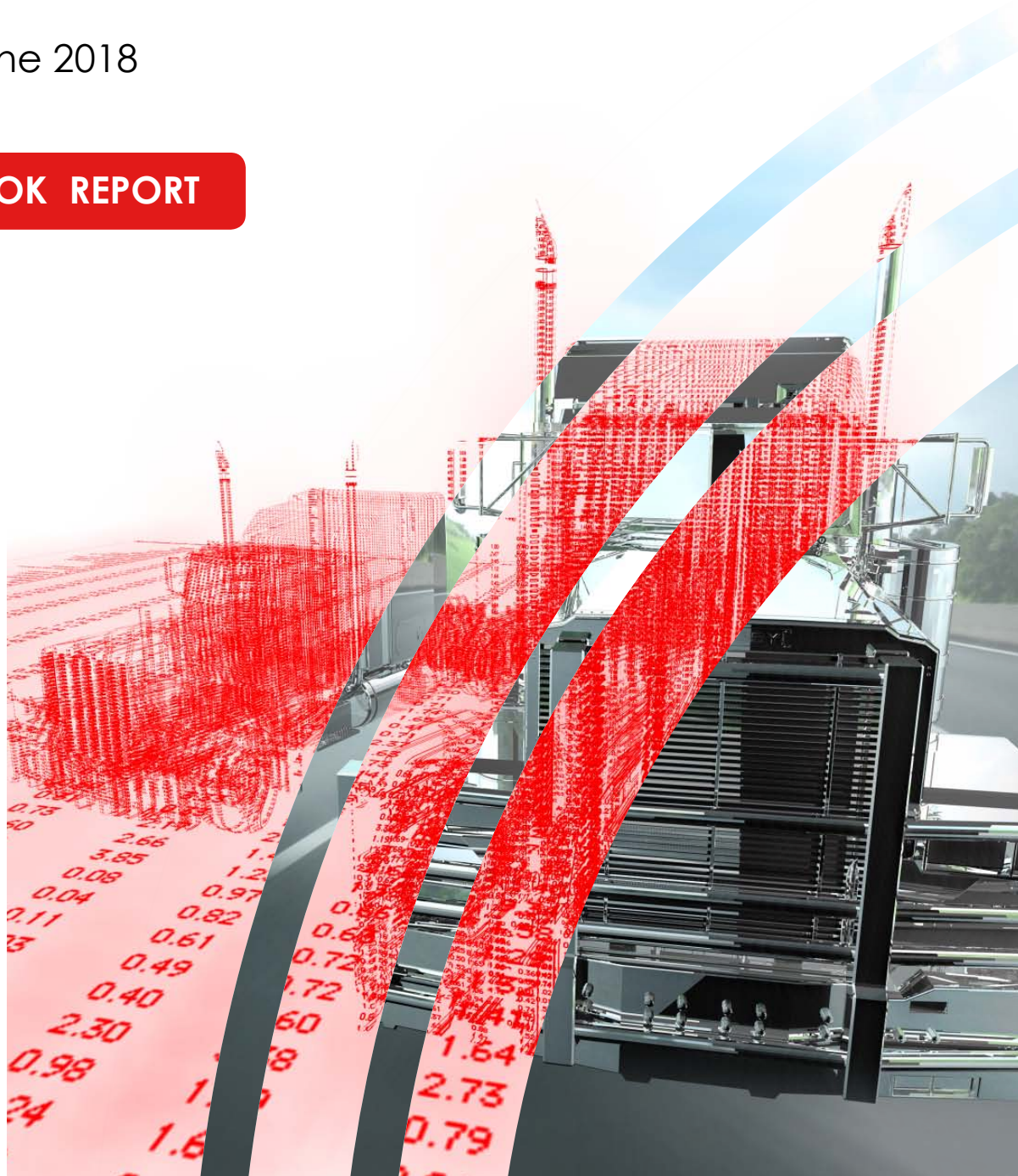
TransEco Vol.8 No.1 June 2018

ROAD FREIGHT COST OUTLOOK REPORT

EXECUTIVE SUMMARY

- Introduction
- Summary of Cost Outlook
- Labour Cost Outlook
- Fuel Cost Outlook
- Vehicle Tyre Cost Outlook
- Maintenance Cost Outlook
- Capital Cost Outlook
- MV Insurance Cost Outlook
- Registration Cost Outlook
- Toll Charges Outlook
- Carbon Economy Outlook
- B-Double Operating Costs



