishing this because we understand the climate challenge that society is facing. We recognise that PPC is a contributor to global GHG emissions, primarily because of the high carbon intensity of the cement production process. Yet we also intend to be a contributor to climate change solutions. As stakeholders seek agreement on a global reporting standard, TCFD offers a practical and widely adopted structure for understanding climate change-related impacts on existing operations and for guiding emissions targets.

OUR NET-ZERO AMBITION

At PPC, our ambition is to achieve net-zero emissions by 2050. Our commitment to this ambition is evident from the way our board and executive team remained focused on developing our climate change strategy over the last 12 months, despite the considerable operational challenges of the COVID-19 pandemic and the capital restructure.

To date we have faced relatively little pressure to reduce emissions from our investors and shareholders. We expect this to change in the coming years. Therefore, up until now, our net-zero ambition has been largely driven from within the company. We believe this forward-looking approach will place PPC further ahead of our regional peers as the challenges of climate change intensify.

This ambition has been internalised across PPC's management. Our executive team and line managers take responsibility for maintaining a triple focus on the environmental, social, and financial sustainability of the business.

COMMITTED AND CONDITIONAL TARGETS

As a company, we recognise that the real challenge lies not in setting our sights on a net-zero ambition, but in setting targets that make such ambition possible. This report seeks to address this challenge.

Through an internally driven and consultative process that involved the executive team and line managers, we used rigorous scenario analyses and an assessment of mitigation options at each operation to devise credible, transparent and defensible short-, medium- and long-term targets, and to develop an overarching climate change strategy. We indicate where our targets fall within our direct sphere of control, and where their feasibility is dependent on advancements of the regulatory environment and availability of new technologies.

The carbon dioxide challenges for cement are significant. Within sub-Saharan Africa, the industry's ability to decarbonise is inhibited by the lack of viable options to reduce emissions, the lack of consumer willingness to pay for greener products, and the lack of standards, testing and track records of new products. Our efforts to achieve net zero are also currently bound by country-specific construction methods and codes. For example, South Africa's regulatory framework is not yet conducive to the deployment of certain emission-reduction strategies, such as the use of waste as a fuel source, to the same extent that is possible in Europe. We intend to forge ahead amidst this uncertainty and despite these challenges, continuously evaluating our strategy, being agile in our responses to changing circumstances, and collaborating with stakeholders to create the necessary enabling environment. Furthermore, where possible we will take a leadership role in the use of waste as a fuel source, as evident in our recent successful introduction of tyres at our De Hoek factory in the Western Cape and the use of biomass fuels in Rwanda.

TRANSITIONING TO A LOW-CARBON BUSINESS MODEL SUITABLE TO THE SUB-SAHARAN AFRICAN CONTEXT

For more than a century, PPC has demonstrated its ability to successfully cope with change. As an industry leader we have constantly found new ways to balance environmental, social, and financial elements. We will look to draw on this deep experience to ensure our sustainability going forward.

Although the demand for concrete is likely to increase over the next two decades to support a transition to renewable energy, we expect that over time the demand for Alternate Building Technologies across sub-Saharan Africa will increase, reducing the need for clinker based cementitious building materials. While this may cause concern for some of our peers, at PPC we find such a prospect invigorating.

As we aspire to create a built environment that is net zero or carbon negative, we will remain focused on our purpose, empowering people to experience a better quality of life. As sub-Saharan Africa's population grows, we will keep sight of our evolving social responsibilities, evaluating new construction methods holistically rather than solely from a carbon-intensity perspective.

We are also focused on driving the innovation of cement-alternative building practices. Indeed, most construction in sub-Saharan Africa is not constrained by space, and it need not mimic the cement-intensive building styles of other parts of the world. Therefore, we are exploring how to combine traditional African building methods with emerging global methodologies.

As we investigate these alternatives, we will explore options for directing resources from our current business model into an adjacent, low-carbon business model that is not directly linked to cement and that can ultimately become our core revenue stream. We will set targets for this business transition in future reports.

LOOKING AHEAD

This report does not provide all of the solutions to the climate change challenges we face but represents the first steps of PPC's net-zero journey.

As we progress in this time of uncertainty, we will continue to track emerging climate risks and opportunities and use climate scenario analyses to refine and improve our climate change strategy and inform our business strategy. We will continue to provide transparent updates about these strategies, as well as about our progress and performance. In coming years, rather than publish another stand-alone TCFD report, we will incorporate and integrate it into our integrated annual report.

To our suppliers, shareholders, business partners and other stakeholders, thank you for your continued and unwavering support. We look forward to navigating our net-zero journey with you.

Jabulani Moleketi
Chairman

Roland van Wijnen
CEO

PPC'S POSITION ON CLIMATE CHANGE

WE RECOGNISE THE GLOBAL THREAT OF CLIMATE CHANGE.

We support the climate change goals outlined in the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. We recognise that, in order to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels, we strive to attain a target of net-zero global GHG emissions by 2050. We recognise that achieving this target will be immensely challenging, particularly given the developing country contexts in which PPC operates.

WE ARE COMMITTED TO REDUCING OUR CARBON FOOTPRINT.

Despite the immensity of the challenges ahead, we are committed to decarbonising our operations and embedding our climate policies throughout our business. We continuously work to improve our data systems and invest in climate-related training and human-capital resourcing. We identify, prioritise, implement and report on GHG reduction measures across all our operations, maximise our investments in energy efficiency and renewable energy, and roll out Alternative Fuels and Raw Material (AFR), calcined clay and the use of extenders. We will use an internal price on carbon, align with domestic policies, and leverage new technologies as they become commercially available. We will engage and collaborate with our stakeholders to drive emission reductions across our supply and value chains.

We support the global efforts to decarbonise the cement sector and to produce zero-carbon or carbon-negative concrete by 2050. We recognise that in a hard-to-abate industry such as cement, we cannot attain net-zero carbon levels on our own. We are committed to forging forward amidst uncertainty around pathways and technologies, and to continuously evaluating how best to marry short-, medium- and long-term commitments.

WE ARE COMMITTED TO PARTICIPATING IN THE COLLECTIVE ACTIONS NEEDED TO ADDRESS KEY BARRIERS TO DECARBONISATION.

The net zero by 2050 pathway relies on unprecedented international co-operation among stakeholders across geographies, sectors and value chains, especially on innovation and investment. Making net-zero emissions a reality hinges on a singular, unwavering focus from all governments – working together with one another, and with businesses, investors and citizens. Underpinning all these changes are policy decisions made by governments.

We work with our industry partners and across our value chain to support the development of policies that can drive the creation of markets for low-carbon and zero-carbon concrete, drive the development of innovative technologies needed for decarbonisation, and support the integration of climate and regional policies.

WE ARE COMMITTED TO ENHANCING OUR RESILIENCE TO PHYSICAL CLIMATE RISK.

