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SUPPLY CHAIN & PROCUREMENT

FUTURE ESG TRENDS, RISKS & SUSTAINABILITY

INSIGHTS PAPER

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"A resilient supply chain is as much about being able to fight recovery battles in the here and now, as about being able to secure a strategic advantage in times of crisis that competitors won't have the ability to replicate."

David Irvine, MD, Siecap.

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WHAT IS HAPPENING IN THE WORLD?

HOW ESG IS DRIVING STRUCTURAL CHANGE IN SUPPLY CHAIN DEVELOPMENT?

Global supply chains have been experiencing incredible disruption and this has created an unprecedented urgency for sovereign nations and organisations to reshape how they develop and manage their supply chains.

The high-risk reliance of global supply chain on a few critical nodes, single sources of supply, tiny tier 3 producers or rational jurisdictional behaviour has been significantly elevated in the public consciousness as a direct consequence of the Covid-19 pandemic and the disruptions that this, and conflicts in Europe have caused in supply chain.

It has also become increasingly apparent that environmental consciousness is now consumer driven. As a result, corporate ESG (Environment, Social & Governance) commitments in supply chain operations have become an important component to supply chain sustainability.

The collective failure to plan for major global disruption events, and more specifically how to structure supply chains to respond, has been ~~a failure of emphasis~~ a lack of focus for many. This now demands the need for change, by giving greater weight to the design of resilient supply chains.

Various external elements can radically drive the reshaping of the supply chain – political, environmental, social, technological and economical.

Refocusing on supply chain resilience will serve not just as a key risk management strategy but will assist organisations in meeting their legislated obligations in other business critical areas. Examples of this are the mandated implementation of Greenhouse Gas (GHG) reduction and reporting of Scope 1,2 and 3 emissions and the Modern Slavery Act. As we transition into a circular economy, supply chain and logistics must be involved.

In this whitepaper we outline key factors that we believe are fundamental to the next decade of supply chain design and development. In fact, they are also critical for the wellbeing of the whole world economy.

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"Beyond Covid-19, global affairs have impacted hugely on supply chain management activities. The last few years have been volatile, disruptive and challenging."

David Irvine, MD, Siecap.

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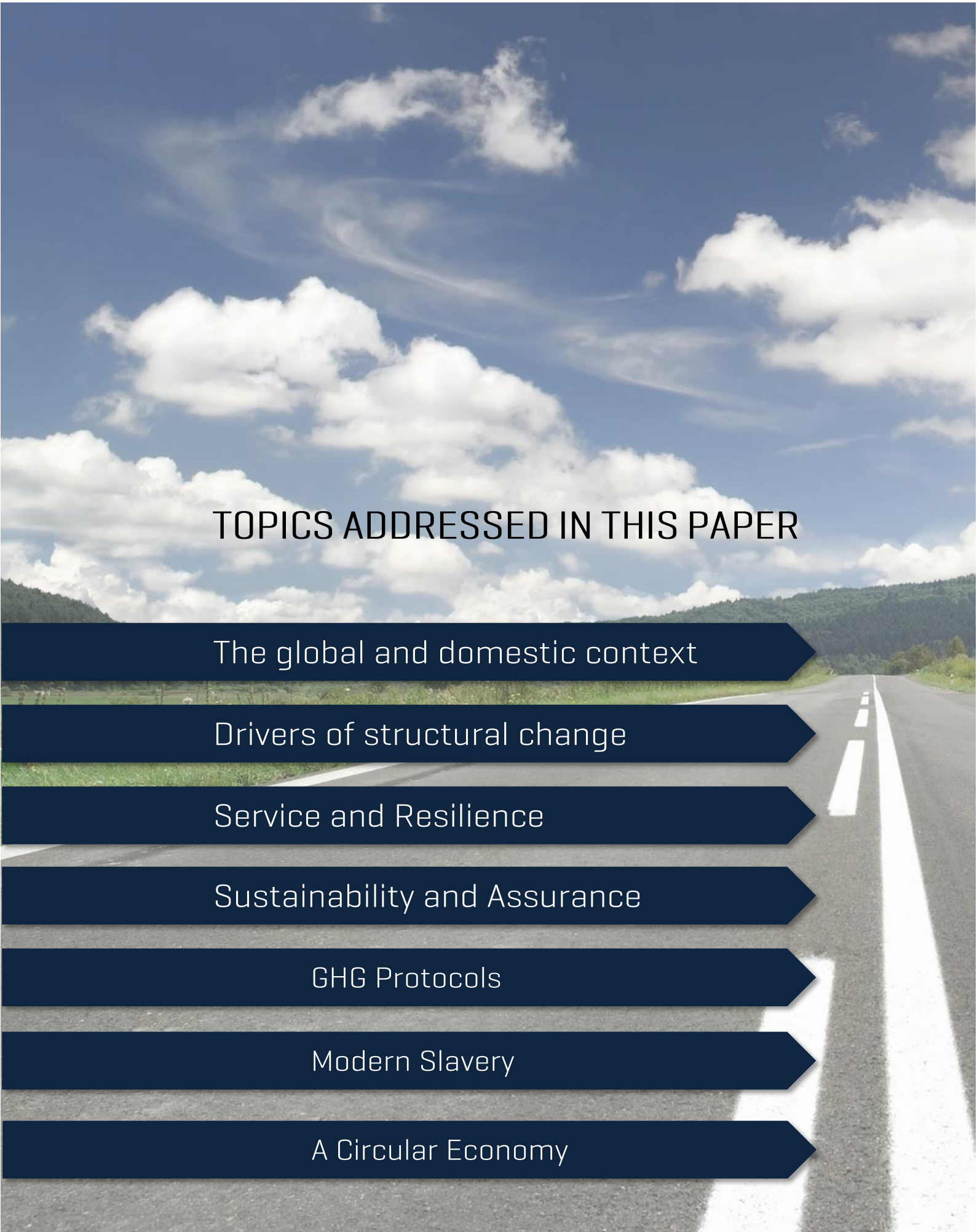

TOPICS ADDRESSED IN THIS PAPER

- The global and domestic context
- Drivers of structural change
- Service and Resilience
- Sustainability and Assurance
- GHG Protocols
- Modern Slavery
- A Circular Economy

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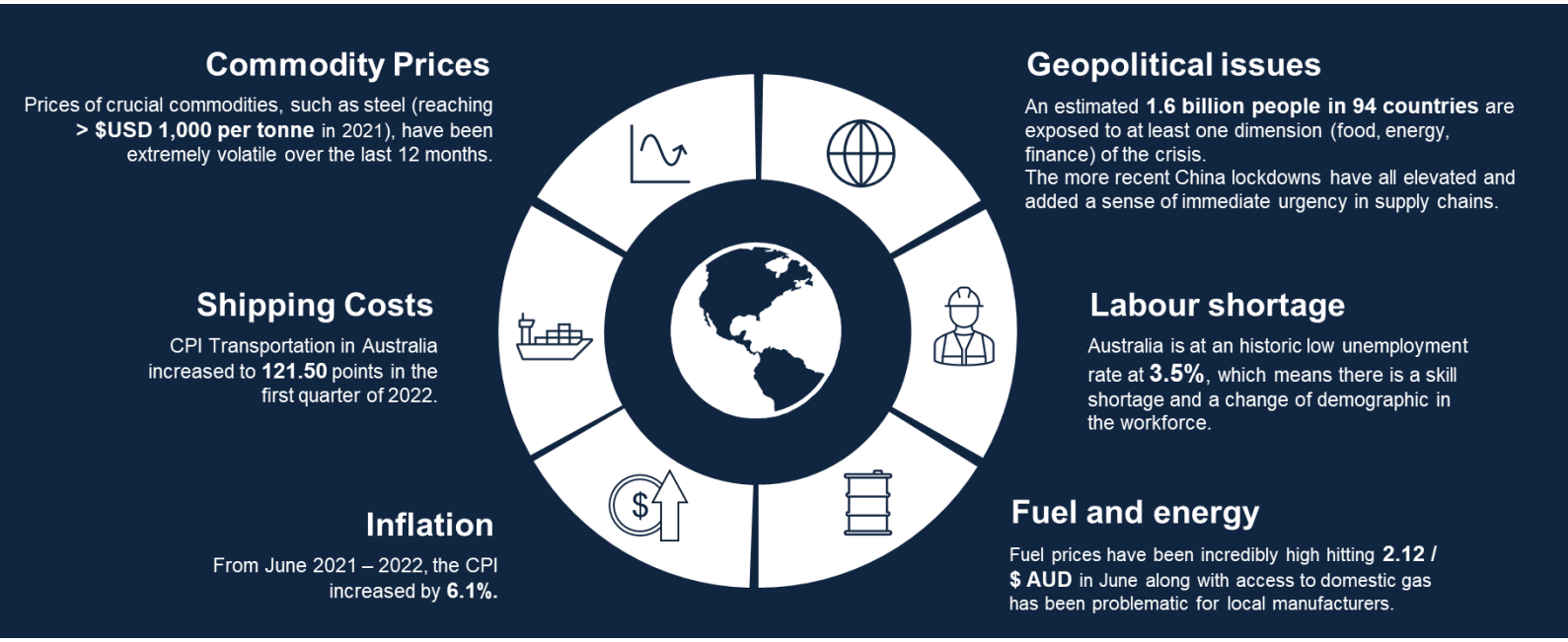


