From Risk to Reward: Transforming Operations for a Sustainable Future

Australian Pipelines and Gas Association March 2023

CSS Protect. Transform. Sustain.

Summary

- 1. Sustainability is strengthening the business value chain and minimising it's environmental impact
- 2. Sustainability impacts all parts of a business and requires a systematic approach to risk and opportunity

3. Understand your baselines:

- Environmental impacts across your value chain and future trajectories
- Cultural alignment across the workforce
- Integration with rest of business
- 4. Prioritise technical and enabling activities and aim for traction rather than perfection



Sustainability

- create and maintain a viable business and biosphere
- a value creation opportunity for both financial and non-financial rewards
- a scientifically-informed response to the pressures and emerging opportunities faced by the pipeline industry from the global energy transition



Common Sustainability Pitfalls and Challenges

- Limited level of understanding Sustainability across business
- Sustainability as an isolated function or team
- Public long-term pledges and targets without supporting detail
- Sustainability targets separated from BAU plans
- Reporting for the sake of reporting
- Limited visibility of skills required (current and future)
- Evolving stakeholder lists and demands
- Fixation on single technological solution

Landmark Santos greenwashing case to centre on meaning of 'clean'

Shell's board of directors sued over 'flawed' climate strategy in first-of-its-kind lawsuit

BP scales back climate targets as profits hit record

Any other pitfalls or challenges?



https://www.lawyerly.com.au/landmark-santos-greenwashing-case-to-centre-on-meaning-of-clean/

https://www.euronews.com/green/2023/02/09/shells-board-of-directors-sued-over-flawed-climate-strategy-in-first-of-its-kind-lawsuit © DSS https://www.bbc.com/news/business-64544110

Sustainability impacts all parts of a business and requires a systematic approach

Principles The set of fundamental statements that define how work will be executed	Create Alignment and Momentum	Understand Risk and Value	Integrate Activities	Deliver Results
Elements A logical, mutually exclusive breakdown of each principle into actionable tasks	 Clarity of purpose Stakeholder engagement Visible leadership 	 Understanding risks Defining the current and future value chain Understanding potential performance 	 Prioritisation of activities Quantifiable goal- and target-setting Linkages with broader business Forging external partnerships Target ownership and incentivisation 	 Performance tracking and verification Process standardisation and improvement Performance reviews Resourcing and capability Organisational learning
Requirements A defined set of behaviours or processes to achieve element		Common, Business-wide Ca	pabilities and Requirements	
Key Tools (non-exhaustive) Specific methods employed to achieve the requirements (Decarbonisation-related tools provided as an example)	 Vision and target setting Cultural assessment Decarbonisation Roadmap External stakeholder and market engagement Industry commitments selection Communication campaigns Leadership upskilling 	 Materiality assessment (physical and transition risks) Value chain transformation Energy Transition driver tree (baseline and projected) Asset operating philosophy 	 New energy project evaluation methodology External industrial collaborations pipeline Recruitment and training planning Carbon-budgeting Cascaded emissions targets linked to STIs/LTIs 	 Energy management systems and audits Sensing, quantification and reporting LDAR campaigns Emissions reduction improvement ideas pipeline Technology upgrades Operating disciplines

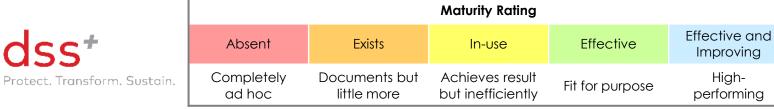


Embedding Sustainability requires building the capabilities and mindset, not just a toolkit

An initial maturity assessment can be used to identify focus areas for Sustainability-related activities

INITIAL MATURITY ASSESSMENT

Create Alignment and Momentum	Understand Risk and Value	Integrate Activities	Deliver Results
 Clarity of purpose Stakeholder engagement Visible leadership 	 Understanding risks Defining the current and future value chain Understanding potential performance 	 Prioritisation of activities Quantifiable goal- and target-setting Linkages with broader business Forging external partnerships Target ownership and incentivisation 	 Performance tracking and verification Process standardisation and improvement Performance reviews Resourcing and capability Organisational learning
	Common, Business-wide Co	pabilities and Requirements	
 Vision and target setting Decarbonisation Roadmap External stakeholder and market engagement Industry commitments selection Communication campaigns Leadership upskilling 	 Materiality assessment (physical and transition risks) Value chain transformation Energy Transition driver tree (baseline and projected) Asset operating philosophy 	 New energy project evaluation methodology External industrial collaborations pipeline Recruitment and training planning Carbon-budgeting Cascaded emissions targets linked to STIs/LTIs 	 Energy management systems and audits Sensing, quantification and reporting LDAR campaigns Emissions reduction improvement ideas pipeline Technology upgrades Operating disciplines