We are committed to evaluating direct and value chain risks and working to ensure the resilience of our business and our stakeholders, especially our communities.

GOVERNANCE

Climate change is integrated into all of PPC's strategic decisions and operations.

IDENTIFYING CLIMATE-RELATED RISKS AND OPPORTUNITIES

We use both top-down and bottom-up approaches to ensure all climate-related risks and opportunities are identified, assessed and managed.

TOP-DOWN

We have started to conduct regular scenario analyses (see Section 3) to identify climate-related risks and opportunities across the business and at particular sites. Additionally, all strategies, projects or plans that have climate-related components are deliberated and – where appropriate – approved by the social, ethics and transformation committee (SETCO) and investment committee (IC), before being submitted to the board for ratification.

BOTTOM-UP

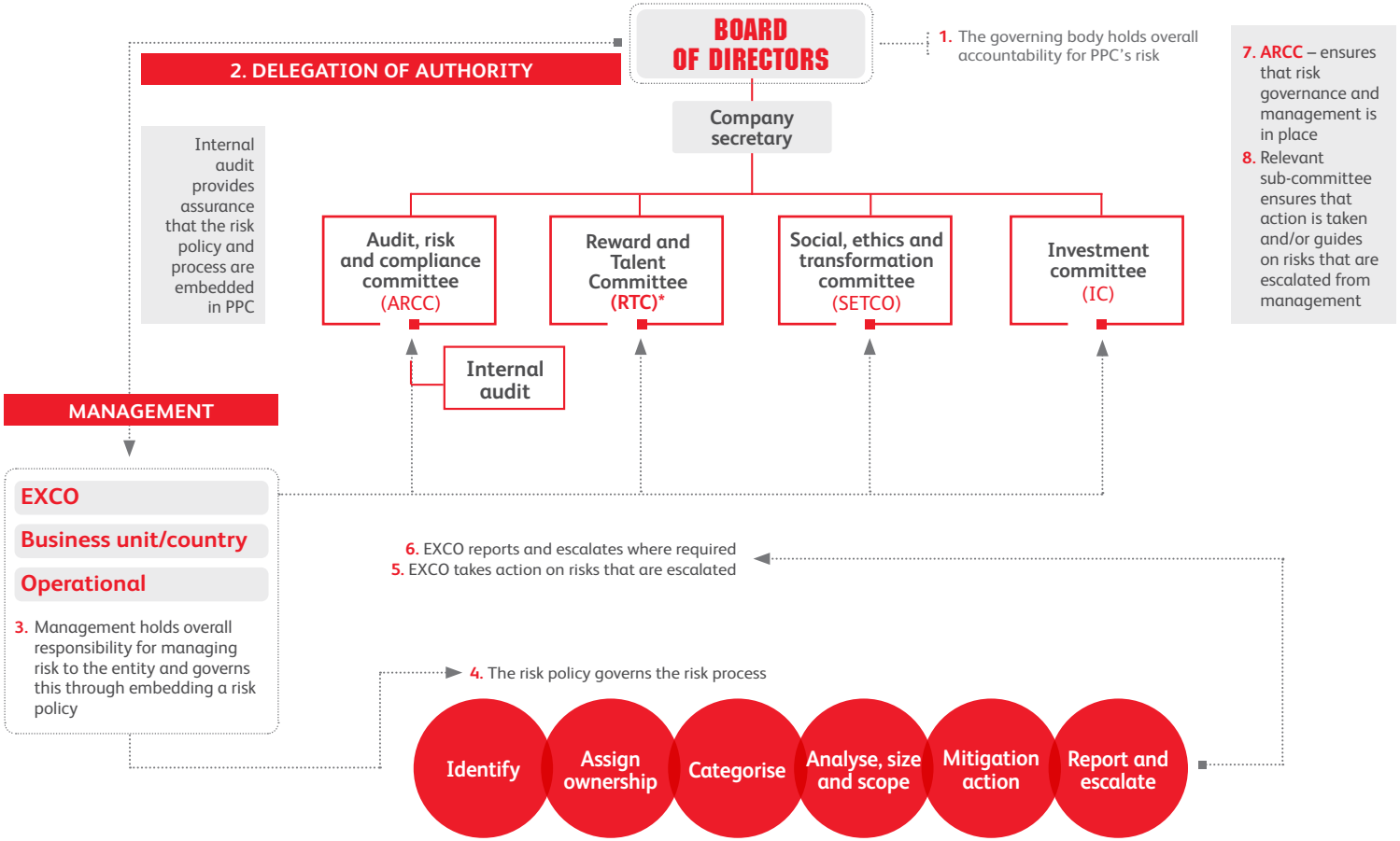
Risks are identified at an operational level, during day-to-day activities. Mitigating actions are instituted where possible and escalated to the next level of management when necessary. Progress against mitigating actions is reported to EXCO on a monthly basis by the relevant country or business unit.

INTEGRATING CLIMATE-RELATED RISKS INTO PPC'S OVERALL RISK MANAGEMENT

Climate-related risks are assessed and managed according to PPC's risk governance and management framework (see diagram below), with the board being ultimately accountable for all climate change related decisions.

The framework details how key risks from the operational level are escalated to EXCO, with support from specialised second-line functions, and finally to the board. These escalated risks are considered in the context of PPC's external environment and its strategic planning process.

RISK GOVERNANCE AND MANAGEMENT FRAMEWORK



* *The Remuneration Committee and Nominations Committee have been consolidated into a single committee as of 1 October 2021.*

We will be using the King IV Guidance on the responsibilities of governing bodies in responding to climate change to focus this risk governance structure more specifically on climate change and other Environmental, Social and Governance (ESG) components.

CLIMATE CHANGE TRAINING FOR THE PPC BOARD

As part of this TCFD process, the board members participated in a full day of climate training and deliberation to align on the process and target setting. This covered topics such as climate change drivers, climate change risks and opportunities, and stakeholder expectations. The training content also detailed the work underpinning this report, namely the climate scenario analysis, GHG-reduction target setting, and the newly developed PPC climate change strategy and roadmap. The board members then signed off on the targets described in this report, and on this report as a whole.

CLIMATE RISKS AND OPPORTUNITIES

CEMENT'S CARBON CHALLENGE

The cement industry currently generates approximately 7 % of the world's carbon dioxide (CO_2) emissions. Although these emissions are partially offset by the carbon sink that concrete as a building material provides, reducing the industry's overall emissions remains crucial for reaching global net-zero ambitions.

The demand for cement products is projected to increase in coming decades along with growing rates of urbanisation and electrification. But the industry's ability to decarbonise is inhibited by the lack of viable options to reduce emissions, the degree to which consumers are willing to pay for greener products, and the time to change standards, test and demonstrate track records of new products. The carbon challenge for cement is therefore significant.