GLOBAL AND DOMESTIC PERSPECTIVE

When you pick up the major newspapers across Australia you'll see emerging themes or stories:

- We've all seen huge spikes in commodity prices (steel and aluminium particularly). This has been problematic when it has come to the development of warehouses, automation or any major capital project.
- Beyond the congestion issues at ports – given lockdowns from Covid-19 – lead times have been impacted from shipping and we've also seen massive cost impacts, which have been so costly that organisations are changing the way they do feasibility studies, in order to no longer rely on the peak of the cycle. Some commodity prices may be balancing back out, but we don't see shipping balancing out for at least 12 to 18 months.
- There is not a day that goes by that you don't hear about CPI, inflation and the challenges thereof. The last quarter saw an increase of about 6-7% in Australia with notable figures in other parts of the Western world.
- Earlier this year Australia hit more than $2 a litre for diesel, with huge issues around local or domestic gas supply, which impacts local manufacturing. We are also seeing existing coal-fired generation assets running out as we move into renewables. But there's a gap and there's the challenge: a shortfall of energy and the planned for energy.
- Fundamental to inflation as well, are labour shortages, with unemployment at record lows. Although these numbers can be misread depending on part-time work and other employment arrangements. A current summit in Canberra is covering this topic of a labour shortage and what can we do to alleviate this.
- Underpinning all of that, and probably giving everyone a few sleepless nights, is the geopolitical situation. Covid has made a huge impact, but this goes beyond Covid. It is about organisations, companies and countries dealing with the crisis in Ukraine. How they are going to manage their relationships in Russia, the challenges with the Chinese lockdowns that have been occurring and the impact that this is all having on global supply chains.

DRIVERS OF STRUCTURAL CHANGE IN THE NEXT DECADE

Supply chain operations have evolved significantly over the last thirty years and since 2020 various external elements have radically driven the reshaping of the supply chain – political, environmental, social, technological and economical.

Key factors are demanding – with unprecedented urgency – that sovereign nations and organisations restructure their supply chains.

We look at:

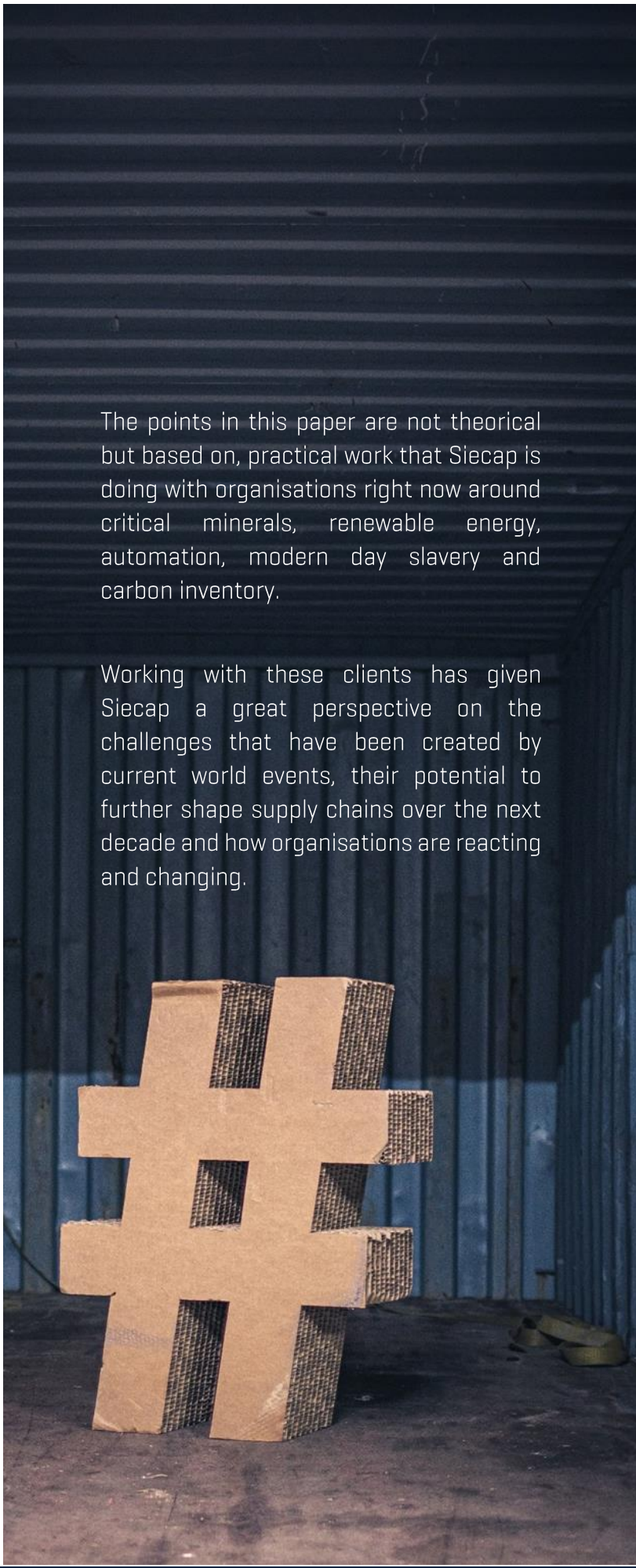
- What are the trends shaping change?
- How do we unpack these trends?
- Why do we believe they are driving structural change in supply chain design?
- Why, as supply chain and logistics professionals, you need to be aware of:
  - what's happening?
  - why it's happening? and
  - what you should be doing about it?

Service & Resilience:

- We explore what is currently changing and what factors will continue to drive structural changes in supply chains
- What a resilient supply chain looks like and the questions that every supply chain professional should be considering.
- The Australian Government's focus and how they are responding to these changes.

Sustainability & Assurance:

- How social governance has changed to be Environmental, Social, and Governance (ESG) and why supply chain should be included in carbon sustainability.
- How greenhouse gas (GHG) protocols are driving new standards across the value chain; understanding where emissions are coming from, and what this means for supply chain logistics.
- The consumer impact on changes to the supply chain, and Amazon's Climate Pledge.
- Supply chain logistics' role in a circular economy.



The points in this paper are not theorical but based on, practical work that Siecap is doing with organisations right now around critical minerals, renewable energy, automation, modern day slavery and carbon inventory.

Working with these clients has given Siecap a great perspective on the challenges that have been created by current world events, their potential to further shape supply chains over the next decade and how organisations are reacting and changing.

