Wesfarmers

CLIMATE-RELATED FINANCIAL DISCLOSURES

These are the 2021 Climate-related financial disclosures in the 2021 Annual Report

Climate-related financial disclosures

Across the world, action is being taken to reduce the amount of carbon emitted into the earth's atmosphere in order to mitigate rising temperatures. We believe that business has an important role to play in this transition. At Wesfarmers, we are acting through ambitious targets within our own operations and by working in partnership with global peers, non-government organisations and others.

Our climate-related disclosures and strategy have evolved significantly in the last four years and the Taskforce on Climate Related Financial Disclosure (TCFD) is an effective tool to assess and report on climate strategy, risk and opportunity across the Group.

2021 HIGHLIGHTS

Reduced greenhouse gas emissions across the Group

↓9% reduction in Scope 1 and 2 emissions

Retail renewable electricity targets

Retail businesses commit to 100% renewable electricity by 2025

$1.0 billion sustainability-linked bonds

Wesfarmers issued Australia's first sustainability-linked bonds with interest rates linked to renewable energy and emissions performance targets

$950 million for Mt Holland lithium project

With our partner SQM, the project expects to produce lithium hydroxide for the growing electric vehicle industry by the end of 2024

Chemicals, Energy and Fertilisers

Waste heat recovery systems at the chemical production facilities were optimised resulting in more than 75 per cent of electricity usage from self-generation

Bunnings

↓32% reduction in emissions from actions including energy efficiency, solar generation and renewable energy procurement under market-based reporting

GHG EMISSIONS AND ENERGY USE

This year, Wesfarmers emitted a total of 1,476 thousand tonnes of carbon dioxide equivalent (CO_2e) in Scope 1 and 2 emissions. This represents a nine per cent reduction on the prior year.

Bunnings, Officeworks and Kmart Group reduced their emissions through the continued rollout of solar and energy efficiency projects.

This year, total energy use across the Group decreased by three per cent compared to the prior corresponding period, with 20 petajoules of energy consumed.

Further details on the divisional performance can be found in the divisional pages in this annual report.

MARKET-BASED REPORTING

This year, Wesfarmers will also report under the global Greenhouse Gas Protocol Scope 2 Market-Based Emissions Standard (market-based reporting).

Importantly, this standard allows us to accurately capture and disclose increased use of renewable power which is a key strategy to support the Group's decarbonisation goals. It also captures increased behind-the-meter generation and voluntary renewable energy purchases through various contractual arrangements.

The market-based reporting standard aligns to the reporting requirements under proposed Corporate Emissions Reductions Transparency reporting.

Greenhouse gas emissions

(from continuing operations)

SCOPE 1 & 2[1]

1,475.6ktCO$_2$e

Market-based

2021[2]	**1,308.9**
2021	**1,475.6**
2020[3]	1,620.5
2019	1,557.7
2018	1,435.9
2017	1,489.7

[1] Scope 1 and 2 data includes emissions for businesses where we have operational control under the NGER Act and emissions in New Zealand.

[2] Emissions based on GHG Protocol Scope 2 market-based reporting standard.

[3] Data restated after NGER submission correction.

This year, Officeworks was proud to commit to sourcing 100 per cent of its electricity from renewable sources by 2025. This commitment has been embraced by Officeworks team members. Pictured here are team members from the Traralgon, Victoria store.

Our emissions profile

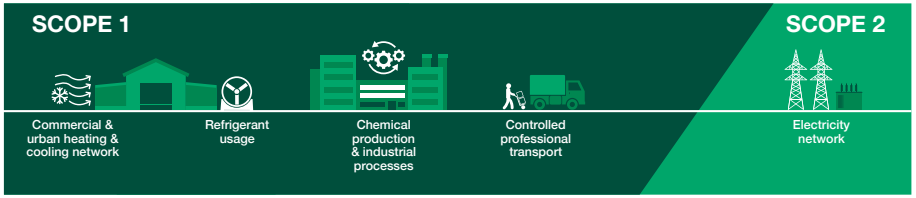
WESFARMERS SCOPE 1, 2 AND 3 EMISSIONS

Our Scope 1 emissions predominantly come from the manufacture of ammonia, ammonium nitrate, sodium cyanide, LNG and LPG at our WesCEF businesses, the manufacturing and transportation of industrial and medical gases by our Coregas business, as well as the use of natural gas and transportation fuels, such as diesel and petrol, in our retail businesses.

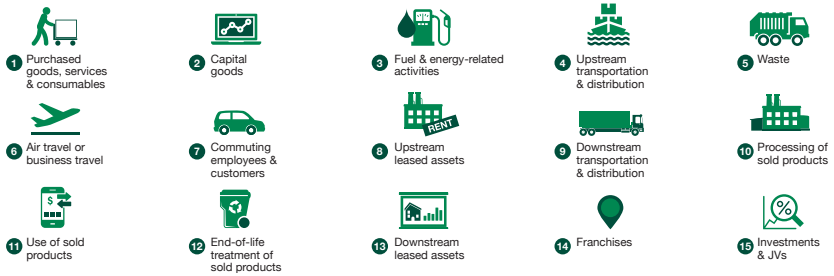
Our Scope 2 emissions come from electricity use, predominantly in our retail businesses.

Our Scope 3 emissions derive largely from the production, transportation, use and disposal of our products and the waste generated across our operations. We continue to focus on understanding and managing our Scope 3 emissions.