CONTINUED NEED FOR CEMENT IN A NET-ZERO WORLD

As a key component of concrete, cement is integral to people's everyday lives and used in almost everything we build. The demand for cement in future will be moderated by rising cement prices (linked to decarbonisation costs and carbon pricing), the growing circular economy, and the negative impacts of physical climate change on GDP growth.

However, overall, the demand for concrete is set to increase on account of global net-zero ambitions, most notably to expand the renewable and low carbon energy infrastructure (e.g., wind, solar, green hydrogen) needed to support high levels of urbanisation, enable widespread electricity access, and achieve global decarbonisation objectives. Concrete will also be needed to improve the climate-resilience of infrastructure more generally, and to support efforts to adapt to the physical impacts of climate change.

DECARBONISING CEMENT

The cement industry faces the challenge of reducing CO_2 emissions while simultaneously responding to a growing demand for concrete. Over the last 30 years, through improved electricity efficiency, thermal efficiency and the use of supplementary cementitious materials (SCMs), the global cement industry has reduced the volume of CO_2 emissions per tonne of cement by more than 30 %.

Further reductions will require investments in mitigation technologies that are largely undeveloped. Around 15 % of the global emission reductions needed across all sectors by 2030 are expected from technologies under development, and close to 50 % of the emission reductions required by 2050 are expected from technologies under development.

Additional mitigation technologies are capital intensive. In the developed world, many of the low-hanging fruit associated with energy efficiency – which has a positive net-present financial value – has already been picked. Affordable renewable energy options are emerging, but these will still incur costs. For example, managing the supply of AFRs to meet thermal energy requirements in our kilns will require investments in CAPEX and OPEX, and explorations into the technical and financial feasibility of Carbon Capture and Storage (CCS) and Carbon Capture, Utilisation and Storage (CCUS) will take time.

Questions currently remain about whether there will be sufficient legislative and legal certainty to justify industry investment in decarbonisation, whether society can afford these changes, and how CO_2 reductions in concrete and carbonation will be measured and verified.

A SNAPSHOT OF PPC'S PHYSICAL CLIMATE RISKS

PPC already experiences a wide range of weather-related impacts across all parts of the business, at most of our operational sites and along our value chain. The impacts are geographically widespread, variable in nature (e.g., floods, hurricanes), and have already resulted in lost revenue.

- The sites in Rwanda and DRC experience significant impacts from extreme precipitation, increased temperatures and humidity.
- The South African Inland sites are primarily impacted by extreme precipitation and flooding, though not as significantly as Rwanda and DRC[1].
- The South African Coastal sites are primarily impacted by potential drought and reduced water supply.
- Zimbabwe is impacted by multiple weather variables, including extreme precipitation and flooding, drought and cyclones (from Mozambique). These are exacerbated by infrastructure challenges.

These impacts are likely to be amplified by climate change in the future. To understand what this amplification would mean for our business, we considered site-specific physical risks under two levels of global warming (Representative Concentration Pathways (RCP) 4.5 vs. RCP 8.5). Both global warming levels are subsumed within Scenario 1 (Current Pathway), detailed in the next section.

CLIMATE RISKS AND OPPORTUNITIES continued

MAJOR CLIMATE-RELATED BUSINESS IMPACTS

Increased moisture content of material

Increased moisture content of material can limit production capacity and reduce output performance by: (1) increasing stoppages by causing blockages, slippages, and chute choking, (e.g. Cimerwa); and (2) causing conveyor belts to become slippery which leads to delays in the offload and conveyance of coal. This affects production processes (raw, mill, kiln, crushing stages), increases operating and capital costs, and limits sales potential.

Damage to transport infrastructure

Flooding, mudslides and landslides damage transport infrastructure and can cause the closure of factories, mines, roads and ports, reductions in railway speed and river port drafts, and the flooding of stock warehouses. This affects the delivery of product, and the supply of materials, consumables and spares.

Disruptions to operations

Drought disrupts operations and reduces regional water supplies. It can lead to regional water restrictions which can hinder or prevent construction, slow market demands and reduce production levels. It reduces the ability to perform dust suppression activities, thereby increasing emissions compliance risks. By necessity, alternative process and potable water must be purchased to ensure operational continuity. Water disputes can drive tensions between PPC and local farmers and communities. This affects production, PPC's reputation and community relations, and limits sales.

Physical climate risk with increased global warming

Levels of risk for major climate-related business impacts
Medium risk | High risk | Very high risk

Cimerwa (Rwanda)
- Warmer all year, with heatwave risks
- More hot nights
- More intense extreme rainfall events
- Longer dry spells in the dry season

Barnet (DRC)*
- Warmer all year, particularly in the dry season
- Longer warm spells during the dry season
- Increased maximum daily rainfall
- Increased frequency of heavy rainfall

De Hoek (RSA Coastal)
- More very hot days, moderate heat stress** risk
- Less rainfall, particularly in winter
- High increase in drought risk
- High increase in wildfire risk

Riebeeck (RSA Coastal)
- More very hot days, moderate heat stress** risk
- Less rainfall, particularly in winter
- High increase in drought risk
- High increase in wildfire risk

Port Elizabeth (RSA Coastal)
- Warmer all year round
- Wetter summers, drier winters
- Extreme increase in drought risk
- Extreme risk of coastal flooding

Harare (Zimbabwe)
- Warmer all year, most notably in winter
- More very hot days in October and November
- Longer and drier winter season

Colleen Bawn (Zimbabwe)
- Warmer all year, especially before and during summer
- More very hot days in October and November
- Longer and drier winter season
- Increased likelihood of severe drought

Bulawayo (Zimbabwe)
- Warmer all year, particularly before and during summer
- More very hot days in October and November
- Longer and drier winter season
- Increased likelihood of severe drought

Dwaalboom (RSA Inland)
- Hotter all year, particularly during summer
- Wetter summer and drier winter
- Increase in drought risk
- Increase in wildlife risk

Slurry (RSA Inland)
- Warmer all year round
- Hotter summers and drier winters
- Moderate increase in heat stress** risk
- Moderate increase in drought risk
- Extreme increase in wildfire risk

Hercules (RSA Inland)
- Hotter summers
- Moderate increase in heat stress** risk
- Moderate increase in drought risk
- High increase in wildlife risk

Jupiter (RSA Inland)
- Hotter summers
- Moderate increase in heat stress** risk
- Moderate increase in drought risk
- High increase in wildlife risk

* *Barnet is no longer under PPC's control, but was assessed here given our intention to leverage our influence.*
** *Heat stress represents a combination of both an increase in very hot days and an increase in heat wave days.*

There was a roughly equal proportion of direct operational and indirect value chain impacts.
Value chain impacts primarily arise during events of extreme precipitation and cyclones/hurricanes.

USING SCENARIO ANALYSIS TO UNDERSTAND PPCS RISKS AND OPPORTUNITIES

PROCESS OVERVIEW

Scenario analysis is useful for assessing the business implications of climate change, and for making strategic and risk management decisions under complex and uncertain futures.