SUPPLY CHAIN GENERAL TRENDS

Regardless of the industry, these four macro trends will be major contributors to how we shape and manage supply chain activities.
These trends were well underway and were in place for many years pre–pandemic but have escalated due to the direct and indirect influence of geopolitical issues. As with Covid-19, they have morphed into variances.

We have entered an era of customer obsession, where demands and expectations are changing rapidly, causing the re-definition of risk by countries and organisations and the need for supply chains to become more resilient.

Social, political & environmental issues are shaping supply chains structures. Consumers are becoming more environmentally conscious and along with government mandates, the importance of decarbonisation has surged, which will drive changes throughout the supply chain.

e-Commerce sales will continue to dominate the next decade.

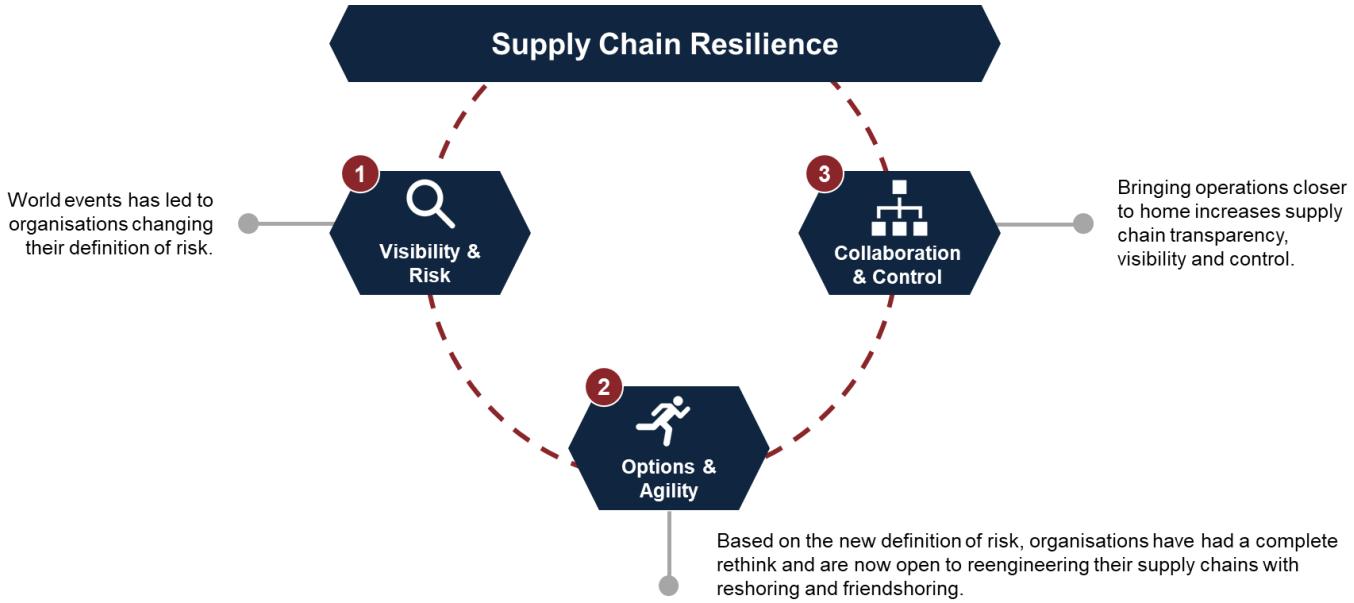
Lower entry costs and 'app for everything' enables the leap-frogging of the mainstream.

The reach of automation is extending, as is digitisation to address reliability and data integrity across the entire supply chain.

1. **Service and Resilience:** Living in a world that is customer obsessed but trying to provide regular service, and we've all known how challenging that's been!
2. **Sustainability and Assurance:** The social, political and environmental issues that have been shaping our supply chain.
3. **E-Commerce & m-Commerce:** e-Commerce has been around for many years, but with Covid shutting down channels to market, we've seen an explosion in e-Commerce. Though Australia's Commerce penetration rates are much lower than the UK and the US, it will continue to grow and that's driving perceptions of what service looks like. We're also seeing an explosion in m-Commerce. There are local low-entry cost applications for everything, which means that smaller companies can leap-frog traditional mainstream technology solutions.
4. **Automisation & Digitisation:** Wrapped around all of that is digitisation and automisation of supply chains. This is not just mechanical automation, but process automation and effectively using digital data to make better decisions more readily and reliably.

Beyond this snapshot view are some broader trends.

SERVICE AND RESILIENCE



Regardless of e-Commerce, we have entered the era where new products are constantly being introduced, demands are changing rapidly, and expectations are higher than ever. People want things now and we've seen a cross-fertilisation of ideas that have come from e-Commerce.

The question is, "How do we take that experience and bring it into other industries?"

Fundamental to service and resilience is being able to understand how to create reliable and consistent service so that we can win in the markets we're playing in.

Here are the topics we will explore further.

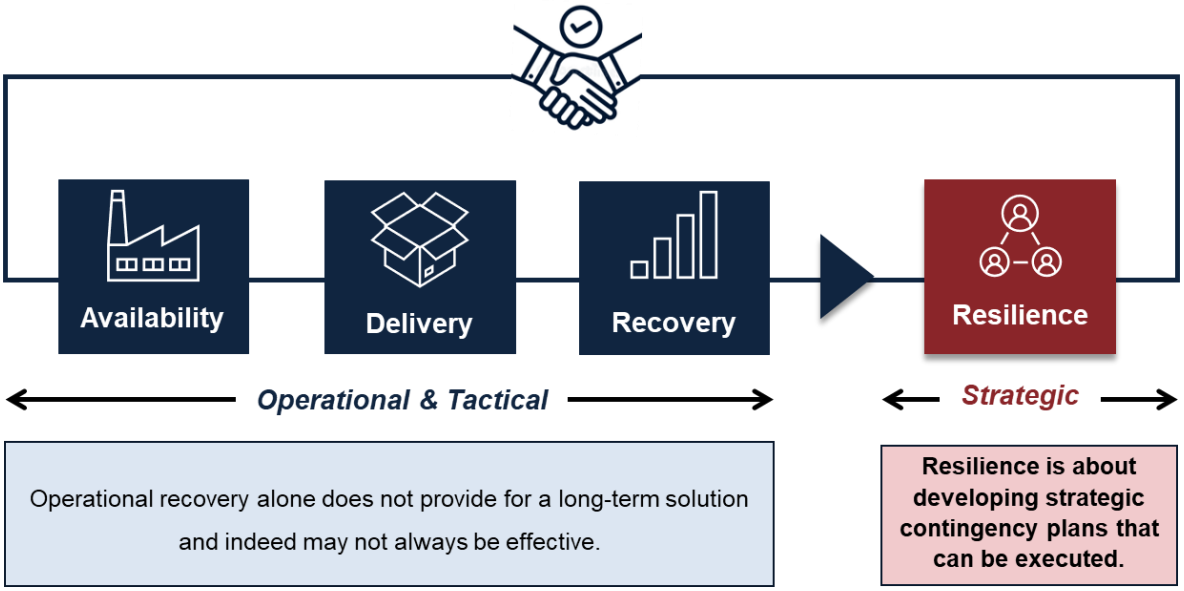
- Recovery versus resilience
- How organisations are redefining risks and the output of them
- How nations and organisations are realigning their supply chains and what they're looking for with terminologies like nearshoring, friend shoring and reshoring
- Why ESG is driving a whole new world and a whole new agenda
- Why decarbonisation of our planet and our supply chains is going to be a huge focus point
- Where we need to be setting new standards about how we assure and govern and manage the supplies with our supply chains.

The rise of e-Commerce has not only changed the game in terms of customer experience and expectations, but it has been a catalyst for other industries to refresh their thinking on how they can add more value by increasing service, speed and agility.