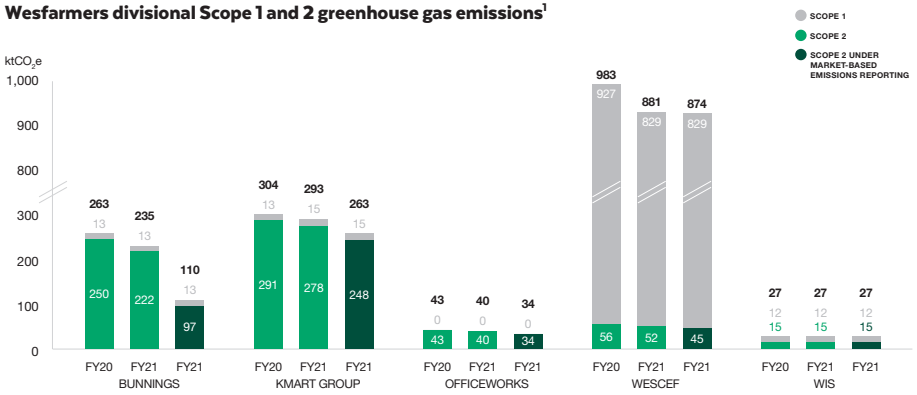
More detailed Scope 1, Scope 2 and Scope 3 emissions data is available on our website at **www.wesfarmers.com.au/sustainability**



SCOPE 3



Wesfarmers divisional Scope 1 and 2 greenhouse gas emissions[1]



[1] Scope 1 and 2 data includes emissions for businesses where we have operational control under the NGER Act, and emissions in New Zealand.

Targets and aspirations

Wesfarmers reports transparently against our targets and aspirations, consistent with the Group's desire to support the global goal of reducing greenhouse gas emissions, and the Paris Agreement.

With the different emissions profiles of our diverse businesses, targets and aspirations have been set for each division or business, as appropriate.

In the 2021 financial year, all divisions made steady improvements against their targets. These included energy efficiency projects, behind-the-meter generation, renewable energy procurement, chemical production improvements and investing in abatement catalyst technology.

Our journey so far

- Developed and adopted a Group Climate Change Policy
- Adopted divisional emissions targets and aspirations
- Progressed the measurement of some Scope 3 emissions
- Modified performance goals and remuneration of the Wesfarmers Managing Director and the divisional managing directors to include an assessment of their performance against the Climate Change Policy and divisional emissions targets and aspirations

Our journey from here

- Achieve divisional short-term emissions targets and long-term net zero targets and aspirations
- Investigate technologies and opportunities to accelerate progress against targets and aspirations
- Increase our ambitions as necessary
- Develop a better understanding of our Scope 3 emissions and consider strategic responses

BUNNINGS

2021 EMISSIONS

235 $ktCO_2e$

2021 MARKET-BASED EMISSIONS

110 $ktCO_2e$

2025 TARGET

100%

renewable electricity

2030 TARGET

Net zero

ACTIONS TO ACHIEVE

- Install LED lighting across the remaining store network over the next four years
- Install additional solar PV systems across the store network over the next four years
- Introduce networked Building Energy Management Systems (BEMS) to monitor energy use and investigate anomalies
- Upgrade the store construction brief to include additional insulation, more efficient cooling systems and remove skylights to reduce heat gain and loss
- Procure remaining electricity requirements from renewable sources to achieve our target of 100% renewable electricity by 2025
- Continue to access battery usage opportunities

KMART GROUP

2021 EMISSIONS

293 $ktCO_2e$

2021 MARKET-BASED EMISSIONS

263 $ktCO_2e$

2025 TARGET

100%

renewable electricity

2030 TARGET

Net zero

ACTIONS TO ACHIEVE

- Upgrade LED lighting across the remaining store network over the next four years
- Install solar PV systems on stores where the roof is accessible, over the next four years
- Optimise networked BEMS to monitor energy use, reduce heating, ventilation and air-conditioning usage and investigate anomalies
- Procure remaining electricity requirements from renewable sources to achieve our target of 100% renewable electricity by 2025

OFFICEWORKS

2021 EMISSIONS

40 $ktCO_2e$

2021 MARKET-BASED EMISSIONS

34 $ktCO_2e$

2025 TARGET

100%

renewable electricity

2030 TARGET

Net zero

ACTIONS TO ACHIEVE

- Install LED lighting in remaining store areas including receiving docks and carparks over the next three years
- Install solar PV systems on 80 stores over the next three years
- Leverage networked BEMS through integrated software to optimise energy usage and respond more efficiently to anomalies
- Procure remaining electricity requirements from renewable sources to achieve our target of 100% renewable electricity by 2025

WesCEF

2021 EMISSIONS

881 $ktCO_2e$

2021 MARKET-BASED EMISSIONS

874 $ktCO_2e$

2025 TARGET

Emissions per unit below mean of peers

2050 ASPIRATION

Net zero

ACTIONS TO ACHIEVE

- Investigate renewable energy opportunities and ongoing energy efficiency improvements
- Continued investment to optimise the abatement effectiveness of existing catalyst in the nitric acid plants. This technology reduces nitrous oxide emissions by up to 85%
- Explore a portfolio of options across emissions abatement and sequestration of Scope 1 emissions, and develop a transition roadmap to support net zero aspiration
- Partner with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Energy Transition Initiative to collaborate on the CO_2 roadmap and commoditisation research

INDUSTRIAL AND SAFETY

2021 EMISSIONS

11 $ktCO_2e$ ex-Coregas

16 $ktCO_2e$ Coregas

2021 MARKET-BASED EMISSIONS

11 $ktCO_2e$ ex-Coregas

16 $ktCO_2e$ Coregas

2025 TARGET

13 $ktCO_2e$ ex-Coregas

Emissions per unit below mean of peers Coregas

2050 ASPIRATION

Net zero

ACTIONS TO ACHIEVE

- Review the branch and distribution centre (DC) network to identify new sites suitable for LED lighting, replacement of early generation LED and solar PV installation over the next four years
- Introduce networked BEMS to monitor energy use and investigate anomalies
- Procure additional energy requirements from renewable sources
- Explore projects across clean hydrogen, solar, distribution efficiency and minimising fugitive emissions at Coregas