Close major gaps and play to your strengths

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An asset lifecycle materiality assessment allows the key risks and impacts of a pipeline to be considered across its lifetime

SIMPLIFIED MATERIALITY ASSESSMENT

			Enviro	nment			So	cial Cap	ital	Busine	ss Mode	el & Inno	vation		adership overnanc	
ASSET LIFE CYCLE	Air Quality	GHG Emissions	Energy Management	Water & wastewater Management	Waste & Hazardous Materials Management	Biodiversity & Land Stewardship	Human Rights & Community Relations	Labour Practices	Employee Health & Safety	Product Design & Lifecycle Management	Business Model Resilience	Supply Chain Management	Physical Impacts of Climate Chanae	Management of Legal & Regulatory Environ.	Critical Incident Risk Management	Systemic Risk Management
LAND CLEARANCE	•						•				•					
CONSTRUCTION																
COMMISSIONING											•					
OPERATION																
DECOMMISSIONING											•					
		L			pical maj	or materio	ality		er potent	ial		<u> </u>	L		I	

Many companies do not yet fully comprehend the risks and opportunities posed by climate change to their value chains and have not designed appropriate responses

Climate physical, transition and financial risk model

Environment- and climate-related risks

Transition risks

- Policy and regulation
- Technology
 development
- Consumer preferences

Physical risks

- Chronic (e.g. temperature, precipitation, agricultural productivity, sea-level)
- Acute (e.g. heatwaves, floods, cyclones and wildfires)

Economic transmission channels	Busi
Micro - Affecting individual businesses	Fin
 Property damage and business disruption from severe weather Stranded assets and new capital expenditure due to transition Changing demand and costs Legal liability (from failure to mitigate or adapt) 	
Macro - Aggregate impacts on the economy	l •
 Capital depreciation and increased investment Shifts in prices (from structural changes, supply shocks) 	•
 Productivity changes (from severe heat, diversion of investment, higher risk aversion) 	•
 Labour market frictions (from physical and transition risks) Socioeconomic changes (from changing consumption patterns, migration, 	L

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- Other impacts on international trade, government revenue, interest rates and exchange rates.

Business risks

Financial risks

Credit risk

- Defaults by businesses
- Collateral depreciation

Market risk

• Repricing of equities, fixed income, commodities etc

Underwriting risk

- Increased insured losses
- Increased insurance gap

Operational risk

- Supply chain disruption
- Forced facility closure

iquidity risk.

- Increased demand for liquidity
- Refinancing risk

Reputation risk

Environment, climate and economy feedback effects

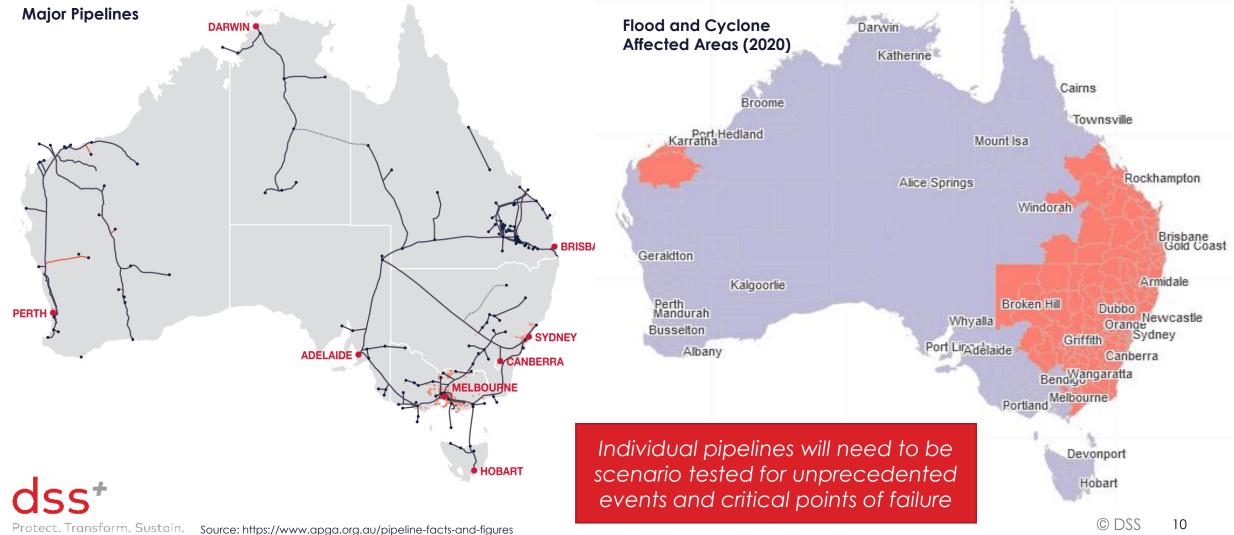
conflict)