The customer demands set by e-Commerce provide service, speed and agility. To provide this on a regular basis as cost-effectively as possible to win and retain market share or move into different sectors by introducing new products and expanding that scope, has effectively set a precedent around how people think about that whole world of delivery.

When we unpack the customer promise (which is what we're trying to achieve), whether at an e-Commerce solution, industrial solution or an FMCG supply chain, we have the promise which is underpinned by making sure we've got product available, we can pick it, we can deliver it and when things go wrong, we can recover operational and tactical activities that maintain service to customers.

THE CUSTOMER PROMISE



Over the past 20 years, a lot of this recovery has been immediate 'firefighting' (a truck breaks down or there's an issue and a warehouse). But there is a more important strategic element around resilience.

The common thread between the now heightened requirement for Service & Resilience and Sustainability & Assurance is the need for visibility across the layers of an organisation's supply chain.

1. Get an idea of visibility and risk.

That means understanding your supply chain. If we have learned anything from Covid, most organisations didn't really understand the depths of their supply chain. They might understand first-tier suppliers, but they didn't understand the second and third tiers and that's really what has happened with modern slavery and now supply chain resilience.
We need visibility and we need to understand risk from that position. We need to create options that give us some level of agility and we need to underpin that with data, collaboration and control. This is where the strategic pillar 'resilience' comes into play.
This means knowing:

- where goods and materials are coming from,
- who is making them,
- who they in turn are reliant upon, and
- what conditions are associated with their production?

2. Fundamental risk and the definition of risk have gone out the window.

What we determined as risky 10 years ago may not be the case now, and when we add in geopolitical issues and a global pandemic, that flips the switch around what we would typically do and why we would do it. We need better control, given the limited resources that are available across our supply chains, we also need to be able to collaborate with people.

These are all key points that need addressing. Indeed, recent events have exposed how little is understood about these issues within the global supply chain. The focus on low cost sourcing has gone hand-in-hand with a limited understanding of supply chain risks.
Many years ago, Siecap was involved in a lot of offshoring projects. They went from being low-cost country sourcing to emerging market projects. They were about getting the same product with the same quality and reliability for a cheaper cost. So, we went out with that, and we created a whole bunch of capability in China. Now, because of risk, people are looking at different ways of re-engineering their supply chain.

Resilience is about developing strategic, reliable, suitable and actionable contingency-recoverable plans that can be executed when things do go wrong. Not only do we get ourselves out of hot water, but we also put ourselves in a position of strategic strength.

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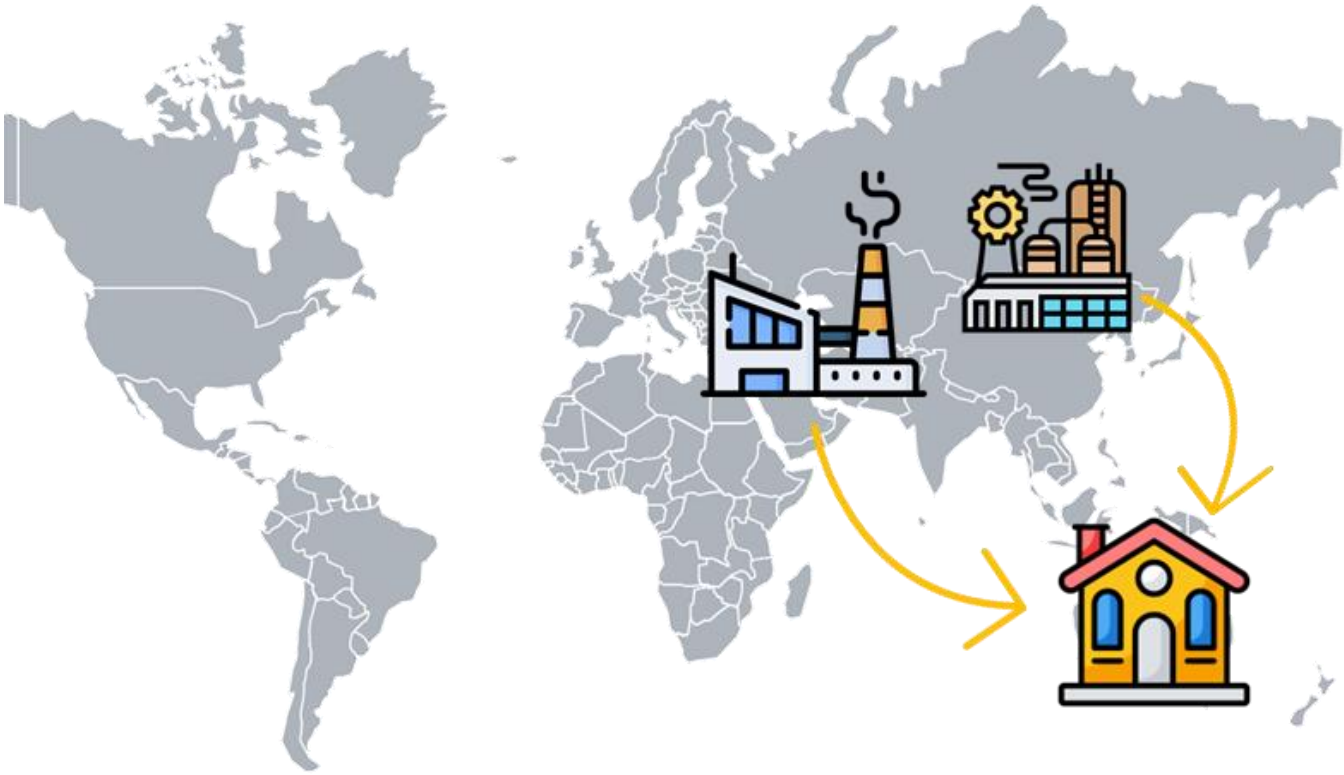
IMPORTANT QUESTIONS TO CHALLENGE OUR THINKING:

What are the different ways that organisations have built resilience around their supply chains?	• Risk has been redefined and reassessed in relation to geopolitical, modern slavery, supply risk, social and environmental issues. • This has led to developing options (moving from single to dual or multi-sourced options or setting a pathway to develop more options) in areas deemed to be a high or moderate risk. • There is greater innovation in executing options and sourcing. People are more willing to take on alternative approaches.
Does the tightening economic conditions and rising inflation change the amount of inventory that will be held?	• Given the risk-based approach, organisations are looking to onshore what they can or buffer more inventory to manage the inconsistencies in supply (shipping costs and lead times). • There is a more strategic approach to inventory where more stock is held across the network due to the supply variances that are killing performance. This has not been perfect and the mix of inventory held is out of alignment with demand requirements. • This may change as the cost of capital has been at historic lows, as this rises there may be some structure policy changes.
Do you believe the changes made to supply chains because of Covid are long-term structural changes or will we return to a pre-pandemic way of doing things?	• We believe the changes that have been made to supply chains are generally structural, “the train has left the station”. Development is underway, and time will tell, if from a cost standpoint, it can be sustained. • The Australian Government has outlined significant grants for modern manufacturing initiatives to promote the onshoring of key areas such as food, critical minerals, defence and renewables types of programs. **Fundamentally most organisations have now learned they can't have all their eggs in one basket.**

BLOG - HOW IS CHINA’S ZERO-COVID POLICY IMPACTING APEC SUPPLY CHAINS?



AUSTRALIA'S RESPONSE

The need for bringing manufacturing close to home

- Domestic competitiveness and resilience
- Creation of jobs for now and future generations
- Geopolitical threats
- Strengthen sovereign capability
- Supply chain control

Australia's National Manufacturing Priorities

What we're looking at here is how our government is seeing it, and how strategic and how important our government is to determining supply chain resilience.
Covid showed prime ministers, senators and premiers all using words like supply chain resilience.