Governance

Our journey so far

- Developed our Group Climate Change Policy
- All emissions reported regularly internally to better understand trends in our performance
- Integrated climate change with the Group risk and strategy processes

Our journey from here

- Continue to implement and refine our Group Climate Change Policy
- Embed divisional reporting against our Group Climate Change Policy

The Wesfarmers Board has responsibility for managing the Group's response to climate change. Climate change risk management is a permanent item on the Wesfarmers Operating Framework and is discussed by the Board and its Audit and Risk Committee. The Board approves the Group's climate change strategy including the Group Climate Change Policy, targets, strategic climate change-related decisions and climate-related disclosures. The Board also receives regular reporting and oversees climate change risk management. A consolidated Group Risk Report is provided to the Audit and Risk Committee and the Board for review and approval. The Corporate Plan is subject to a similar process and includes emissions forecasts. The Remuneration Committee makes recommendations to the Board regarding executive performance goals linked to performance against the Climate Change Policy and achievement of divisional emissions reduction targets and aspirations.

The Wesfarmers Leadership Team reviews emerging risks and opportunities, leads stakeholder engagement and facilitates the sharing of best practice throughout the Group. Each divisional board and divisional management team is responsible for identifying and managing any material risks and opportunities and business performance, including against the climate change strategy, in accordance with the Group's Risk Management Framework. Divisional audit and risk and compliance committees also oversee climate change-related risks relevant to the division.

In the 2021 financial year, climate change risk management and opportunity assessments were further embedded into the annual Corporate Plan processes. Since 2014, Wesfarmers has considered an internal shadow carbon price as part of capital allocation decisions for projects likely to result in direct carbon emissions. This carbon price is described on our sustainability website at **www.wesfarmers.com.au/sustainability**

EMISSIONS TARGETS

Our individual divisional emissions targets and aspirations reflect attributes of the relevant division including the businesses' emissions profile, expected future growth, recent emissions reductions and opportunities to reduce emissions. Absolute targets are intended to reduce emissions. Intensity targets are intended to reduce emissions per unit of production while not limiting business growth.

Potential for baseline changes

The Group Climate Change Policy provides flexibility to accommodate significant changes to the scale of an existing business. Changes to a baseline must be approved by the Wesfarmers Board.

Mergers and acquisitions

The Group Climate Change Policy recognises the dynamic and evolving nature of the Group and specifically contemplates changes to the portfolio. Where Wesfarmers acquires a business or operation, that business or operation must, within a reasonable timeframe, comply with the Climate Change Policy and establish an appropriate emissions target or aspiration.

WESFARMERS GROUP

- A Group Climate Change Policy sets minimum standards expected of our divisions
- Quarterly Carbon and Energy Forums are held across the Group to share best practice
- A shadow carbon price is built into Wesfarmers' Capital Expenditure Policy
- Risk tools are used to undertake scenario analysis

Wesfarmers Board, Audit and Risk Committee and Remuneration Committee

- Receives regular reporting
- Provides governance over climate change risks
- Sets risk appetite
- Sets performance goals and remuneration

WESFARMERS DIVISIONS

Divisional boards and audit, risk and compliance committees

- Receive regular reporting of emissions and energy use
- Provide governance over climate change risks and support the prioritisation of opportunities

Senior management and the corporate office

- Manage carbon and energy teams
- Set the climate change policy and strategies for the year ahead
- Facilitate training
- Report to their divisional boards, the Wesfarmers Board and Audit and Risk Committee

Carbon and energy teams

- Implement Climate Change Policy
- Have robust processes for recording emissions data
- Implement carbon reduction projects
- Meet regularly to share best practice through Wesfarmers' Carbon and Energy Forum

Strategy

Our journey so far

- Analysed the impact of climate change under different scenarios
- Identified risks, opportunities and strategic responses for our divisions

Our journey from here

- In-depth climate change scenario analysis based on updated scenarios and the latest available scientific information from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report
- Further analysis of the impact of climate change on our supply chains and product mix
- Portfolio analysis and strategic analysis

SCENARIO ANALYSIS

Scenario analysis is at the centre of our climate change strategy, risk management approach, opportunity identification and emission reduction work. We continue to review the latest scientific insight and implications for the scenarios, our climate change strategy and our risks and opportunities. This year we continued the Group-wide scenario analysis undertaken in recent years. Each division reviewed their detailed risk and opportunity assessments and tested them under three climate scenarios to ensure they continue to reflect their key focus areas. The results are summarised on pages 77 to 80.

The three scenarios reflect, respectively, the limiting of global average temperature increases above pre-industrial levels by 1.5°C, 2°C and 4°C by 2100. Each scenario was assessed over the short term (one to five years), medium term (five to 15 years) and long term (15+ years). The scenarios combine elements of the International Energy Agency's 2017 World Energy Outlook, the Representative Concentration Pathways established by the IPCC's Fifth Assessment Report and the Global Climate Models available from the Climate Change in Australia Projections for Australia's National Resource Management Regions Report.

The scenarios are not forecasts or predictions, nor are they intended to fully describe possible future outcomes. Rather, the scenarios are intended to draw attention to the key factors that may impact our businesses.