Based on data from the Intergovernmental Panel on Climate Change (IPCC), recent work on Just Transitions by the National Business Initiative in South Africa, various research outputs, and a range of publicly available tools, we used exploratory analysis to assess the resilience of the company strategy in the context of three hypothetical climate scenarios.

SCENARIO 1: CURRENT PATHWAY

This scenario was informed by the International Energy Agency's (IEA) Stated Energy Policies Scenario (STEPS) and the Nationally Determined Contributions (NDC) high range.

SCENARIO 2: DISORDERLY TRANSITION

This scenario was informed by the IEA's Sustainable Development Scenario (IEA SDS).

SCENARIO 3: SUPPORTED TRANSFORMATION

This scenario was informed by the IEA's Net Zero Emissions by 2050 Scenario (NEZE2050) and the United Nations Inevitable Policy Response (UN IPR).

The scenarios are sufficiently different from each other to capture a wide range of insights. For each one we assessed **climate transition risks** (risks related to actions in response to the threat of climate change), **physical climate risks** (direct risks to the supply chain and indirect risks to value chains stemming from changing or extreme climate patterns), and their associated **business impacts**. Climate transition risks are particularly relevant at the company level, while physical climate risks are most relevant at operational and division levels.

These scenarios, described in more detail on subsequent pages, represent PPC's first analysis. Additional analyses will be performed in future to reflect emerging changes in policies, technologies and markets, and as downscaled climate data becomes more widely available.

It is important to note that there exists significant uncertainty regarding the development of policies and technology, and the associated impacts on supply and demand of PPC products. Though we drew on credible sources to project market, policy and legal, technology and reputational changes associated with different physical climate projections, there are divergent views concerning these transition pathways.

It is also important to note that although Barnet in DRC is no longer under PPC's control, we included it in these analyses given our operational support commitments.

SCENARIO 1: CURRENT PATHWAY

This scenario tracks a 2,7 – 4˚C average global temperature increase by 2100 (RCP[2] 4,5 – 8,5) and sees dangerous levels of climate change with frequent and costly physical disruptions. An unsupportive environment means that mitigation technologies are minimally available and costly.

Climate transition risks

Carbon prices are low ($24 in 2050 in South Africa and negligible for PPC International countries), and the absence of border tax adjustment puts PPC RSA under threat from non-CO_2 tax paying importers. Finance is limited for fossil fuel-based technologies, and there is limited low-cost finance to support net-zero transitions.

Zero-carbon fuels are unavailable. Zero-carbon electricity is available and financially feasible. There is continued use of thermal coal, and some use of gas (in Rwanda).

Mitigation technologies are minimally available and costly. There is limited deployment of CCS/CCUS (no CCS in South Africa by 2050), and limited availability of commercially viable green hydrogen.

Social cohesion decreases over time with high rates of migration into South Africa and high levels of inequality. Population levels and rates of urbanisation are high too. Employment rates are significantly worse than today, and job creation is inadequate.

Physical climate risks

Physical climate disruptions occur at high levels as increasing global average temperatures intensify the frequency and severity of rainfall events (specifically in Rwanda and DRC) and of drought conditions (specifically in South Africa and Zimbabwe).

Business impacts

Moderate risks to higher product prices

Energy costs are low as it is not expected that significant decarbonisation will be required.

Moderate to high decrease in demand

A moderate to high decrease in demand for cement is driven by the negative impacts of physical climate change on GDP growth. This decrease is partially offset by increased electrification and investments in climate-resilient infrastructure.

High impact on production volumes

The physical impacts of climate change affect the ability of operations to produce cement, particularly according to the design specifications. The impacts of climate change on communities surrounding PPC sites also pose risks to operations.

[2] *Used in the IPCC fifth Assessment Report (AR5) in 2014, Representative Concentration Pathways (RCP) refer to the long-term (by 2100) concentrations of the full suite of GHG in the atmosphere. Different concentration pathways lead to different climate futures, with higher RCPs resulting in higher levels of global warming in the coming decades.*

SCENARIO 2: DISORDERLY TRANSITION

This scenario tracks a 2˚C average global temperature increase by 2100 (RCP 2,6), with net-zero emissions by 2060/70. Climate transition impacts are limited to 2030 and rapid thereafter, and physical disruptions occur at low to moderate levels. An unsupportive environment, that follows a stick-rather-than-carrot approach, sees high transition costs and limited availability of feasible mitigation technologies for PPC.

Climate transition risks

By 2050 carbon prices are moderately high ($130 in 2050 in South Africa and $55 for PPC International countries), and the absence of border tax adjustment puts PPC RSA under significant threat from non-CO_2 tax paying importers. There is moderate low-cost finance to support net-zero transitions, and no finance for fossil fuel-based technologies.

Zero-carbon fuels are available but costly. Zero-carbon electricity is also available and financially feasible. There is no use of thermal coal, and some use of gas. Mitigation technologies are moderately available but costly. There is a significant reliance on CCS and CCUS, but no viable storage sites for CCS in South Africa by 2050. Green hydrogen is available at high cost in 2050.

Levels of social cohesion and inequality are low initially but improve towards 2050.

Physical climate risks

Physical climate disruptions occur at low to moderate levels. Although direct risks to operations and indirect risks to supply chains are less material than in Scenario 1 (Current Pathway), they still necessitate investments in adaptation.

Business impacts

High risks to higher product prices

High levels of decarbonisation and high carbon prices drive up capital and operating costs, and carbon prices are expected to remain high over time. The extent of the impact on PPC will depend on cost structures compared to competitors.

Opportunities to increase demand moderately outweigh risks to demand

Demand is reduced by high prices associated with decarbonisation. At the same time demand is moderately increased as a result of an increase in zero-carbon energy (e.g., solar and wind), and on account of increasing electrification across sectors (transport and industry in particular), both of which require investments in infrastructure that use cement. There could be new business opportunities linked to cement-alternative building practices that could generate an alternative revenue stream.

Moderate impact on production volumes

The physical impacts of climate change affect the ability of operations to produce cement, particularly according to the design specifications.

SCENARIO 3: SUPPORTED TRANSFORMATION

This scenario tracks a 1,5˚C average global temperature increase by 2100 (RCP 1,9), with rapid changes to 2030 and net-zero emissions by 2050. A strongly supportive environment that follows a carrot-rather-than-stick approach, provides a wide availability of mitigation technologies, financial incentives for PPC, and strong markets for low-carbon cement.

Climate transition risks

By 2050 carbon prices are high ($200 in 2050 in South Africa and $55 for PPC International countries), and border tax adjustments are in place to protect local producers. There is significant low-cost finance to support net-zero transitions, and no finance for fossil fuel-based technologies.