Introduction

- TransEco Road Freight Cost Outlook Service (TRFCOS) was developed due to a demonstrated need for industry to understand its future cost structures.
- Typically used for budgeting and planning purpose and development of competitive strategies by shippers and service providers alike.
- TransEco has been monitoring road freight cost changes in Australia for over 25 years, consequently in a strong position to develop causal econometric models to forecast road freight costs.
- TransEco seeks to actively collaborate with users to evolve this service over time.
- Five year forecast series are reported on a fiscal year basis with 2010-11 as the base year in most cases.
- TransEco closely monitors policy and technology changes and incorporates subsequent impacts in the forecast.

Summary of Cost Outlook

Line Haul

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	5 year Growth Rate
Labour	119.01	122.71	126.08	130.39	134.66	138.72	143.02	147.47	3.20% p.a.
% Change	3.11	3.11	2.74	3.42	3.28	3.01	3.10	3.11	
Fuel	82.77	85.47	96.89	96.97	104.11	107.23	112.45	114.69	3.40% p.a.
% Change	-19.42	3.26	13.36	0.08	7.36	3.00	4.87	1.99	
Tyres	118.45	121.29	126.02	128.04	132.39	136.03	140.25	144.39	2.76% p.a.
% Change	2.50	2.4	3.90	1.60	3.40	2.75	3.10	2.95	
Maintenance	116.46	121.12	124.63	129.49	134.02	139.12	144.68	149.75	3.74% p.a.
% Change	3.60	4.00	2.90	3.90	3.50	3.80	4.00	3.50	
Capital	107.60	109.75	111.20	113.67	116.51	119.66	123.13	126.82	2.66% p.a.
% Change	2.25	2.00	1.32	2.22	2.50	2.50	2.90	3.00	
Insurance	136.21	142.34	144.55	149.75	154.69	159.27	165.16	170.28	3.30% p.a.
% Change	8.80	4.50	1.55	3.66	3.30	2.96	3.70	3.10	
Registration	100.46	100.46	102.67	105.03	107.39	110.08	113.01	114.87	2.27% p.a.
% Change	3.90	0.00	2.2	2.3	2.25	2.50	2.66		
Toll Charges	123.25	177.39	184.66	191.81	199.89	210.29	216.81	224.40	4.00% p.a.
% Change	4.26	43.93	4.10	3.87	4.21	5.20	3.10	3.50	