Siecap has had the pleasure of working with clients to identify over $300 million worth of value and grants.
These grants really underpinned the resilience of being able to serve our country. Some mandates are bringing manufacturing home. Manufacturing, not as we used to know it, but grants that underpin modern manufacturing. They are focusing on areas of strategic risk, resources and technology, critical minerals, food and beverage, medical products, recycling and clean energy and defence.

The Australian Governments Modern Manufacturing Strategy Plan for 2040 names a number of initiatives:

1. Resources Technology & Critical Minerals Processing
2. Food & Beverage
3. Medical products
4. Recycling & Clean Energy
5. Defence
6. Space

$

Key Initiatives to help meet these Priorities

1. $1.3b Modern Manufacturing Initiative
2. $107m Supply Chain Resilience Initiative
3. $52.8m Manufacturing Modernisation Fund

SUSTAINABILITY AND ASSURANCE

Corporate social responsibility has morphed into Environmental Social Governance (ESG), and no longer is profit the only factor that organisations have to be focused on. This is driving new standards in the supply chain.

Over the last two or three years, sustainability, carbon footprint reduction, and supply chain transparency, have forced organisations to become environmentally and socially responsible.

Service & Resilience, and Sustainability and Assurance, are driving decarbonisation.

Social
Modern Day Slavery
Indigenous participation
Human rights

Governance
Business ethics
Scienced based targets
Strong reporting standards

Environmental
Decarbonisation
The Amazon Pledge
Circular Economy

ENVIRONMENTAL SOCIAL GOVERNANCE

Responsible investing integrates environmental,

social and governance (ESG)

factors into decision making.

In 2021, a record $649 billion poured into ESG funds worldwide,

up from $285 billion 2019.

Predicted to rise to $50 trillion by 2040.

Certified B Corporation

Source: 1 - ADEC Innovations

Siecap has worked extensively with superannuation funds and one of our contacts within that industry was running an ethical super fund. Super funds have a certain mandate with certain rules that they could follow given the ethics of the fund within a certain geographic boundary, which limited what they can invest. The fund stagnated at around $200 and $250 million because of these strict rules.

The way in which the finance world is changing the game here is they're redefining the importance of ESG and what that meant to the super fund, was that it wasn't necessarily what you're doing today, it's about what you're promising to do tomorrow. For that Super Fund, their investment went from $250 million to $750 million because suddenly the scope of what they could invest in expanded due to CEOs and boards committing to the principles of ESG and integrating environmental social governance into how they make decisions.

In 2021 we saw nearly a trillion dollars being invested into ESG funds, which was significantly up from 2019 and is predicted to rise to $50 trillion by 2040.

The reality that is driving change:

- It's requiring new standards in our supply chains and what we build.
- Investors and consumers are demanding businesses act, which is shaping supply chains very rapidly.
- In order to participate, organisations must re-evaluate their supply chains to become more sustainable.

128 nations representing $43 trillion committed to Net Zero 2050

1,565 corporates representing $12.5 trillion committed to Net Zero

But did you know?

88% consumers' purchase decisions include climate impact

90% of Gen Z & millennials try to reduce their environmental impact

Source: Time Magazine, AFR, Deloitte 'Striving for balance, advocating for change'.

GHG PROTOCOLS

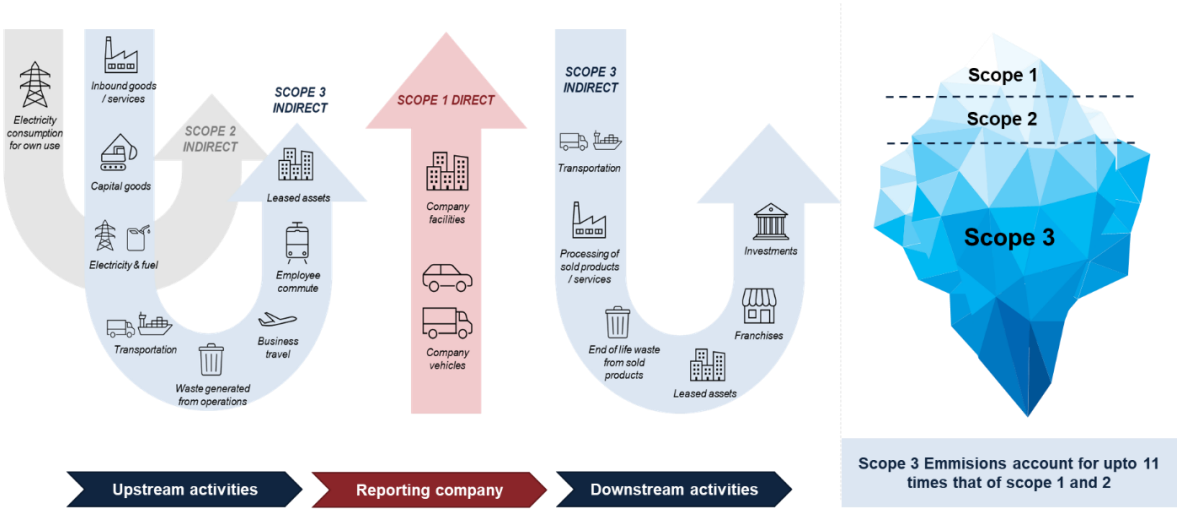
DRIVING NEW STANDARDS ACROSS THE SUPPLY CHAIN.

We all understand Social Governance (SG), but it's time to understand Environmental Governance (EG), and why supply chain should be included in carbon sustainability.

We're seeing huge commitments of trillions of dollars from major corporates, organisations and nations. These commitments are increasing on a daily basis (making some of these numbers already redundant).

A more serious and mandatory approach is required as there is an Australian Federal Government commitment to achieving a renewables target of 26-28% by 2030, as well as the Paris Agreement Net Zero Carbon Emissions by 2050 targets approach.

People understand and may have heard of greenhouse gas (GHG) protocols. They may understand Scopes 1, 2 and 3 and may even understand a little bit about what these mean. But do they understand where their supply chain carbon emissions are coming from?



UNPACKING THE VALUE CHAIN

Most organisation's Scope 1 are what you might call direct emissions. Scope 2 are indirect emissions (such as electricity) are things that are within the boundaries of the organisation.

But as supply chain professionals, we understand that the supply chain is very broad, and we need to understand that Scopes 1 & 2 are only the tip of the iceberg and Scope 3 emissions make up the lion's share. These are emissions that the organisation is somewhat accountable for but can't control.

Supply chain professionals are best served to unpack Scope 3 emissions rather than an accountant, because we need to know:

- What is being bought?
- Where is it being bought?
- How is it being processed?
- How do those emissions come through the entire life cycle and value chain?

Large scale Scope 3 carbon emissions are a sophisticated and challenging task that supply chain professionals need to be across within the next 20-odd years. Due to its enormity, we believe that people don't necessarily know what they're committing to, beyond the fact that it's going to have a serious impact with huge changes to future supply chains.

THE NEW CONSUMERS AND THEIR IMPACT ON THE SUPPLY CHAIN

The recent census from Australia found that millennials are now making up the same proportion of boomers in the workforce.
The current labour market is tight, and organisation need to be able to attract millennial Generation Z labour in five years' time. This generation will be more skilled and more valuable to organisations that are now addressing how they engage, and how they demonstrate their commitment to the principles of social environmental governance, which is a core value to the Gen Z and millennial generation.