Economy and financial system feedback effects



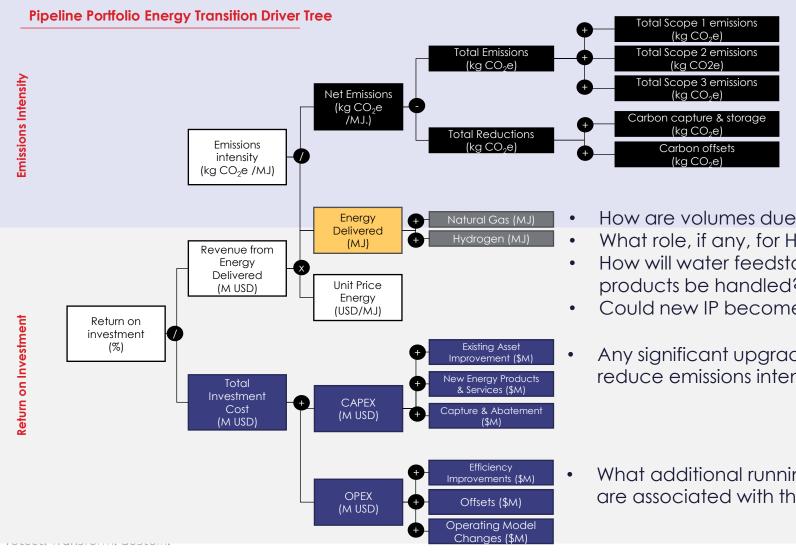
https://www.bis.org/bcbs/; Source What is Climate Risk? A Field Guide for Investors, Lenders, and Regulators, Imperial College, Centre for Climate Finance & Investment, Bob Buhr, Honorary Research Fellow

Anticipating location-specific physical risks and updating current business continuity management systems



Source: https://www.minister.industry.gov.au/ministers/taylor/media-releases/2021-australian-energy-statistic

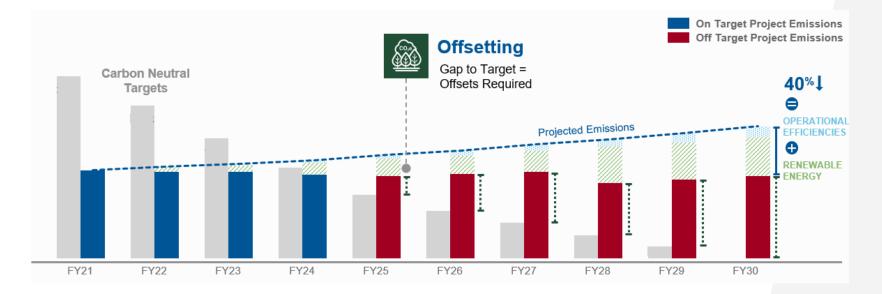
Energy Transition Driver Tree models can be used to understand the interplay of revenue and environmental impact, and to identify unique value levers

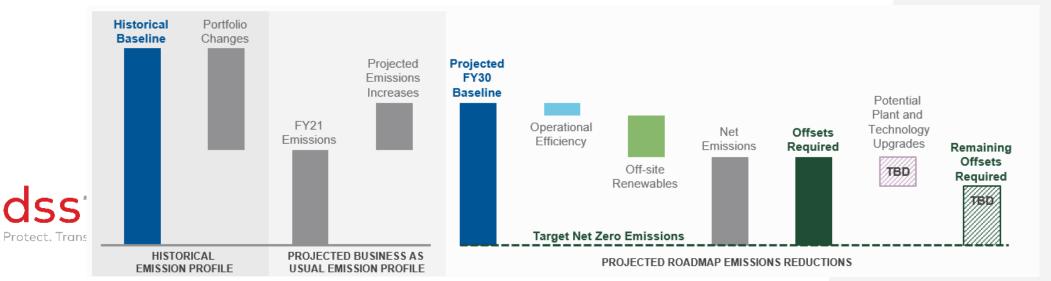


- How well quantified are CO₂ and CH₄ emissions over project life-cycle?
- What is the electrification potential?
- What role do CCUS or offsets play? ٠
- How are volumes due to change?
- What role, if any, for H₂ or Bio-gas?
- How will water feedstocks and anaerobic digestion products be handled?
- Could new IP become an alternate source of revenue?
- Any significant upgrades or new projects to reduce emissions intensity?