IMPACTS ON ORGANISATIONAL STRATEGY

Wesfarmers recognises climate change risk as a material risk in our risk profile and we include it in our risk appetite statement. This year we have looked at climate change risks and how they interconnect with other risks to our business including through supply chains and to human rights. This analysis shows that our management of climate change risks to our business is highly dependent on strategic decisions and influenced by other risk areas. For example, supply chain and sourcing management, customer expectations and the potential impacts on communities are impacted by our strategic approach to risk mitigation and climate risk assessments.

We expect that climate change will affect all areas of our business and organisational strategies to an extent. In the short term, potential impacts to our business will largely be influenced by stakeholder views and requirements, existing climate conditions and disruption from natural disasters. These short-term changes are unlikely to influence our overall organisational strategies, however they help us understand emerging trends and enhance our existing approach.

The International Labour Organization (ILO) has estimated that action to meet the Paris Agreement will create 24 million jobs in clean energy generation, electric vehicles and energy efficiency. This will likely result in major structural adjustment including job losses which may be focused on certain industries and communities.

Those communities most impacted will need support to ensure the transition is fair and equitable — a just transition. There is potential for our businesses to work with other stakeholders to support those directly impacted by low carbon policies.

1.5°C

- Strong, very fast reduction in emissions driven by government policy, with a focus on minimising climate change
- The energy system rapidly transforms to zero emissions, via the uptake of renewables
- Carbon intensive industries can only continue if they invest in carbon capture and storage technologies and/or are among the most efficient in their industry
- Consumption of non-essential items falls and people reuse and recycle more

2°C

- A market-led transition, enabled by a policy environment which drives rapid reductions in emissions
- A decentralised energy system emerges, dominated by demand management, renewable energy and storage technology
- Global trade flows remain strong, and the focus on circular economies grows with an increase in recycling and a decoupling of resource use and growth

4°C

- No coordinated global action on emissions reduction
- Business does not change significantly to address climate change
- Fossil fuels deliver approximately 50 per cent of the global energy mix
- Acute (extreme) and chronic (long term) physical impacts of climate change are felt, with significant cumulative impact on the economy
- Economic growth continues to 2030 and then declines as ecosystems struggle to support the increased environmental impact
- Resource depletion causes food and water scarcity and increases the risk of conflict

Risks and opportunities

FINANCIAL RISKS

Climate change may have both a negative and positive impact on our financial performance. Negative impacts will be minimised through focus on active risk management, implementation of mitigation strategies and by realising opportunities.

Business critical analysis helps inform our strategies and ensure they are targeted, effective and timely. We are planning for various possible climate scenarios and integrating relevant assumptions into our corporate planning process. In the medium to long term, the extent of financial impacts depends on how well we respond to the various threats and the effectiveness of strategies to capitalise on opportunities. For example, if we identify an increased risk of supply or the cost of a particular product, we will investigate availability of alternative cost-effective products. For investment decisions, we consider potential changes to regulation to inform future expectations for the business and the appropriate weighted average cost of capital.

PHYSICAL CLIMATE CHANGE RISKS

During the year, we undertook macro-level assessment of physical climate change risks across Australia, major sourcing countries, ports and shipping routes. We identified top inherent physical climate change risks in our major sourcing countries and the impact this may have on key products sourced. The map on the following page highlights priority areas requiring further assessment. It is not exhaustive of our entire supply chain and all climate change risks, nor is it intended to be used as a climate model to depict physical impacts. During the 2022 financial year, we will build on this work, using the latest scientific information available to understand climate hazards and impacts for our most critical raw materials and products.

The macro-level assessment undertaken this year shows hazards with the largest increase due to climate change across the supply chain associated with sea-level rise, storm frequency and severity, ocean changes, heatwaves, and areas of water stress caused by changes in precipitation and extreme variability in weather patterns. These climate hazards will have varying impacts and on the map we have included the most material hazards of the 11 identified below.

Key

- Ports with highest climate risk
- Other ports with climate risk
- Key shipping route

Climate hazards *

- Storms
- Precipitation
- Deforestation
- Sea-level
- Ocean change
- Drought
- Heatwaves
- Warming
- Fires
- Floods
- Freshwater deficit

Heat stress – extreme weather risk

Most resilient — Most impacted

* Climate hazards as identified by IPCC Climate Change 2014: Impacts, Adaptation, and Vulnerability Report, Journal: Nature Climate Change - Locational climate hazards, University of Hawaii Department of Geography, MoraLab: Applications Prototype Lab