Finance mechanisms enable the early phase out of coal-fired electricity generation. Zero-carbon electricity is available and financially feasible. By 2050, green hydrogen is available at moderate cost. There is significant reliance on CCS and CCUS (though there are unlikely to be viable storage sites for CCS in South Africa by 2050).

No coal is used in cement production processes globally by 2050. AFRs and gas are used instead, with natural gas accounting for about 40 % of thermal energy.

Employment rates are better than today with a greater proportion of skilled jobs compared to unskilled jobs. This leads to higher levels of unity and social cohesion, low levels of unrest and reduced inequality.

Physical climate risks

Physical climate disruptions occur at low levels, and direct risks to operations and indirect risks to supply chains are less material than in Scenario 1 (Current Pathway).

Business impacts

High risks to higher product prices are minimally offset

High levels of decarbonisation and high carbon prices drive up capital and operating costs. High energy prices are offset by subsidies. Low-cost finance presents a significant opportunity to increase margins but is unlikely to completely offset decarbonisation costs. The extent of the impact on PPC will depend on cost structures and ability to attract low-cost capital compared to competitors.

Risks to demand largely outweighed by opportunities to increase demand

Few alternatives to cement mean that the demand for cement continues despite growing circular economy drivers, energy alternatives, building and design process efficiencies, and aggregate recycling. A significant increase in demand is linked to an increase in cement-using renewable energy infrastructure that is needed to produce green hydrogen (a key technology for decarbonisation), and to increase electrification across sectors (transport and industry in particular). There could be new business opportunities linked to cement-alternative building practices that could generate an alternative revenue stream.

Low impact on production volumes

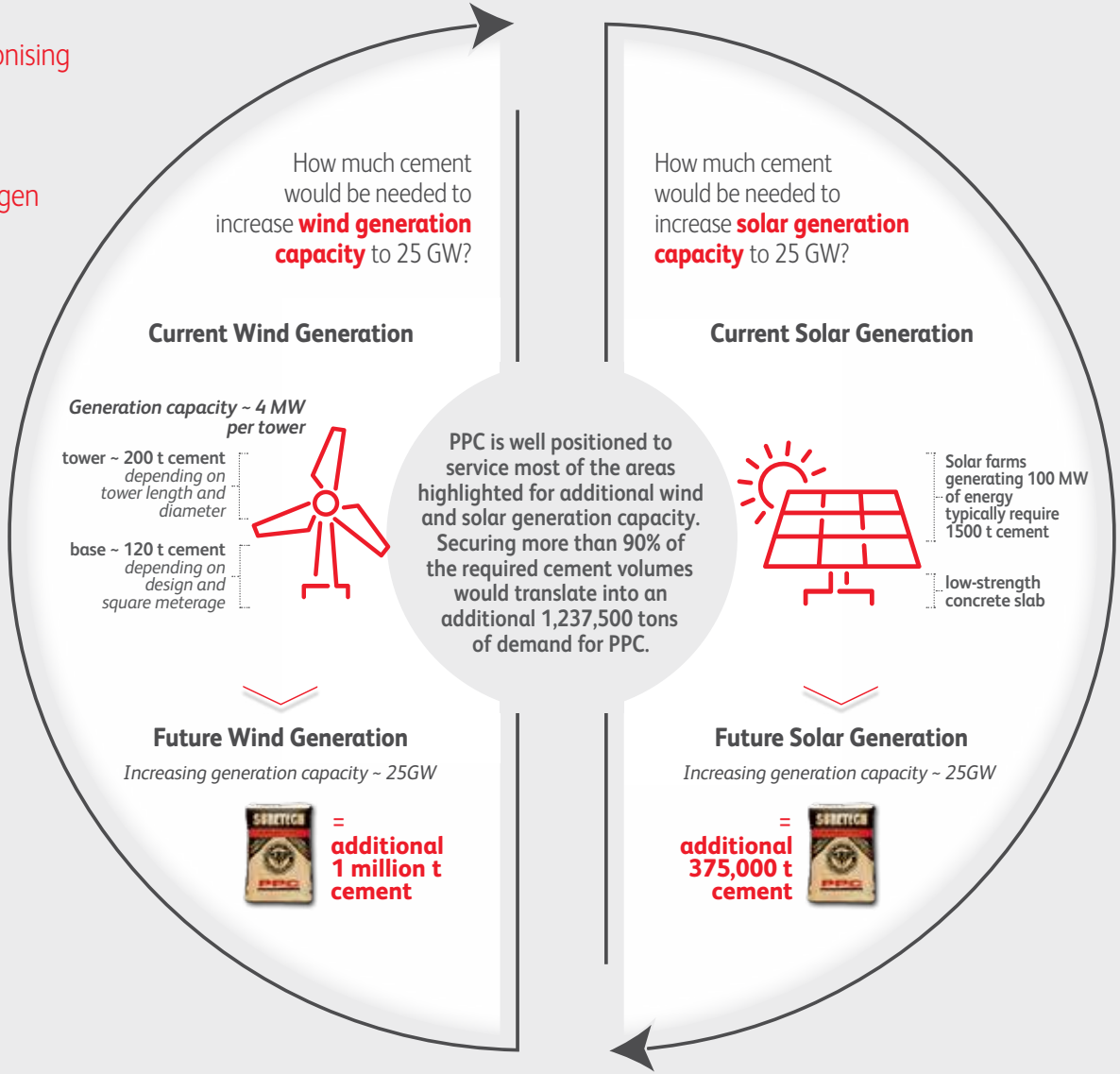
Low levels of physical climate disruptions present low risks to production volumes.

RENEWABLE ENERGY AND CEMENT DEMAND

Green hydrogen is considered a key enabler for decarbonising hard-to-abate sectors, and its development could, significantly increase the demand for cement.

The production of almost 4 million tons of green hydrogen per year would require 40-50 GW of renewable energy capacity.

If South Africa successfully positions itself as a green hydrogen producer (such as in the Supported Transition scenario), the increased investment in solar and wind generation capacity could significantly increase demand (particularly for RSA Coastal).



BUSINESS IMPACTS UNDER DIFFERENT SCENARIOS

	SCENARIO 1 *Current Pathway*	SCENARIO 2 *Disorderly Transition*	SCENARIO 3 *Supported Transformation*
RISKS TO DEMAND Due to reduced GDP growth, higher product prices, and circular economy drivers (alternatives, efficiencies and recycling).	LOW ●	LOW ●	LOW ●
RISKS TO PRODUCTION VOLUMES Due to availability of resources and business disruptions.	HIGH ●●●	MEDIUM ●●	LOW ●
RISKS TO PRODUCT PRICE INCREASES Capital costs, operating costs and product prices.	HIGH ●●●	VERY HIGH ●●●●	HIGH ●●●
OPPORTUNITIES TO INCREASE DEMAND Associated with cement for climate-transition, infrastructure and building investments, and demand for zero- and low-carbon concrete products.	FEW ●	SOME ●●	MANY ●●●
OPPORTUNITIES TO INCREASE MARGINS Due to increased access to low-cost finance.			FEW ●

BUSINESS IMPACTS: A CONSOLIDATED VIEW

The primary risk for PPC is the **cost of decarbonisation** linked directly and indirectly to carbon pricing (the extent of which is uncertain and subject to global regulation and border adjustments), energy costs, cost of capital and abatement technology costs. In the case of the Current Pathway (Scenario 1), there are additional costs associated with adapting to physical climate impacts. The Supported Transformation scenario (Scenario 3) would offer some opportunities to reduce negative margin impacts, particularly through access to low-cost capital aligned with net zero but, on balance, the effect remains significantly negative.