What additional running and staffing costs are associated with these changes?

Driver Tree modelling can compare planned trajectory versus target over various time horizons and highlight potential gaps





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Understanding the degree of cultural alignment

	Maturity Gap	Opportunity
1.1 Clarity of purpose Client X has a well defined purpose which is clearly linked to its sustainability goals.	 Role of Sustainability in Client X's overall purpose is unclear 	 Create communications materials that clearly describe the connection between Client X's overall purpose and Sustainability
1.2 Stakeholder	Internal:	Internal:
engagement Client X's long term roadmap developed by engagement with all relevant stakeholders.	 Frontline staff need to be engaged and informed of how their knowledge can assist Sustainability-with clear prioritisation of activities Majority of workforce do not see clear linkages between Sustainability and Safety, Quality and Productivity External: Key customers, such as XYZ, are indicating they will give preference to carbon neutral suppliers 	 Engage internal stakeholders through design and execution of tailored communications campaigns that describe: The importance and value of Sustainability to Client X (e.g. positive outcomes such as assisting commercial competitiveness and job security, employee retention in addition to reduced emissions) The role of each site/team in achieving Client X's Sustainability goals
1.3 Visible leadership Leadership are actively involved in ensuring Sustainability is treated as a priority of the business.	 Leadership have delivered the high-level message but yet to provide details of how individuals make a difference 	 Leadership Engagement and behaviours improvement program



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Sustainability has implications for all business units and functions that support the primary value stream

Business Area	Implications (non-exhaustive)				
Maintenance and Reliability	Procedure design to minimise venting and flaringInspection and leak detection protocols				
Supply Chain	Responsible sourcingSupplier emissions				
Major Projects	New energy sourcesPilot to asset scale-up/commercialisation				
HR	Skills and capabilityAttraction and retention				
Safety	Worker safety during extreme events				
Risk and Compliance	 Scenario modelling Business Continuity Insurance Audit 				
Digital & IT	Remote sensingData collection				
Marketing	Emissions intensity of productCustomer base				
Legal	Regulatory landscape monitoring				
Continuous Improvement	 Target-setting Improvement verification Innovation partnership 				

Broader business integration needs to be considered as part of planning and execution processes

Prioritise technical and enabling activities to demonstrate results, build momentum and complete necessary groundwork

Example High level Roadmap



	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	F
Emission Reduction Levers									
Understand baseline, business case and implement quick wins)							
Establish operating disciplines)				
Implement energy efficiency and plant upgrades									
Complete electrification of significant energy users									ļ
Conduct pilots of new technologies (e.g. hydrogen)									ŕ
Complete renewable energy procurement									
Critical Enablers									
Complete leadership training and comms materials to support ongoing development of Sustainability and improvement culture									
Establish customer and market Sustainability expectations, commitments and targets									
Complete roll-out of Sustainability KPIs across organisation									
Integrate Sustainability governance into existing processes for Risk, Capex and Budgeting)			
Define and implement the organisational structure, required skillsets, and resourcing/training plans)			
Emissions Target			50%			80%			10

Enabling

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Aim for traction, rather than perfection

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3. Understand your baselines:

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Thank you

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Richard Kydd Sustainability Lead – ANZ 0415 682 410 richard.kydd@consultdss.com