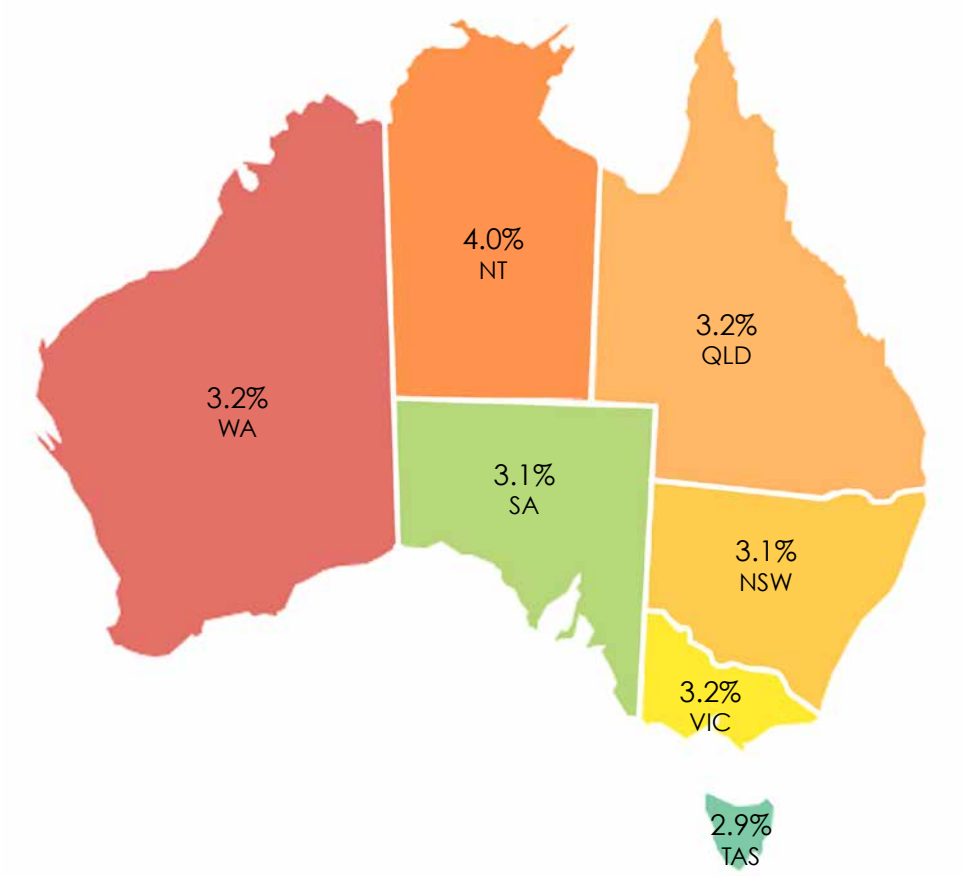
Summary of Cost Outlook

Short Haul

Year	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	5 year Growth Rate
Labour	119.58	123.24	126.56	130.48	134.51	138.37	142.28	146.63	3.00% p.a.
% Change	3.23	3.06	2.69	3.09	3.09	2.87	2.82	3.06	
Fuel	83.60	86.50	98.05	98.14	105.36	109.03	114.44	116.96	3.60% p.a.
% Change	-19.34	3.46	13.36	0.08	7.36	3.48	4.97	2.20	
Tyres	118.64	121.13	124.89	126.76	130.81	133.69	137.57	141.01	2.46% p.a.
% Change	2.50	2.10	3.10	1.50	3.20	2.20	2.90	2.50	
Maintenance	117.34	121.45	124.48	128.71	132.70	136.69	141.20	145.57	3.18% p.a.
% Change	3.10	3.50	2.50	3.40	3.10	3.00	3.30	3.10	
Capital	109.45	111.47	112.78	114.92	117.34	119.62	122.14	124.58	1.84% p.a.
% Change	2.25	1.85	1.17	1.90	2.10	1.95	2.10	2.00	
Insurance	129.36	133.89	134.16	138.32	142.47	146.46	148.65	152.37	2.60% p.a.
% Change	4.50	3.50	0.20	3.10	3.00	2.80	1.50	2.50	
Registration	105.53	113.98	116.48	119.16	121.84	124.89	128.51	130.95	2.37% p.a.
% Change	3.90	8.00	2.2	2.30	2.25	2.50	2.90	1.90	
Toll Charges	123.25	177.39	184.66	191.81	199.89	210.29	216.81	224.40	4.00% p.a.
% Change	4.26	43.93	4.10	3.87	4.21	5.20	3.10	3.50	