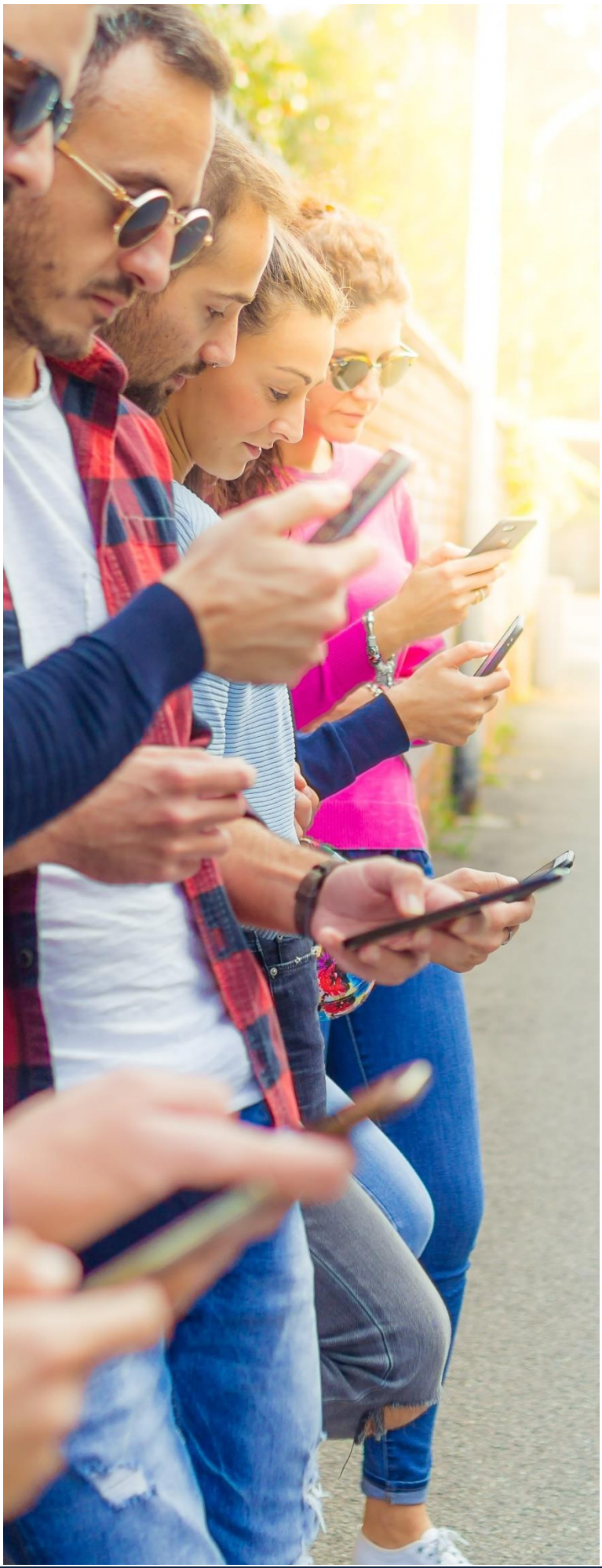
Gen Zs and millennials believe that urgent action is needed to address climate change. They are doing their part to reduce their personal environmental impact, and they want businesses and governments to do more. Businesses have a need and an opportunity to provide more sustainable products and services. And as employers, they should set climate strategies and look for ways to consistently engage and inspire their people to take part.
This should include longer-term strategies to achieve net-zero greenhouse gas emissions, which will require efforts such as, educating people about how to make sustainable choices, offsetting current carbon emissions, reducing business travel, and greening office locations, fleets, and supply chains.

Consumers are now putting environmental impact at the top of their agenda, particularly millennials and generation Z.

Gen Z Shoppers Demand Sustainable Retail

64% of Gen Zs would pay more to purchase an environmentally sustainable product
Generation Z along with Millennials are the most likely to make purchase decisions based on values and principles (personal, social, and environmental).

Companies who understand and execute upon the values of diversity and inclusion, personalisation, transparent and sustainable practices and meaningful engagement will win with this audience.



Source: Amazon

In addition to government mandates and commitments, organisations like Amazon are "asking" their partners to commit to what is known as an Amazon climate pledge.

We can read what is in this pledge and what people need to do, but what's really key for people to understand is they are being asked to commit to Net Zero by 2040.

Do you understand what you are committing to?

The Climate Pledge, co-founded by Amazon in 2019: a commitment to reach net-zero carbon emissions by 2040

1. **Measurement and Reporting**: Measure and report greenhouse gas emissions on a regular basis, across Scopes 1, 2, and 3.
2. **Carbon Elimination:** Implement decarbonisation strategies in line with the Paris Agreement through real business changes and innovations, including efficiency improvements, renewable energy, materials reductions, and other carbon emission elimination strategies.
3. **Credible Offsets:** Neutralise any remaining emissions with additional, quantifiable, real, permanent, and socially-beneficial offsets to achieve net zero annual carbon emissions by 2040.

Amazon's pledge then leads into how we manage our supplies.

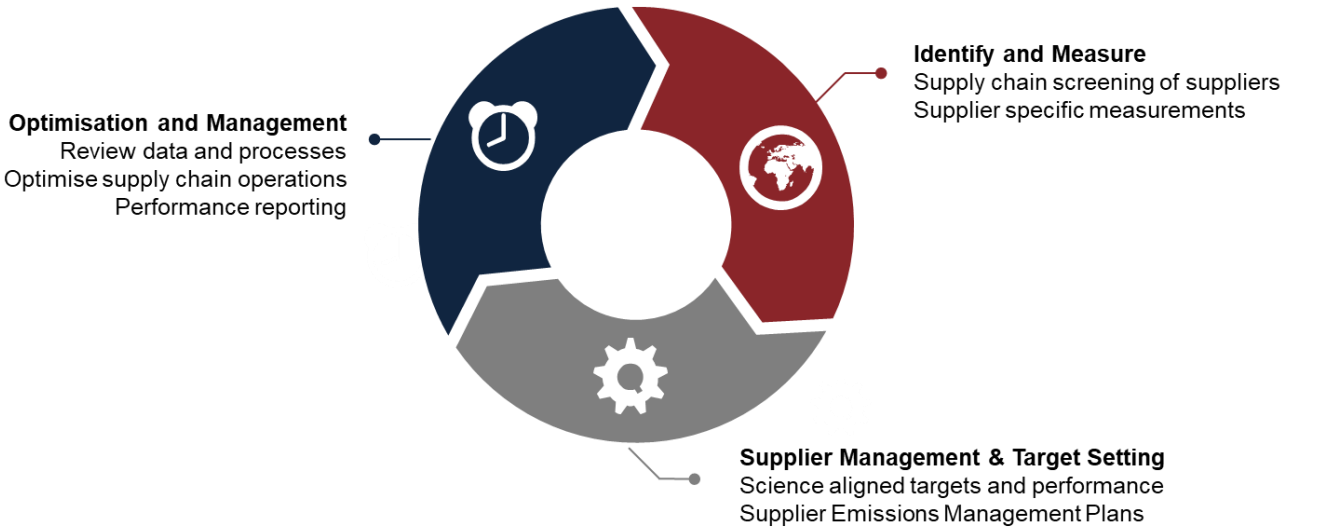
The way in which we're driving value into Scope 3 is setting new standards around how we buy.

WHAT DOES THIS MEAN FOR SUPPLY CHAIN LOGISTICS?

The supply chain function is developing new processes and standards to better identify, select and manage their supplier's emissions reduction journey.

These changes (mandated or not) will be unavoidable for all organisations – whether it is your suppliers, employees or customers driving the change, it will happen.

We don't just want to work with the compliant company, they've got to have an environmental target. We've got to be able to understand their emissions and how they are managing unavoidable emissions.



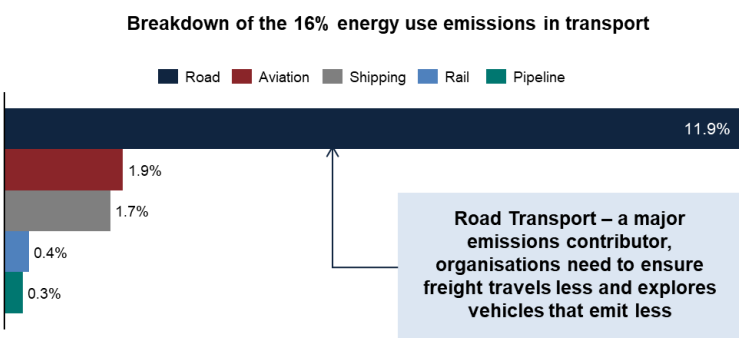
This is where carbon emissions come from.