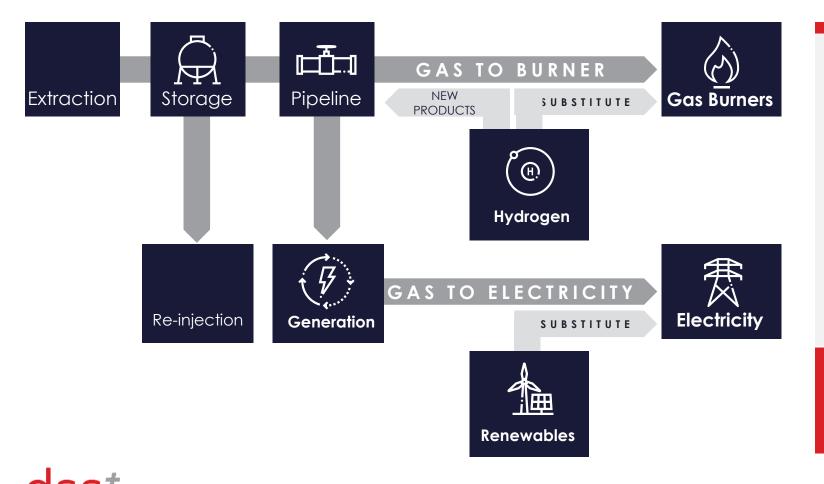
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Sustainability is a clear business opportunity, driving innovation and market competitiveness whilst being resilient in the long term

 Increased Revenue Create new revenue generating streams (products, services) Innovate, driving market competitiveness Build customer acquisition and retention Leverage strategic partnerships across the value chain Develop a portfolio and pricing strategy for growth 	 Build customer trust and loyalty Build brand equity, including investor appeal and financial ratings Enhance your social licence to operate Strengthen employee value proposition
Shorter Term	Longer Term
Reduced Costs	Reduced Risks
 Reduce resource costs and waste – energy, water, materials Reduce financial costs and improve investor outlook 	 Reduce regulatory compliance issues Reduce incidents and injuries Improve resource security of supply Reduce ESG risks (corporate brand, human rights) Reduce stakeholder and media pressure



Disruption in energy market produces opportunities for pipeline operators



Potential changes under consideration:

- Add gas terminals
- Increase gas storage
- Increase renewables capacity
- Increase gas power generation capacity
- Green hydrogen capacity
- Enriching the methane chain with hydrogen

This means a need for diversification, vertical integration, new capabilities, partnering and detailed business planning and delivery expertise



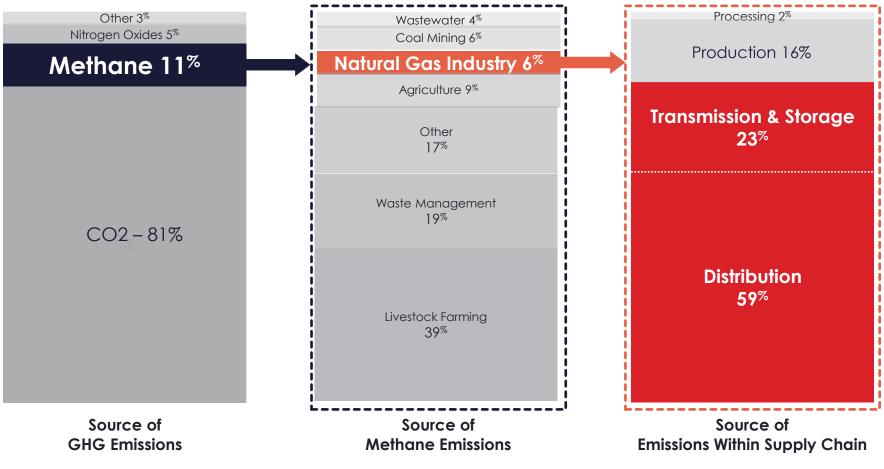
Maturity assessment involves determining how capable existing processes and systems are to handle potential risks (current and future)

PIPELINE- COMBINED MATERIALITY AND MATURITY ASSESSMENT

			Enviro	nment			So	Social Capital Business Mode			el & Innov	vation	Leadership & Governance			
	Air Quality	GHG Emissions	Energy Management	Water & wastewater Management	Waste & Hazardous Materials Management	Biodiversity & Land Stewardship	Human Rights & Community Relations	Labour Practices	Employee Health & Safety	Product Design & Lifecycle Management	Business Model Resilience	Supply Chain Management	Physical Impacts of Climate Change	Management of Legal & Regulatory Environ.	Critical Incident Risk Management	Systemic Risk Management
Land clearance											•					
Construction		•			•				•	•	•	•	•			
Commissioning											•	•				
Operation																
Decommissioning						•										
							NA									

	Maturity Rating									
Absent	Exists	In-use	Effective	Effective and Improving						
Completely ad hoc	Documents but little more	Achieves result but inefficiently	Fit for purpose	High- performing						

Within the methane supply chain, 82% of fugitive emissions come from transmission, storage and distribution





Protect. Transform. Sustain. Data is for Europe, representative of global trends.

Source: https://oge.net/en/sustainable/emission-reduction/methane-emissions