Labour Cost Outlook

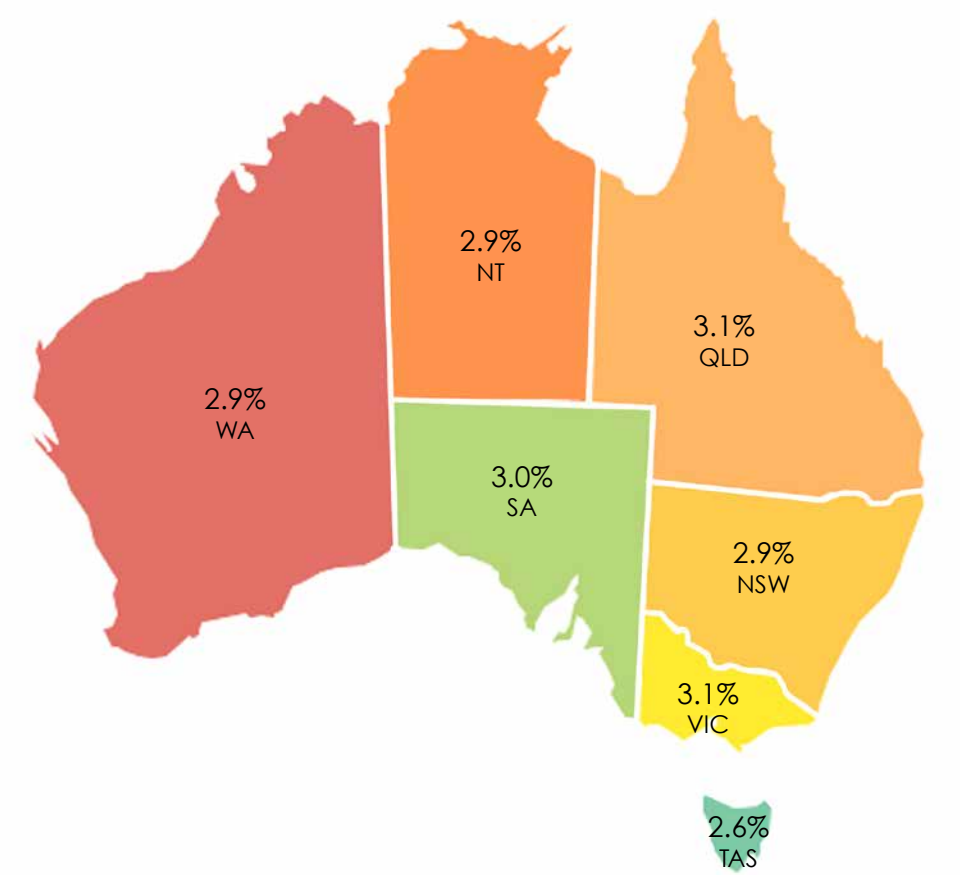
Linehaul 5 Year Average Growth Rate per annum



- ACT Growth Rate= 3.2%pa
- National Growth Rate= 3.2%pa
- Wage rises due to strong demand for labour during the resources boom have eased.
- New South Wales and Victoria have emerged as the drivers of economic growth in recent years, as part of a broader, gradual strengthening in non-mining activity supported by the depreciation of the Australian dollar since 2013 and low interest rates.
- Vehicles with conditional automation, where an automated driving system drives the vehicle for a sustained period of time but the human driver is ultimately required to maintain proper control of the vehicle, are not yet ready to be approved for use on Australian roads. In addition, these are not expected to be in place in the next 5 years.