A huge proportion of emissions come from transport and if you're in the logistics industry, you've got a target on your back because your suppliers will be looking to lower their emissions and they'll want to do it through partnering with people that are lowering their own emissions.

You may be an upstream or downstream provider for someone else's value chain.

73% of global GHG emissions come from energy use

1. Energy use in industry = 24%
2. Energy in Transport = 16%
3. Energy use in buildings = 18%
4. Energy in Other Sectors = 15%



Source: Our World in Data (CO2 and GHG emissions)

ASSURANCE AND MODERN SLAVERY

In 2018, the Modern Day Slavery Act was passed in Australia.

Companies are now mandated to provide modern-day slavery reporting which requires dissecting the supply chain to achieve visibility and transparency.

Organisations are required to report on their risks of modern-day slavery and produce annual statements that detail:

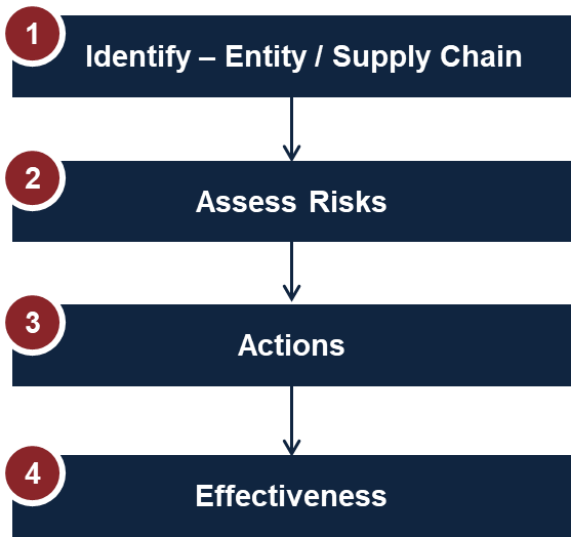
the entity's structure, operations and supply chains; and the potential modern slavery risks in the entity's operations and supply chain and what the organisation's plans and actions that are to be mitigated.

The new acts were put into place in 2018. The first reporting period was 2020. Organisations have had to go and identify their supply chain, look at risks, develop action plans and look at how effective those plans are over time.

The same process applies, similar to building resilience.

Resilience, sustainability, and assurance all follow the same perpetual cycle when it comes to measuring and identifying risks and developing options. These common steps should be implemented by supply chain professionals to lead to structural change.

Supply chain professionals need to be across the importance of Identification of the assessments of risk, the evaluation and development of options, and how they go about doing it.



A CIRCULAR ECONOMY

With growing societal environmental consciousness, over the past few decades, we have transitioned towards a recycling economy.

When we re-engineer a more circular economy, supply chain and logistics must be involved.

The circular economy is another massive push. The Queensland Governments Waste Forum 2022, revolved around the drive towards a circular economy and the 10 year timeframe that the Queensland Government has set to achieve this.

There is a growing call to introduce carbon accounting into the metrics of waste management. It is a logistical task. It's about aggregating volume and consolidating it in new ways in which we process things.

Logistics is required around developing those processes and the government is setting new guidelines for government entities and private industry sectors to participate in sustainable procurement.

Image source: Rochester Institute of Technology

Aust Govt Sustainable procurement guide

While the Australian Government Sustainable Procurement Guidelines are aimed at government entities, they provide private industry sectors insight into government procurement practices and goals which can assist in the tendering for and execution of government work. They also serve as good practice guidelines for private industry tenders and procurement.

The site also contains useful resources for sustainable procurement such as a list of goods and materials comprised either entirely or partly of recycled materials covering everything from building, landscaping and construction materials to office fit out and supplies. Additional links can also assist with finding supplier for these materials and items.

RRB Recycled Materials best practice report

Transportation networks offer a huge opportunity for the use of recycled content. While principally these networks sit under the purview of government entities this is not exclusive. Private industry also has the opportunity to utilise recycled materials within internal site boundaries. Property developments, industrial hubs and mining developments could be significant users if their procurement practices outlined the use of alternative content. This ties in with the sustainable procurement guidelines mentioned above.

In June 2022 the Australian Road Research Board issued its final report into the use of recycled materials in road and rail infrastructure.

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SUMMARY

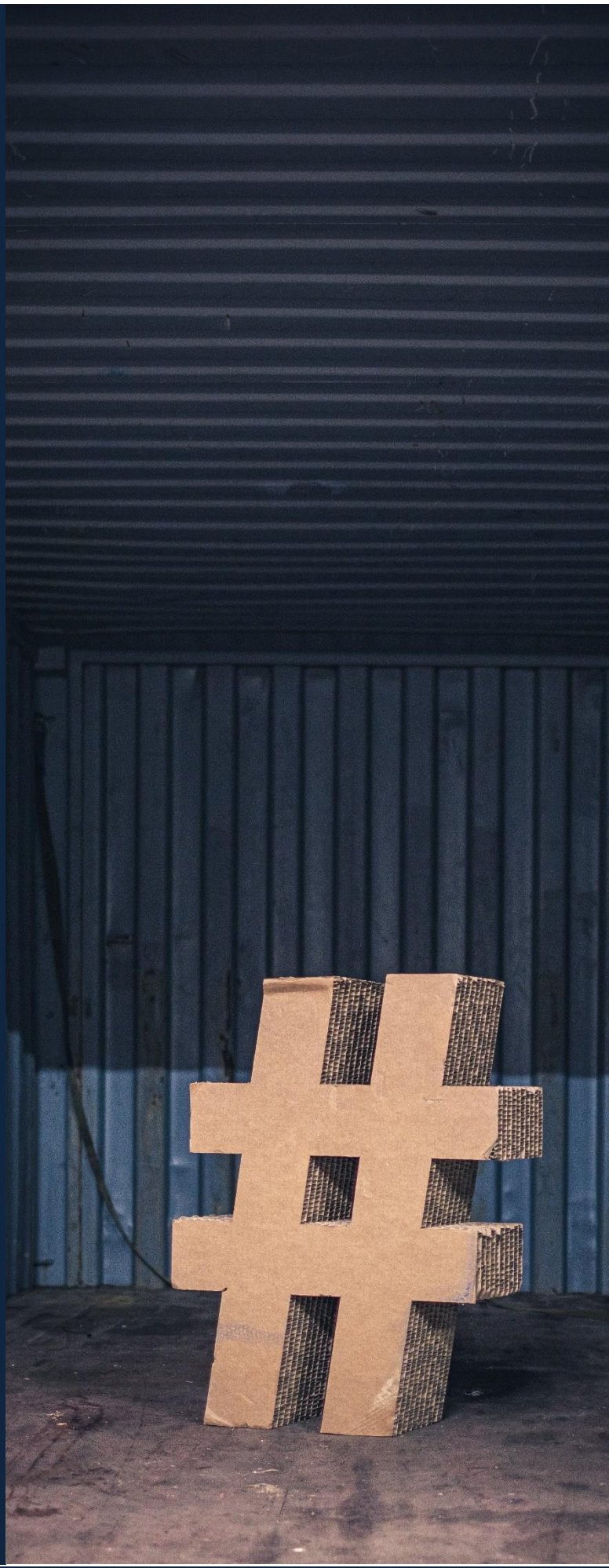
Covid-19 shone a spotlight on the innate weakness contained within an offshore supply chain. This exposure should provide the impetus to apply an organisations energies to address these long-term structural weaknesses. By developing 'resilience' capability as opposed to 'recovery' skills, companies will no longer be corralled by the limitations of the trend to ultra-lean practices that have driven global supply design over the past two decades.