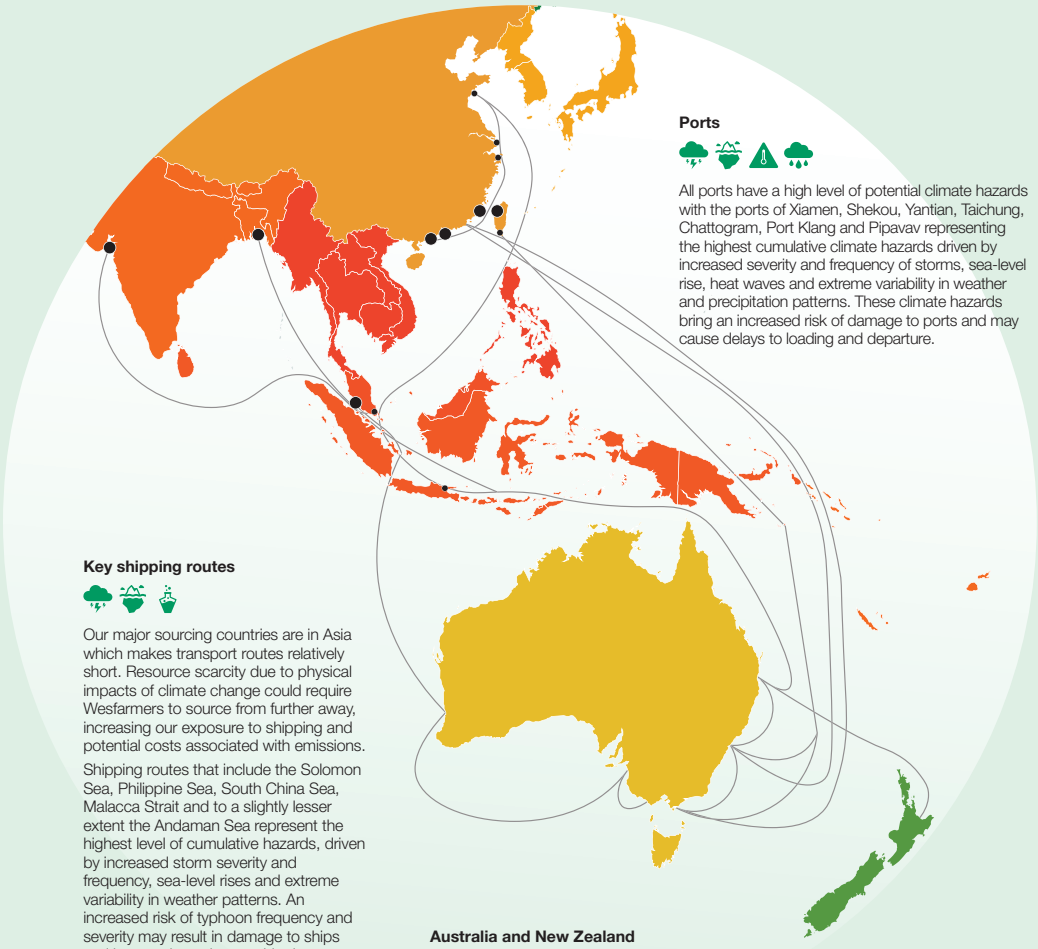
Major sourcing countries

Wesfarmers sources products from a variety of regions across Australia, New Zealand and Asia. Major sourcing regions vary by business, and also by product within each of our businesses. In relation to countries representing at least two per cent of the Group's total product sourcing by purchases, Cambodia, China, Indonesia, Japan, Malaysia, Sri Lanka, and Vietnam represent the highest cumulative climate hazards driven by increased storm frequency and severity, sea-level rise, heatwaves and extreme variability in precipitation and weather patterns.

Each country has unique climate impacts including decreased health outcomes, food and water shortages, infrastructure damage and reduced economic activity. Extreme weather in these countries may:

- Reduce the availability and quality of raw materials such as cotton, linen, rubber, metals and plastics
- Impact availability and price of chemicals used to produce synthetic textiles
- Reduce the availability of timber and pulp
- Increase the incidence of crop damage from pests

COUNTRY	KEY PRODUCTS SOURCED
Australia	Horticulture products, garden care, paint, chemicals, paper
Bangladesh	Apparel
Cambodia	General merchandise, apparel
China	Electronics, general merchandise, apparel, footwear, paper, furniture
India	Apparel, garden care, general merchandise, landscaping materials, hand tools
Indonesia	Apparel, timber, hand tools, plastics
Japan	Power tools, writing and messaging, printers and consumables, panels, networking, cutting tools
Malaysia	Electronics, plastics, personal protective equipment
New Zealand	Horticulture products, timber and boards, general merchandise
Pakistan	Apparel, soft homewares
Sri Lanka	Safety products
Vietnam	General merchandise, electronics



Ports

All ports have a high level of potential climate hazards with the ports of Xiamen, Shekou, Yantian, Taichung, Chattogram, Port Klang and Pipavav representing the highest cumulative climate hazards driven by increased severity and frequency of storms, sea-level rise, heat waves and extreme variability in weather and precipitation patterns. These climate hazards bring an increased risk of damage to ports and may cause delays to loading and departure.

Key shipping routes

Our major sourcing countries are in Asia which makes transport routes relatively short. Resource scarcity due to physical impacts of climate change could require Wesfarmers to source from further away, increasing our exposure to shipping and potential costs associated with emissions.

Shipping routes that include the Solomon Sea, Philippine Sea, South China Sea, Malacca Strait and to a slightly lesser extent the Andaman Sea represent the highest level of cumulative hazards, driven by increased storm severity and frequency, sea-level rises and extreme variability in weather patterns. An increased risk of typhoon frequency and severity may result in damage to ships and lost products, longer shipping routes and delays to avoid such hazards.

Australia and New Zealand

Wesfarmers' domestic supply chains and store networks are geographically diverse. Perth, Sydney and Adelaide represent some Australian locations with the highest level of cumulative climate hazards largely driven by increased storm frequency and severity, sea-level rises, ocean acidification, increasing temperatures and increased incidence of fire.

Extreme weather including flooding, rising temperatures and associated water scarcity may:

- Damage agricultural-based inputs, reduce growing yields and impact growing regions of our suppliers and customers
- Damage infrastructure and stock
- Impact transport logistics
- Require changes to our store operations
- Require changes to the way we make products and how customers use them

CSBP uses waste heat to reduce emissions

CSBP has been using a traditional yet modern 'unsung technology hero' in its bid to reduce its greenhouse gas emissions. Capturing waste heat from its chemical processes to generate electricity has been part of CSBP's everyday efforts since its Kwinana site was first established in 1968.

Waste heat recovery systems are an integral part of the design of several of CSBP's chemical plants in Kwinana, generating more than 75 per cent of the 138-hectare site's electricity requirements. CSBP is one of the only industrial sites along the Kwinana Industrial Strip that generates the majority of its electricity requirements.