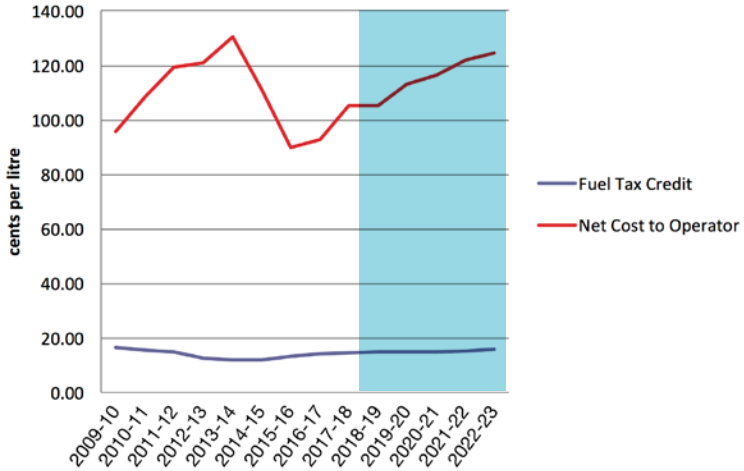
Labour Cost Outlook

Shorthaul 5 Year Average Growth Rate per annum



- ACT Growth Rate= 3.0%pa
- National Growth Rate= 3.0%pa
- Less than robust economic growth rate over the forecast period will dampen wage growth rates
- Superannuation Guarantee increase to 9.5% for 2014-15. Based on new laws, the SG will remain at 9.5% for seven years, increasing to 10% from July 2021, and eventually to 12% from July 2025.
- Household saving ratio (a key determinant of the size of the superannuation levy) is forecast to fall to 2.5% in 2018-19 as per Federal Budget Statement, May 2018.