Impacts on **demand** are varied and subject to greater levels of uncertainty. Generally, transition and physical climate implications will have a negative impact on cement demand. The critical lever needed to mitigate this is the development of markets that are willing to pay for low-carbon and zero-carbon cement, which would enable PPC to recover decarbonisation costs. If, as in the Supported Transformation scenario (Scenario 3), countries are able to drive investment in infrastructure to enable the transition to net zero (e.g., new wind and solar generation capacity to enable large scale production of green hydrogen), then this could result in significant increases in demand for cement. If not, the negative projected impacts of climate change on countries' GDP growth will further dampen demand.

CLIMATE CHANGE STRATEGY

Our newly developed climate change strategy, informed by our climate scenario analyses, aims to address PPC's material climate risks and opportunities.

The strategy uses FY2020 as its base year, in line with the start of the Paris Agreement, and details short-term targets (up to FY2025), medium-term targets (up to FY2030), and a long-term commitment towards net-zero carbon.

The strategy includes five main activities:

1. Manage our carbon footprint
2. Respond to transition risks and opportunities
3. Increase our resilience to physical risks
4. Address key barriers to decarbonisation
5. Build a foundation of data and human capital to support all activities

In this strategy we have included targets that we deemed to be appropriate given the sub-Saharan African context within which PPC operates.

While we are fully committed to our short-term targets in their current form, our medium- and long-term targets are dependent on external conditions and may be refined in line with emerging regional and global policies, technologies, and market dynamics.

PPC'S CLIMATE CHANGE STRATEGY

Commitment to contribute to an external environment that will enable our long-term ambition

- Support policy to enable decarbonisation and policy for border tax adjustments on carbon-intensive cement imports
- Collaborate with partners across our value chain
- Support policy for innovative decarbonisation technologies (e.g., CCUS and green hydrogen)
- Pilot innovative technologies and contribute to low-carbon research and development in the cement value chain
- Support reductions in our Scope 3 emissions

FY2020 — Short-term targets — FY2025 — Medium-term targets — FY2030 — Long-term ambition

Greenhouse gas strategy

Targets use FY2020 as a base year, and are only for operations under PPC's control (i.e. exclude Barnet in the DRC).

756 kg CO_2/t cementitious product

10% reduction R664m CAPEX allocation over the period

680 kg CO_2/t cementitious product

27% reduction CAPEX allocation to be determined

Targets may be refined in line with emerging policies and technologies, and changing market dynamics

less than **550** kg CO_2/t cementitious product

Net Zero (Scope 1 and 2)

Main activities

1 Manage our carbon footprint

- Maximise investment in energy efficiency and renewable energy
- Continue to roll out Alternate Fuels and Raw Materials, calcined clay and use of extenders
- Use an internal price on carbon and water
- Invest significantly in Alternate Fuels and Raw Materials and calcined clay
- Maximise use of extenders
- Support reduction in Scope 3 emissions
- Pilot CCUS
- Leverage new technologies (e.g., green hydrogen)

2 Respond to transition risks and opportunities

Track the development of innovative technologies
Track the integration of climate policy and regional policy
Explore alternative, low/zero-carbon business models and revenue streams

3 Increase our resilience to physical risks

Invest in appropriate operational adaptation measures
Include weather projections in part of capital project and acquisition decision making
Invest directly in community resilience and adaptation measures

- Invest in downscaled physical climate data
- Further integrate physical climate risks into formal risk management processes
- Collaborate to deliver collective action at the catchment level

4 Address key barriers to decarbonisation

Collaborate with partners
Drive the creation of markets for low-carbon/zero-carbon cement

- Support policy to enable decarbonisation
- Support policy for border tax adjustments on carbon-intensive cement imports
- Support policy for innovative technologies (e.g., CCUS and green hydrogen)
- Maximise use of low-carbon finance

5 Build a foundation of data and human capital to support all activities

Improve data systems
Invest in climate-related training and human-capital resourcing

* A full assessment of CAPEX, OPEX and other implementation requirements (e.g., changes to the policy and institutional environment needed to enable those investments), will form part of the next phase of our process and detailed, site-specific roadmaps will be developed.

MANAGE OUR CARBON FOOTPRINT

In FY2021/22 we developed a GHG reduction strategy with a short-term target, a medium-term target, and a long-term ambition of achieving net-zero emissions (Scope 1 and 2) by 2050 (see Climate Strategy). We will use these targets to set PPC on a new and multifaceted decarbonisation journey.

The targets were based on modelled GHG mitigation potential and considered the degree of deployment of different technology options at each PPC site. A description of the technology options, deployment requirements, extent of deployment and other relevant assumptions relating to decarbonisation are detailed below.

The CAPEX associated with achieving our FY2025 targets is allocated to projects that represent a good financial business case, that deliver production benefits and result in reduced GHG emissions.

USING RENEWABLE ENERGY

Renewable energy delivers a net-present saving relative to grid electricity and, if obtained through a power purchase agreement (PPA), whereby an independent power producer (IPP) builds and operates the generation capacity, there is no CAPEX investment required of PPC. The key constraints are currently technical (where network infrastructure cannot accommodate wheeling of power through the grid), or institutional (where wheeling is not allowed). Over time we anticipate the easing of these constraints.

The on-site solar photovoltaic (PV) project at Slurry, Dwaalboom and De Hoek is currently in the implementation phase with an environmental impact assessment and financial closure evaluation underway. The commercial operating date for this project is October to November 2022, by which point we expect approximately 30 MW to be generated from solar power. Rooftop solar installations for our Jupiter, Hercules, Mooiplaas and Laezonia sites are also being considered. These projects, once approved, will be operational in June 2022, by which point we expect approximately 2 MW to be generated from solar power.

PPC RSA is exploring a PPA to contract an additional load of 20 MW solar and 8.4 MW wind power wheeled through the Eskom Grid. This would be just under 100 GWh per year and meet approximately 30 % of the annual electrical requirements at Slurry, Dwaalboom, De Hoek and Riebeeck.