CSBP's waste heat recovery systems capture heat, which is a by-product from its nitric acid, sodium cyanide and ammonia plants, and uses it to heat water, creating steam that drives a turbine to generate electricity. If the heat was not utilised, it would dissipate into the atmosphere.

This is an effective way for the business to limit its greenhouse gas emissions, generate clean power, increase efficiency and save energy – allowing CSBP to benefit from circular economy strategies which align with its sustainability goals.

CSBP General Manager Ammonia/ Ammonium Nitrate, Ryan Hair, said delivering environmental benefits are part of the team's responsibilities.

"We are proud of the fact that our reliance on the state power grid is very small. In the past, we have been substantially self-sufficient. The best generation year was 2020 when we generated 144GWh – that's enough electricity to power 27,700 homes," said Ryan.

Bunnings, Kmart Group and Officeworks commit to 100 per cent renewable electricity by 2025

Reducing emissions in a growing business with an expanding store network is a challenge which Bunnings, Kmart Group and Officeworks are facing into, with a range of initiatives aimed at reducing energy consumption and transitioning to more renewable electricity. The installation of LED lighting and solar photovoltaic (PV) systems has seen substantial reductions in energy use across their businesses, with the systems generating between 30 and 35 per cent of a store's energy needs.

Bunnings continued to expand the network of PV systems with 85 sites completed at 30 June 2021, and 15 more per year planned to 2025. The total installed capacity of these systems is over 22 megawatts, equivalent to powering 4,500 households. Bunnings purchased 30 per cent GreenPower for most large sites in Australia from 1 July 2020. In February 2021, it launched a trial energy efficient store design at its Melton East warehouse in Victoria and the performance of the design features will be monitored to inform future store designs.

Since 2015, Kmart Group has successfully reduced its emissions by 36 per cent per square metre of floor space, and since 2018 Officeworks has achieved a 24 per cent reduction in emissions per square metre of floor space. This has been achieved through installing more energy efficient LED lighting and networked BEMS which monitor and regulate energy usage. This year, Officeworks installed seven PV systems with 12 more per year planned to 2025.

Image courtesy of HESC Project Partners.

Coregas focuses on hydrogen pilot

The transition to a hydrogen economy is underway, and Australia is well-positioned to play a significant role thanks to its renewable resources and proximity to energy-hungry economies.

Coregas is involved in Australia's largest hydrogen project — the Hydrogen Energy Supply Chain gasification plant in the Latrobe Valley, Victoria — which will see Coregas aiming to load the world's first liquid hydrogen ship in Victoria for transport to Japan. It aims to demonstrate the liquid hydrogen supply chain from production to shipment. If successful, it could lead to the establishment of one of the largest hydrogen hubs in the world.

Coregas has also focused on developing domestic hydrogen mobility solutions. With support from the Port Kembla Community Investment Fund, Coregas aims to commission the first Australian hydrogen refuelling station for trucks. The station will have daily capacity for 10 hydrogen-powered trucks — also known as fuel cell electric vehicles. The first two hydrogen-powered prime movers will operate in the Coregas fleet from early 2022. Their emissions profile is around half that of diesel prime movers. There are more than 100,000 heavy trucks in Australia, so transitioning heavy transport will reduce carbon emissions and also noise, and particle pollution.

Risks and opportunities

The physical and transitional risks of climate change need to be considered in the context of the diversity of Wesfarmers' businesses including in industry, operations, products, supply chain, customers, geography and scale.

While climate change presents risks, there are also opportunities for the Group and its businesses. Consistent with our value-creating strategies, the Group will continue to consider opportunities to invest in existing businesses and take advantage of the flexibility of the Wesfarmers conglomerate model to renew the portfolio through opportunistic and value-accretive acquisitions or divestments. In assessing these opportunities, Wesfarmers considers environmental stewardship essential to evaluate investment decisions over the long term.

Across the Group's existing businesses, our climate-related opportunities are in five broad categories: resource efficiency and cost savings, renewable energy, new products and services, access to new markets and resilience in our supply chain.

TIMEFRAME - SHORT TERM (FROM 1-5 YEARS)

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
	✓	✓	A Extreme weather in localised areas may disrupt our supply chain, damage infrastructure or stores, damage stock and impact heavily on our team members.	RE Improved analysis of new store locations to avoid flood plains or ensure the store is built above prior flood levels. We may also hold additional stock to manage this risk. R We provide support programs for team members impacted by bushfires and other extreme weather events to assist in recovery and rebuilding efforts.
		✓	AC For some of our industrial businesses, increasing ambient temperatures decreases the productivity of certain chemical processes.	RE Continue to explore alternate technologies to cool chemical manufacturing processes while also trying to control costs and the emissions intensity of the these processes. R
✓	✓		PL Carbon-intensive inputs and products may become more scarce or more expensive if these inputs and sectors cannot transition or offset their emissions. M	ES Transport providers, which represent a large proportion of the carbon intensity of our products, are investing in alternate technologies. R Concurrently many international suppliers are receiving government support to transition to greener or renewable sources which will also reduce the embodied carbon in our products.
✓	✓		PL It may be difficult on leased premises to access renewable energy or install renewable generation. R	ES Introduction of policies that require new stores, with accessible rooftops, to have solar generation. For the current store network, we work with smaller landlords to install renewable generation. For larger landlords, the transition is already occurring. An increasing focus on renewable procurement options provides additional flexibility for store networks. R
	✓	✓	AC Supply and cost of some raw materials and inputs such as cotton, linen, rubber, metals and plastics may be impacted or more expensive. PL M	RE Assess strategies to move away from virgin inputs and into circular economy and recycable alternatives. PS
	✓	✓	AC Global and domestic supply chains may be disrupted.	M Diversify supplier base and geographic footprint to assist in prompt repositioning of supply chains as well as holding additional stock in-country and in domestic DCs to buffer delays from disruption. Prioritising long-term supplier relationships to facilitate fast solutions to critical equipment delays. R