- Household consumption growth has exeeded household income growth for several years, resulting in a decline in household saving ratio from 7.8% in Dec 2014 to 2.7% in Dec 2017.

Fuel Cost Outlook



- Average crude oil Prices are forecast to peak in 2022-23 to AUD 98.82 per barrel. Volatility will be persistent over the next 5 years as many exogenous factors can dramatically impact overall market conditions.

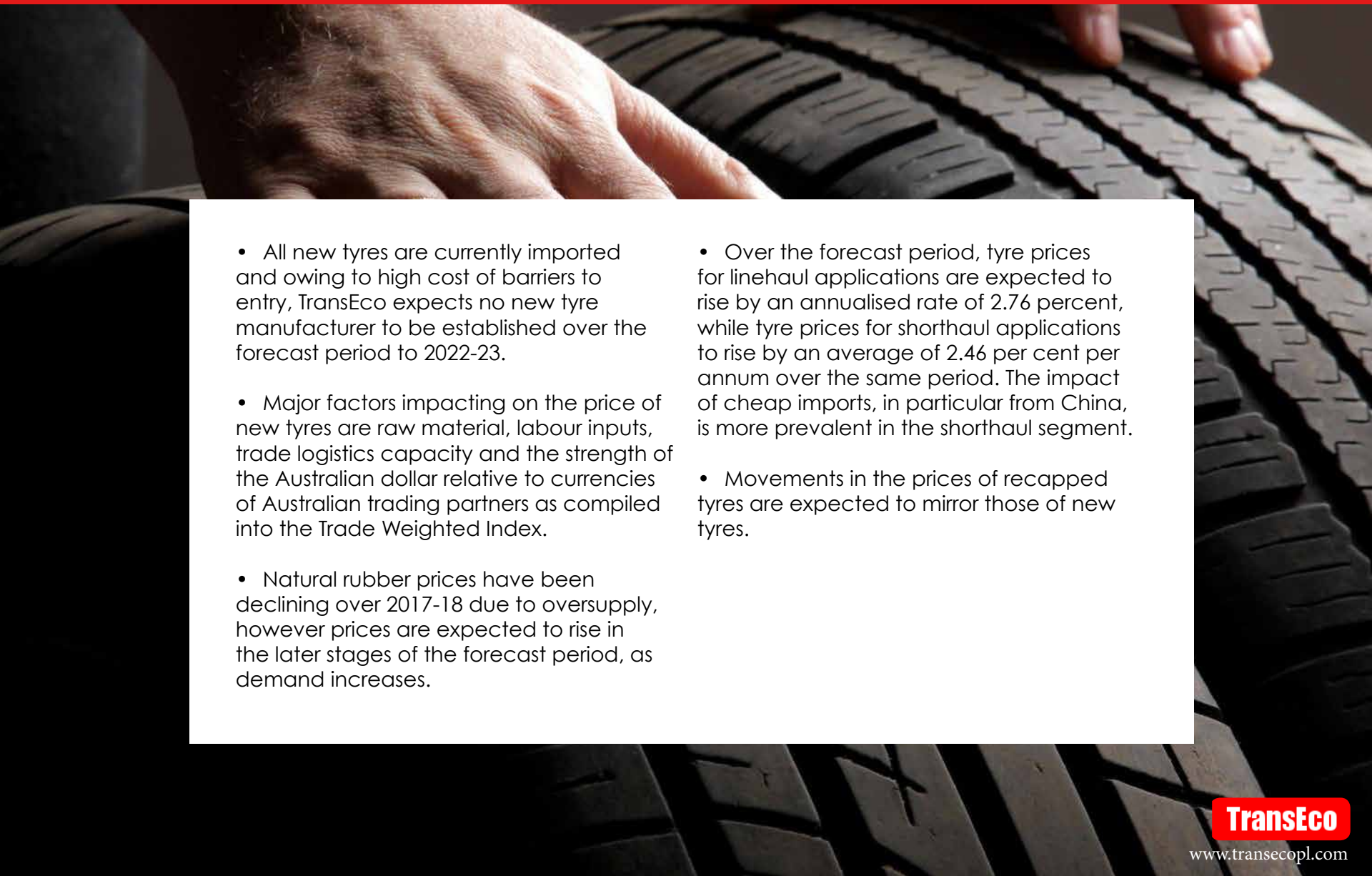
- Net Cost to operator is expected to rise to just over 124 cents per litre for diesel fuel by 2022-23, an increase from 93 cents per litre in 2016-17.