In Rwanda, PPC CIMERWA installed a 50-kW solar PV plant based on a PPA and is exploring the possibility of increasing the capacity of the plant to 1 MW under a second PPA. The company employs local community members to conduct regular maintenance and upkeep of the plant. CIMERWA also installed 51 solar power units to power the geysers of houses in the local village during the year.

At Colleen Bawn in Zimbabwe, the tender process to install a 30 MW solar PV plant has been finalised and approved by the board with work planned to begin in FY2022.

IMPROVING ENERGY EFFICIENCY

Energy efficiency will not deliver the step change needed to reach our net-zero emissions, but it remains an important contributing option that, due to the current financial benefits, will be leveraged as much as possible. We have already taken various steps to implement electrical and thermal efficiency measures. Various strategic projects which will contribute to thermal and electrical energy savings are also underway and will be completed during FY2022.

Further efficiency improvements are possible up to the point at which sites are operating at their optimal design. These measures generate net-present savings and any CAPEX and OPEX is typically included within production budgets.

USING ALTERNATIVE FUELS AND RAW MATERIALS

Biomass and waste (refuse-derived fuels (RDF)) represent alternatives for the coal used in our kilns. Depending on the plant, reaching our target will require additional investments in air-quality management, storage facilities, feeding systems and calciner upgrades. Ramping up Thermal Substitution Rates (TSR; % coal substituted with AFRs) to beyond 30 % would require significant CAPEX investments.

Our targets are based on a maximum TSR of 20 % in FY2025 and 40 % in FY2030 using one or a combination of AFRs, depending on site-specific circumstances and supply availability.

Biomass is technically proven but there are supply constraints and there is a need to resolve differing positions on GHG emissions accounting of this option.

Waste regulations in South Africa are currently prohibitive and higher disposal gate fees would be needed to improve the economics. This is particularly the case where coal costs are lower (e.g., in Zimbabwe). In South Africa coal prices are relatively higher for our Coastal Business Unit (BU) than the Inland BU, making this a more attractive option at De Hoek and Riebeeck in the shorter term.

Use of tyres as RDF is underway at De Hoek and our medium-term targets assume up to 20 % TSR subject to available supply. Using tyres as AFRs is not possible in Rwanda and Zimbabwe due to the second-hand market for tyres limiting the waste-tyre market currently.

Securing adequate supply of AFRs at our plants represents a potential constraint and there are uncertainties regarding the future delivered price of biomass, RDF and tyres.

SUBSTITUTING CLINKER

We will scale up our research and investments in calcined clay and best-performing clinker to the full extent possible. Calcined clay offers a viable alternative to clinker and coal consumption due to the lower thermal energy requirements, but its standards will need to change to accommodate the increased use of calcined clay. The extent to which product standards are adjusted and the timing of these adjustments will influence our ability to leverage this option.

Other Supplementary Cement Materials (SCMs) offer opportunities to substitute a portion of clinker in cement and contribute to circular economy objectives through the use of waste products. SCMs include slag (a waste product from the iron and steel industry) and fly ash (a waste product from coal-fired power stations). Fly ash and slag currently account for 15 % of cement production globally but this could be higher if these SCMs were more readily available and if transport costs were feasible.

Available supply, at a suitable quality, is the primary constraint to deploying this option at PPC, with product standards further constraining maximising substitution. In Rwanda and Zimbabwe, for example, product reclassification would be required to increase the use of fly ash.

Geopolymers, hybrid cements and alternative chemistries are an option. Many of these are not yet practical on a large scale because supply is scarce locally and further work is needed to understand how cement properties are affected at different levels of substitution. Pozzolana is one such alternative and has been applied in our operation in Rwanda.

ADOPTING OTHER MITIGATION OPTIONS

Waste Heat Recovery (WHR) is technically feasible but is less financially attractive than renewable energy and is therefore not factored into our decarbonisation plans.

There are additional options to switch to low- or zero-carbon fuel. Globally, natural gas is being used to replace coal but in general cement plants are not ideally situated to access gas. Supply of further natural gas to South Africa is unclear at this stage. Natural gas may become a viable option in Rwanda as the country is looking to phase out coal and unlock gas supply. Hydrogen, and particularly green hydrogen, could provide a low-carbon fuel but this would require kiln redesign. Technologies need to further mature before this can become a viable option in the cement industry.

Our sites have explored diesel alternatives, but significant savings are not currently possible and have therefore not been included in the options associated with our targets.

Net-zero modelling undertaken by the IEA and other analysts indicates that CCS and CCUS is needed to reach net zero in the cement industry. These options are currently not financially feasible, and, in the case of CCS, there are concerns around adequate and appropriate storage capacity in

the areas where we operate. These options have therefore not been included in the plans associated with our short- and medium-term targets. We will track developments around these technologies and consider their implementation in the longer term.

MONITORING EMISSIONS

We monitor and evaluate our energy usage and Scope 1 and 2 emissions and explore ways of leveraging new technologies and developing technologies to reduce the impact of our production processes. We conduct regular internal verification audits to improve the accuracy and assurance of our monitoring and evaluation efforts. In addition annual assurance audits are conducted by external parties.

When South Africa initiated the first voluntary five-year cycle of the GHG emission mitigation system in 2016, we readily participated. The initial carbon budget was approved in 2016 and, in FY2021, we submitted our carbon budget for review. The Department of Forestry, Fisheries and Environment has acknowledged receipt and has committed to reviewing the carbon budget performance together with our annual pollution prevention plans.

All of our cement operations are registered and approved on the South African Greenhouse Gas Emissions Reporting Systems (SAGERS), which will be used to inform our carbon tax liability. Our annual GHG report was submitted through the SAGERS system as per GHG reporting regulations.

DEVELOPING LOW-CARBON PRODUCTS

Our low-carbon SURE RANGE products are a significant part of our current mitigation efforts.

We will also focus on driving the innovation of cement-alternative building practices. As we investigate these alternatives, we will explore options for directing resources from our current business model into an adjacent, low-carbon business model that is not directly linked to cement and that can ultimately become our core revenue stream.

RESPONSE TO CLIMATE TRANSITION RISKS AND OPPORTUNITIES

We used the scenario analyses to inform a set of strategic actions that can enhance PPC's resilience to climate transition risks and ensure we can leverage climate transition opportunities.

Climate transition and physical risks impact sites differently, and our climate strategy will be tailored as needed at the site level. For example, in Zimbabwe we will focus on extenders while in RSA Coastal we will consider investing in calcined clay.

We will track the development of climate policy (i.e., carbon pricing and border tax adjustments) and consumer willingness and ability to pay for low-carbon/zero-carbon cement. We will also monitor developments in the hydrogen economy, particularly in South Africa, both in terms of the impact on demand for cement but also as a mitigation technology for cement production. We will track the development of innovative technologies (e.g., CCS and CCUS), clinker alternatives, the circular economy and market offsets.