Physical risk A Acute AC Acute and Chronic

Transition risk PL Policy & Legal M Markets R Reputation L Liability ✓ = most relevant

Opportunities RE Resource Efficiency ES Energy Source PS Products and Services M Markets R Resilience

TIMEFRAME - SHORT TERM (FROM 1-5 YEARS)

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
✓	✓		PL The introduction of Carbon Border Adjustment Mechanisms by the EU, UK, USA, Canada, China and Japan on imports from countries that are not appropriately pricing carbon will have a detrimental impact on carbon intensive exports.	M PS Engage with the Federal Government to reiterate that a carbon price would provide certainty for future investment and may mitigate this risk. Applying an internal carbon price to our investment decisions ensures we are properly valuing the cost of carbon and will be well-positioned if the Australian Government moves into alignment with the global community.
✓	✓		PL Prices may increase as a result of input cost pressures (including carbon pricing), leading to a decrease in consumer demand. Increasing environmental regulation may impact our customers' projects. LNG and LPG fuels could be affected by carbon pricing compared to liquid fuel solutions.	PS M Ensure we maintain a business model that can pivot both offer and range to meet changes in consumer demand at the right price point, while doing all we can within our businesses control to keep costs low. For our industrial businesses, there may be opportunities for efficient operators as relatively inefficient and more carbon-intensive operators become less competitive. Continue to assess opportunities in the carbon capture and storage, and carbon capture and utilisation areas.
✓	✓	✓	R Reputational concerns may drive businesses to more proactively manage carbon and other environmental risks.	R Continue to invest in technology to reduce Scope 1 emissions, including collaboration with research organisations.

TIMEFRAME - MEDIUM TERM (FROM 5-15 YEARS)

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
	✓	✓	AC Suppliers of commodities or key inputs may be impacted including certain timber suppliers to Bunnings and pulp suppliers to Officeworks, which may experience shortages because of insufficient domestic supply and extreme weather. Green life stock is impacted by extreme weather events such as heat waves and hail storms.	RE R Improve supplier diversity. Suppliers that are aware of the risk may also look at alternate inputs, e.g. composite wood-based products that incorporate recycled materials, or non-timber plant-based alternatives to pulp for paper production.
	✓	✓	AC M R In some areas, extreme weather including flooding, rising temperatures and associated water scarcity may: – damage agricultural-based inputs, reduce yields and impact growing regions; – require changes to the way we make products and how much we can sell; and – reduce plant productivity and increase downtime.	RE R Progress strategies to move away from virgin inputs and into circular economy or recycled alternatives. Various stock lines through the retail businesses are now made from recycled and recyclable content. CSBP has invested in plant optimisation technology to continuously monitor all aspects of plant performance. It has also invested in improved catalyst abatement research to identify strategies which further reduce emissions intensity. CSBP is also continuing to assess opportunities in recycled wastewater.
	✓	✓	AC Extreme heat and more regular hot days may impact employee health, safety and productivity.	RE R Invest in the energy efficiency of our network including insulation, to assist temperature control, as well as investigating other additional technologies. In the DCs where extreme heat is particularly problematic, we are investing in energy efficient ways to cool facilities, alongside amended shift hours and additional breaks to manage this. In our manufacturing operations, we adapt by altering shift hours and investing in energy efficient ways to cool facilities. Additionally, as technology improves less physical exertion is required within the manufacturing process.
	✓	✓	AC Retail customers may prefer air-conditioned stores and undercover parking, requiring a change to store design and increasing operating costs. Customer behaviour may change with reduced foot traffic in retail stores and increased online shopping.	ES PS Install energy efficiency technology and source renewable energy to reduce costs and emissions. Continue to work with landlords to invest in renewable energy on rooftops and energy efficiency projects. Continue to invest in online delivery platforms to enhance the offer to our customer base. Continue to review our approach to store and DC design to update design standards and include solar power and energy efficient fit-outs as standard. Continue to assess and evolve the store format to meet changing customer preferences.