- This is expected to translate to a 3.4% average annual increase over the forecast period to 2022-23.

- This is due to expected higher forecast crude oil prices and weaker A$.

- With the repeal of the Carbon Tax, the Federal Government has removed the fuel excise indexation cap and has introduced six monthly reviews linked to movements in the Consumer Price Index. Some political assurance has been provided to the road freight industry that it would be no worse off by this fuel excise indexation. TransEco now provides forecast of CPI and is included in the main report as Appendix 6.

Vehicle Tyre Cost Outlook



- All new tyres are currently imported and owing to high cost of barriers to entry, TransEco expects no new tyre manufacturer to be established over the forecast period to 2022-23.

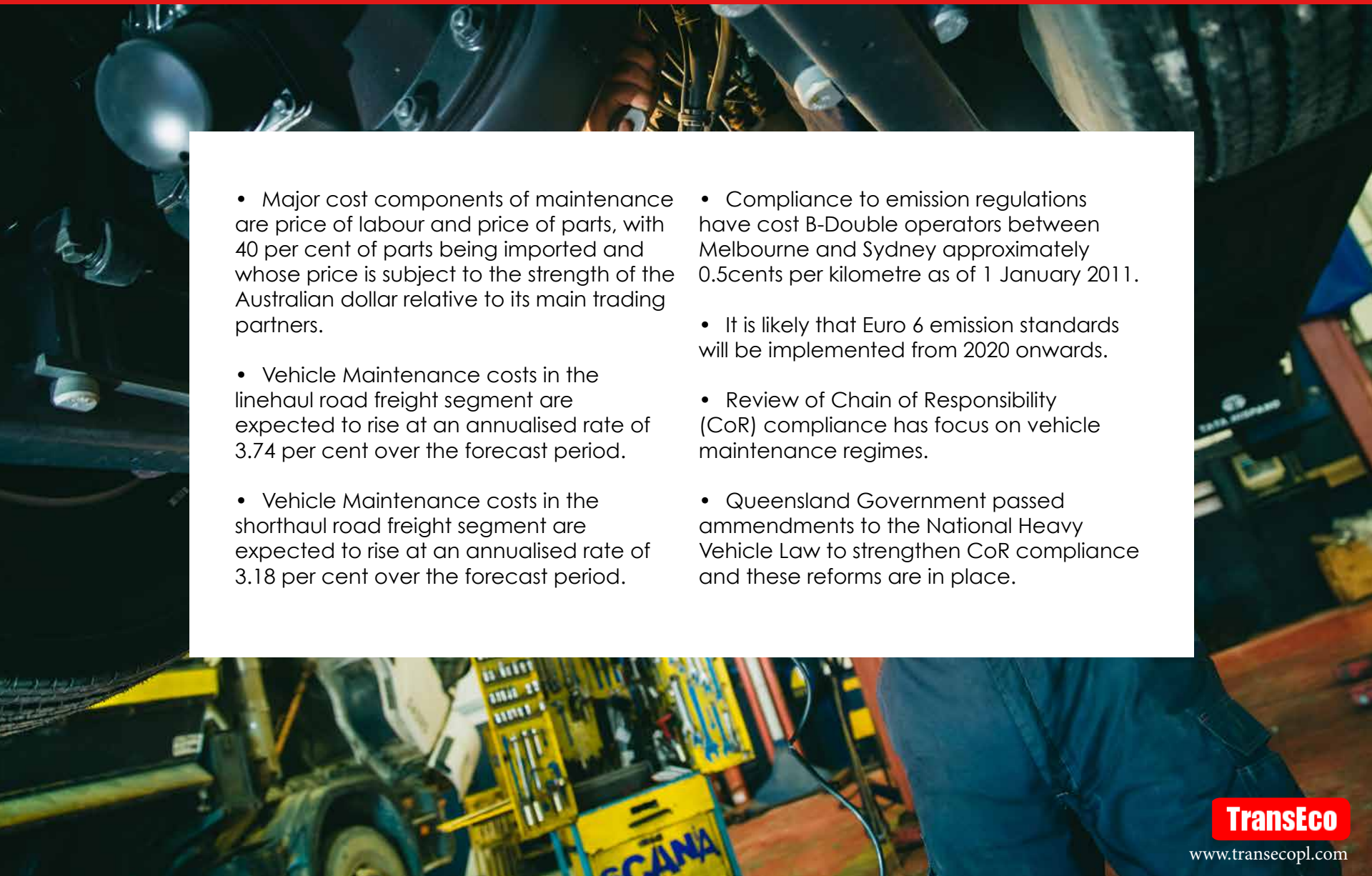
- Major factors impacting on the price of new tyres are raw material, labour inputs, trade logistics capacity and the strength of the Australian dollar relative to currencies of Australian trading partners as compiled into the Trade Weighted Index.

- Natural rubber prices have been declining over 2017-18 due to oversupply, however prices are expected to rise in the later stages of the forecast period, as demand increases.

- Over the forecast period, tyre prices for linehaul applications are expected to rise by an annualised rate of 2.76 percent, while tyre prices for shorthaul applications to rise by an average of 2.46 per cent per annum over the same period. The impact of cheap imports, in particular from China, is more prevalent in the shorthaul segment.

- Movements in the prices of recapped tyres are expected to mirror those of new tyres.

Maintenance Cost Outlook



- Major cost components of maintenance are price of labour and price of parts, with 40 per cent of parts being imported and whose price is subject to the strength of the Australian dollar relative to its main trading partners.

- Vehicle Maintenance costs in the linehaul road freight segment are expected to rise at an annualised rate of 3.74 per cent over the forecast period.

- Vehicle Maintenance costs in the shorthaul road freight segment are expected to rise at an annualised rate of 3.18 per cent over the forecast period.

- Compliance to emission regulations have cost B-Double operators between Melbourne and Sydney approximately 0.5cents per kilometre as of 1 January 2011.

- It is likely that Euro 6 emission standards will be implemented from 2020 onwards.

- Review of Chain of Responsibility (CoR) compliance has focus on vehicle maintenance regimes.

- Queensland Government passed ammendments to the National Heavy Vehicle Law to strengthen CoR compliance and these reforms are in place.