We will monitor the role of the "just transition" objectives that might result in new wind and solar deployment in South Africa to mitigate negative development implications associated with a declining coal industry (despite the less favourable wind and solar resources). We will also monitor the progress of the implementation of the African Continental Free Trade Area (AfCFTA) with respect to its influence on the climate-related competitiveness of cement producers.

Lastly, but crucially, we will explore options for directing resources from our current business model into an adjacent, low-carbon business model that is not directly linked to cement and that can ultimately become our core revenue stream. We will set targets for this business transition in future reports.

INCREASE OUR RESILIENCE TO PHYSICAL CLIMATE RISKS

We used the scenario analyses to inform a set of strategic actions that can enhance PPC's resilience to physical climate risks.

We will record and report on site-specific weather impacts in a consistent way across the PPC Group. We will analyse these data for trends and integrate them into our risk-management systems as needed.

We will ensure that climate variables, and particularly future climate changes based on the results of downscaling or other tools, are integrated within the risk determination methodology. We will integrate site-specific data and future weather projections into project planning phases to avoid potentially costly project delays and/or inadequate equipment design.

We will update capital project processes and new acquisition processes to incorporate the impacts of a changing physical climate. As ways of integrating climate risks and opportunities into companies' mainstream filings become clearer, so the financial impacts of climate change will become part of our financial reporting.

The physical impacts of climate change are likely to manifest strongly on the individual communities surrounding PPC operations. Any strategic response to climate adaptation will include considerations of how we can improve the resilience of these communities. We will develop partnerships with key stakeholders around our sites to facilitate the just and sustainable management of the impacts of physical climate risks. Examples include catchment management partnerships around water supply in operations where drought is a potential risk.

ADDRESS KEY BARRIERS TO DECARBONISATION

We are committed to contributing to an external environment that will enable our long-term ambition.

Through continued partnerships and collaborations, we will support the stimulation of markets for low-carbon and zero-carbon cement. The market is currently not willing to pay the premium for green cement, and consequently producers cannot recover the costs of their mitigation investments. It is not economically viable to transport cement long distances and therefore African producers will continue to supply to African markets that, unlike the European Union and countries in the Global North, are unlikely to put in place measures to create a significant demand for green cement into the future. Public procurement programmes are seen as a key market enabler, and although such programmes would create demand to stimulate supply, governments in Africa cannot afford to pay the green premium, especially given the impacts of COVID-19. South Africa's National Treasury's recent decision to use local cement on government-funded projects may provide a basis from which to collectively design strategic programmes that drive investments in cement decarbonisation.

We will devote resources to influencing policies that can enable decarbonisation (e.g., waste policy, increased gate fees and stringent disposal policies) and address the misalignment between policies and industrial capabilities. We will also lobby the government to prevent imports that hinder the decarbonisation of the local industry.

CROSS-CUTTING ACTIONS TO SUPPORT ALL ACTIVITIES

All activities in our climate change strategy are reliant on a solid foundation of data and capacity, and we will continue to take the steps necessary to build such a foundation.

The physical impacts of weather events and za changing climate are localised and require site-specific understanding and management. We will continue to screen for material climate impacts at each site and will invest in improved and higher-resolution datasets to increase the accuracy and certainty associated with our projections. We will initially prioritise downscaled climate modelling for sites with high baseline risks, namely CIMERWA and Zimbabwe. However, we will also closely monitor the impact of drought on our coastal operations despite their low baseline risks, given the potential threats facing communities in these areas.

Our scenario analysis demonstrates the material risks, and, to a lesser extent, opportunities associated with climate change. Dedicated climate change experts are needed to manage the transition, and we will use investments to support the training, development and recruitment of such experts.

APPENDICES

REFERENCE LIST

1. International Energy Agency (2021). Net Zero by 2050. A Roadmap for the Global Energy Sector.
2. Xi, F., Davis, S., Ciais, P. et al. (2016). Substantial global carbon uptake by cement carbonation. Nature Geoscience 9: 880–883.
3. Lowitt, S. (2020). Towards the decarbonisation of the South African cement industry: opportunities and challenges. Pretoria: TIPS.

LIST OF ACRONYMS

AFRs	Alternative Fuels and Raw Materials
BAU	Business as Usual
BU	Business Unit
CCS	Carbon Capture and Storage
CCUS	Carbon Capture, Utilisation and Storage
GHG	Greenhouse gas
GRI	Global Reporting Initiative
IEA	International Energy Agency
IEA NEZE2050	IEA Net Zero 2050
IEA SDS	IEA Sustainable Development Scenario
IEA STEPS	IEA Stated Policies Scenarios
IPCC	International Panel on Climate Change
IPP	Independent Power Producers
NDCs	Nationally Determined Contributions
PPA	Power Purchase Agreements
RCP	Representative Concentration Pathways. Used in the IPCC fifth Assessment Report (AR5) in 2014, RCPs refer to the long-term (by 2100) concentrations of the full suite of greenhouse gases in the atmosphere. Different concentration pathways lead to different climate futures, with higher RCPs resulting in higher levels of global warming in the coming decades.
RDF	Refuse-Derived Duels
SAGERS	South African Greenhouse Gas emissions Reporting Systems
SCM	Supplementary Cement Materials
SCOPE 1	Scope 1 emissions are direct emissions from company-owned and controlled resources.
SCOPE 2	Scope 2 emissions are indirect emissions from the generation of purchased energy, from a utility provider.
SCOPE 3	Scope 3 emissions are all indirect emissions – not included in scope 2 – that occur in the value chain of the reporting company, including both upstream and downstream emissions.
SDG	Sustainable Development Goals
TCFD	Task Force on Climate-related Financial Disclosures.
TSR	Thermal Substitution Rates
UN IPR	United Nations Inevitable Policy Response
WHR	Waste Heat Recovery

CROSS-REFERENCE TO TCFD RECOMMENDATIONS

CATEGORY	SECTION	RECOMMENDED DISCLOSURES	PAGE IN FY21 TCFD
TCFD	**Governance** Disclose the organisation's governance around climate-related risks and opportunities.	a) Describe the board's oversight of climate-related risks and opportunities. b) Describe management's role in assessing and managing climate-related risks and opportunities.	Page 4 for Governance section a and b
TCFD	**Strategy** Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term. b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning. c) Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2˚C or lower scenario.	a) Page 6 for Climate Scenario section b) Page 7 for Climate Scenario c) Page 8 – 11 for Climate Strategy section
TCFD	**Risk Management** Disclose how the organisation identifies, assesses, and manages climate-related risks.	a) Describe the organisation's processes for identifying and assessing climate-related risks. b) Describe the organisation's processes for managing climate-related risks. c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Page 4 for Governance section for a, b and c
TCFD	**Metrics and Targets** Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process. b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas emissions and the related risks. c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Page 4 for Governance section Page 12 for Climate Strategy section Page 13 – 15 for Climate Strategy section

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