TIMEFRAME - MEDIUM TERM (FROM 5-15 YEARS) CONTINUED

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
	✓	✓	AC Extreme weather may mean some lines of commercial property insurance become harder or more expensive to obtain.	RE R Ensure company assets including supply chain are designed to be prepared for potential extreme weather events, particularly where, for example, assets are located in a flood plain. We undertake a self-insurance function to mitigate premium increases.
	✓	✓	AC R L Increasing impacts from climate change may mean access to debt funding becomes more difficult as financiers' risk profiles change.	M R Ensure our industrial operations are prioritising reductions in their emissions and analysing the risks and opportunities presented by climate change and the impacts on their business. Ensure we are meeting our carbon emissions targets and aspirations.
	✓	✓	AC Extreme heat and prolonged drought may increase water scarcity, affecting our customers or our water-intensive operations.	RE R CSBP's water supply strategy developed to ensure the long-term supply of suitable quality water for ongoing operations. Technology solutions for recycled wastewater via reverse osmosis systems provide additional supply opportunities.
	✓	✓	AC M Extended extreme weather may disrupt or damage our supply chains or infrastructure for extended periods or eliminate the supply of or render prohibitively expensive certain products or raw materials.	M R Diversify supplier base and geographic footprint to assist in prompt repositioning of supply chains and inputs.
✓	✓		PL M R For the Kmart Group, synthetic fabrics and chemicals used to produce certain textiles for clothing and accessories may become more expensive as the cost of polymers and other inputs, including energy, increases.	RE PS Examine alternate inputs from a composition, quality, price and sourcing standpoint. Actively investigate circular economy inputs and greener choices. As the cost of one input increases, other options will become viable.
✓	✓		PL M R For Bunnings and Officeworks, timber and pulp shortages may occur because supply decreases as plantations are used to instead generate carbon offsets or logging is reduced to slow land degradation.	PS M Continue to assess tree species that require less water and are more resilient to extreme heat. Support the transition to more circular products.
✓	✓	✓	M R Customers and other stakeholders, including investors, financiers and activists, may increasingly focus on the sustainability of our products.	PS M Transitioning to lower carbon operations ahead of our competitors may provide efficiency, cost or marketing opportunities.
✓	✓		PL M Regulatory changes such as carbon pricing may impact the financial performance of our businesses or impact the supply or price of certain inputs including raw materials, energy, fuel and water.	RE R Continue to assess the operating environment, competitors and key drivers of change, as well as enhancing diversified product offerings, helping to reduce risk.
✓	✓		PL M Carbon pricing and other regulations may impact the competitiveness of our trade-exposed businesses (especially WesCEF) if our international competitors do not face similar carbon pricing and other regulation.	RE M Continue to invest in technology to reduce Scope 1 emissions, in collaboration with research organisations. Continue to maximise plant efficiency to minimise cost of production. We incorporate a carbon price into our capital allocation decisions to reduce this risk.
✓	✓	✓	M For WesCEF, demand for natural gas may fall as consumers favour renewables and hydrogen.	ES M In the shorter term, the use of natural gas as a transition fuel is an opportunity. In the longer term, investing in R&D for alternate energy sources and technologies, including green ammonia, is a priority to capitalise on expanding markets as they develop.

Physical risk A Acute AC Acute and Chronic

Transition risk PL Policy & Legal M Markets R Reputation L Liability ✓ = most relevant

Opportunities RE Resource Efficiency ES Energy Source PS Products and Services M Markets R Resilience

TIMEFRAME – MEDIUM TERM (FROM 5-15 YEARS) CONTINUED

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
✓	✓	✓	R For our retail businesses: – they may need to respond to increasingly environmentally-conscious consumers; – the fast-fashion and electronics markets may transition to more durable products or products that are easier to reuse or recycle; and – certain products may evolve to support the replacement of components rather than the replacement of entire item.	PS M Continue to build further circular and low carbon economy awareness in our business. For example, a continued focus on reducing plastic in product and packaging, and increased recycling rates as well as actively investigating circular economy opportunities to transition product lines where possible. Replacement of componentry can be problematic and a focus on durability and ability to repair, or where this is not possible, providing opportunities for recycling of products at end of life.
✓	✓		M T Customer preference for less emissions-intensive products may impact demand for WesCEF Coregas products.	ES PS Projects are designed and developed with the opportunity to change fuel source in mind. In the transport sector the move to hydrogen is an opportunity our Coregas business is well-placed to capitalise on.
✓	✓		AC PL R If the transition to a low carbon economy is not managed effectively some communities, or certain industries may be adversely impacted.	PS R Focus on supporting policy designed to enable a just transition for all affected communities or industries.

TIMEFRAME – LONG TERM (FROM 15+ YEARS)

SCENARIO 1.5°C	SCENARIO 2°C	SCENARIO 4°C	RISKS	MITIGATION AND OPPORTUNITIES
	✓	✓	AC For our WesCEF businesses, extreme weather and prolonged drought may impact the amount of arable land in the Western Australian wheatbelt or cause agriculture to relocate within Western Australia, reducing fertiliser demand or making alternative suppliers more competitive. Changes to farming practices to improve soil quality may impact fertiliser demand. Extreme heat and increased humidity may also reduce plant productivity, increase downtime and reduce product quality.	M PS Explore alternative markets less affected by reduced precipitation. Investigating additional services, particularly in technology and data to assist farmers maximise value and efficiency. WesCEF is also investing in adjacent opportunities such as granular fertiliser that acts as a nitrification inhibitor to improve plant uptake and reduce nitrous oxide emissions.
✓	✓	✓	R Our industrial businesses may need to respond to increasing stakeholder activism relating to the carbon intensity of their operations.	R Continuing to evaluate and invest in emissions reduction technology and engage in industry collaboration to prioritise decarbonisation opportunities and greener product alternatives.
✓	✓	✓	M Our businesses may need to adapt as the economy transitions to low carbon products and customer demand changes or costs increase.	M R Continue to build on the capabilities and skills of our teams through recruiting and developing outstanding people to adapt to risks and to take advantage of the opportunities associated with climate change.
✓	✓	✓	L R Increased liability risk associated with class actions over climate change or lack of management of environmental risk.	R Sustainability is a key strategy for Wesfarmers. Our businesses are managed with carbon awareness. This awareness helps to inform investment decisions.
✓	✓	✓	R PL M Changing stakeholder risk profiles, particularly in relation to carbon intensive operations, may make access to funding more difficult.	M R Continue to invest in technology to reduce emissions. Engage in R&D initiatives to develop strategies for the longer term including technology such as green ammonia.
✓	✓	✓	AC L As insurance companies focus on the carbon intensity of their insurance portfolio, some lines of commercial insurance may become harder to obtain or more expensive.	R Continue to invest in technology to reduce emissions. Engage in R&D initiatives to develop strategies for the longer term including technology such as green ammonia.

Physical risk A Acute AC Acute and Chronic

Transition risk PL Policy & Legal M Markets R Reputation L Liability ✓ = most relevant

Opportunities RE Resource Efficiency ES Energy Source PS Products and Services M Markets R Resilience