Resilience, sustainability and assurance all follow the same perpetual cycle when it comes to measuring and identifying risks developing options.

These common steps should be implemented by supply chain professions to lead to structural change.

Common to these activities is the need to commence a journey of discovery, measurement, risk identification to maximise assurance and reduce emissions across the supply chain even if you can't directly control them.

It is incumbent for Executives and Supply Chain and Logistics Professionals to be across these trends and to determine what it means for them and their organisation.



AUTHORS

David Irvine

David is an experienced company director, corporate strategy, supply chain and business improvement expert with more than two decades of providing innovative solutions to large, complex projects and organisations around the world. David has worked with mid-sized to large corporations including:

- Caltex, Toyota, Mercedes Benz, Sanofi Aventis, LG Electronics, Qantas, Billabong, BHP, Rio Tinto, Santos, Origin Energy, CSR, Energex, Ergon, Heinz, Siemens, Downer & Thiess.

David is highly regarded for providing innovative solutions to help minimise cost and increase project efficiencies and has developed a reputation for being a trusted adviser to clients by doing whatever it takes to provide the best solutions in the most ethical manner.

Pamela Doyle

Pamela has extensive experience in the supply chain, resource industries and financial services. Pamela commenced her consulting career with Accenture Ireland where she gained invaluable skills in project management and control, stakeholder and operational reporting, and problem-solving in diverse and everchanging environments. Through this experience, Pamela has developed capability in project reporting, change and transformational management. Pamela holds a BA Business Studies (Hons) and a Postgraduate Diploma in Mgmt. of Operations

FURTHER READING:

- **Building a Resilient Supply Chain**
- **Supply Chain Assurance & Chain or Responsibility**

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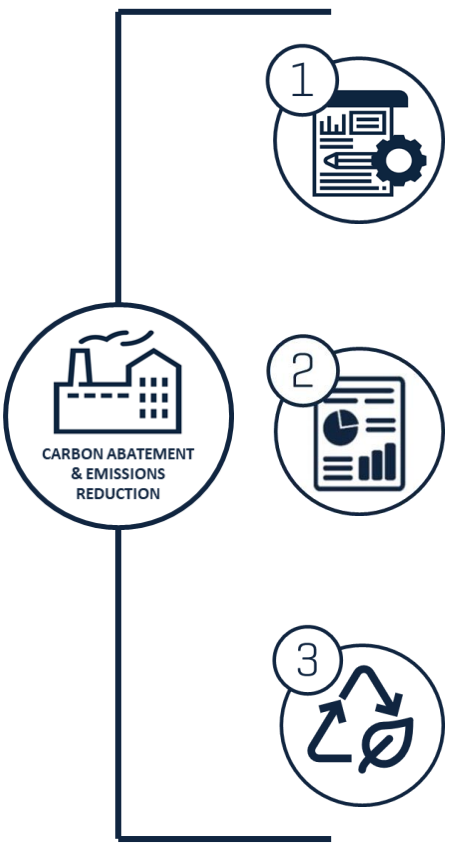
PROJECT MANAGEMENT & ADVISORY SERVICES

CARBON INVENTORY ASSESSMENT

Siecap is a specialist project management and advisory firm that provides compliance services across a variety of specialist fields. We assist clients by developing tailored programs that facilitate a balanced approach enabling Value-based compliance of Regulatory requirements. Siecap is accredited to provide, impartial inventory auditing services, in accordance with ISO14065 GHG Protocol Corporate Accounting and Reporting Standards.

OUR SERVICE OFFERING



CARBON INVENTORY (GHG) DESIGN & DEVELOPMENT

This service relates to the design, development, management, reporting and verification of an organisation's GHG inventory, enabling an organisation to understand the quantum and scale of their own Carbon Footprint.
Services include Organisational Carbon Inventory Scope & Boundary Assessment, Carbon Inventory Sources and Categorisation.

EMISSION MANAGEMENT AND REDUCTION PLAN

Identifies opportunities for GHG emissions reduction and forms strategies for a Net Zero Carbon Pathway or Low Carbon Pathway, also formalises the organisational management plan that will be used to benchmark organisational progress and the basis for accounting principles and future Audits.

CARBON INVENTORY (GHG) ACCOUNTING PRINCIPLES

Sets up the basis in which an organisation will validate & measure, monitor and report on emission reduction and removal enhancement. Will enable independent Auditing and compliance with ISO Standards.

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PROJECT MANAGEMENT & ADVISORY SERVICES

PROJECT CARBON STRATEGIES

Siecap is a specialist project management and advisory firm that provides compliance services across a variety of specialist fields. We assist clients develop project specific tailored programs that facilitate a technically backed and balanced approach enabling Value-based compliance of Regulatory requirements. Siecap is accredited to provide, inventory modelling, scenario evaluation and auditing services, in accordance with ISO14065 GHG Protocol Corporate Accounting and Reporting Standards.

OUR SERVICE OFFERING

PROJECT CARBON FOOTPRINT

This service relates to quantifying a projects total carbon footprint under execution and future state. The aim being to set a project benchmark and work towards more efficient and cost effective emission reduction strategies for project execution and operation. Services include Project Carbon Inventory Scope & Boundary Assessment, Carbon Inventory Sources and Categorisation.

PROJECT CARBON SCENARIO DEVELOPMENT

Uses proposed Business As Usual benchmark to model various Project scenarios using Stochastic, and Discrete Event modelling techniques in order to identify a range of optimal Project execution strategies for a Net Zero Carbon Pathway or Low Carbon pathway emissions. The output of the scenario modelling is used to develop a GHG emissions management and reduction plan.

GHG EMISSIONS MANAGEMENT AND REDUCTION PLAN

Formalises the Project emissions reduction plan for the Project in which can form part of project feasibility documentation and can be implement within project execution. Will be used to benchmark Project progress and the basis for accounting principles and future Audits.

CERTIFIED
CARBON AUDITOR

OUR SERVICES

Siecap is a project management and advisory firm Specialising in providing a full range of corporate and operational services across the asset and investment lifecycle, which assist our clients to optimise cost, increase performance and manage risk.

Siecap Supply Chain is one of the divisions of the wider Siecap Group that specialises in providing customized solutions from concept and strategy through to implementation and operational improvement.

OUR OFFERING

We have in-depth supply chain, logistics and procurement capability and a solid understanding of the strategic and operational implications associated with the transformation of supply chains.

STRATEGY, BUSINESS CASE & LOGISTICS NETWORK DESIGN

We provide feasibility studies and business cases to optimise customer service requirements, supply chain costs and capital employed by designing a fit for purpose strategy for the logistics network.

SUPPLY CHAIN PLANNING & INVENTORY MANAGEMENT

We assist in the establishment of inventory and integrated business planning processes, systems and policies to maximise the key elements of service, margin, and working capital costs.

LOGISTICS, TRANSPORT & WAREHOUSING

We design, implement and optimise robust logistics solutions across transportation and warehousing to reduce cost, minimise risk and maximise performance.

SOURCING, PROCUREMENT AND CONTRACTING

We develop, implement and manage sustainable capital, product and services procurement activities that enable the lowest total costs, governed by best practice category management structures.

PROGRAM MANAGEMENT & PROJECT DELIVERY

With a depth of project management capabilities, we are uniquely equipped to support the delivery of both greenfield and brownfield facility developments and site operations readiness requirements.

CONTACT

Brisbane Office: **Level 7, 300 Adelaide Street, Brisbane QLD 4000 | T: +61 7 3157 4400 | E: brisbane@siecap.com.au**
Sydney Office: Level 57, 19-29 Martin Place, Sydney NSW 2000
Melbourne Office: Level 2, Southbank Blvd, Southbank VIC 3006
Wellington Office: Level 1, 16 Ihakara Street, Paraparaumu 5032 New Zealand | T +64 27 333 8058 | E: siecap@siecap.co.nz