Capital Cost Outlook

GDP & Lending Rates Forecast

- Interest rates play a significant role in determining capital costs as most purchases such as trucks and trailers are debt funded; and along with depreciation constitute total vehicle capital costs.

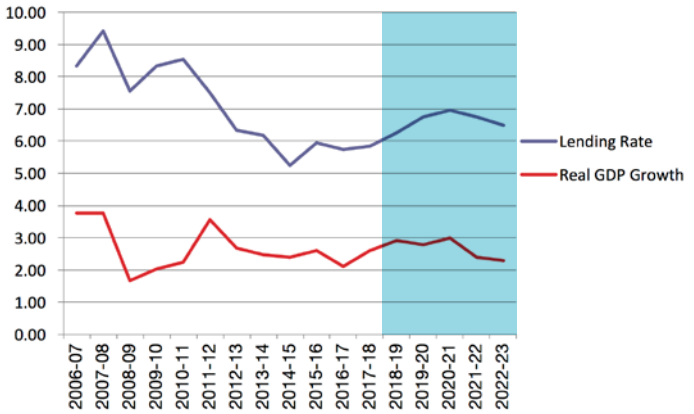
- The relatively increasing interest rate regime over the outlook period will contribute to higher vehicle capital costs.

- 80% of commercial vehicles sold in Australia are imported. AUD is expected to weaken over the forecast period, thus contributing to vehicle price increases.

- GDP is expected to increase on average at a rate of 2.66% over the next 5 years.

- The trailer and motor vehicle body market is less reliant on imports and prices of its products are mainly influenced by cost of raw material such as steel and aluminium.

- Over the outlook period to 2022-23 vehicle related capital costs are expected to rise by an average annualised rate of 1.84% for shorthaul and 2.66% for linehaul respectively.



MV Insurance Cost Outlook

- Key determinants that influence the cost of commercial motor vehicle insurance include: total number of commercial vehicles on register and utilisation; interest rate movements; natural disasters; and legislative compliance requirements for general insurance.

- Due to the unpredictable nature of natural disasters, it is impossible to forecast individual incidence over a five year period. However, based on the rising trend of insured assets, it is estimated from data sourced from the Insurance Council of Australia, that the cost of damage associated with natural disasters to be $2.6 billion mainly due to damage impact from Tropical Cyclone Debbie in March 2017: and approximately $10 billion over the next 5 years.

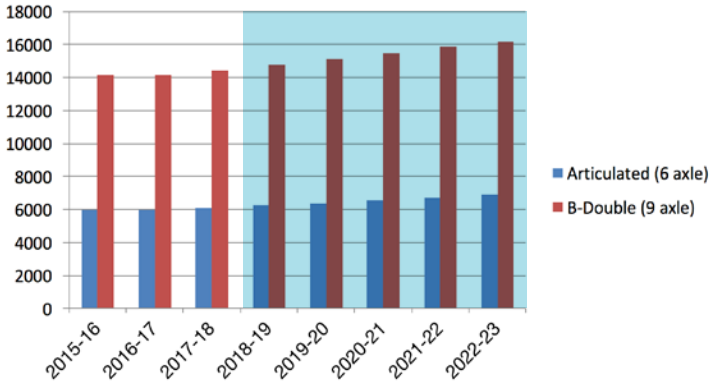
- Commercial vehicle insurance premiums rose significantly in 2016-17 owing to increasing natural disasters caused by adverse climatic conditions. Insurance premiums are expected to keep increasing for the next 5 years.

- Shorthaul vehicle insurance costs are expected to increase by an annualised rate of 2.6% over the next five years; while linehaul vehicle costs are expected to expand by 3.33% per annum over the same period.

- Over the next five years, the compulsory third party (CTP) premiums are expected to rise as all states and territories offer privatised CTP underwriting.

Registration Cost Outlook

Registration Costs of Selected Vehicles

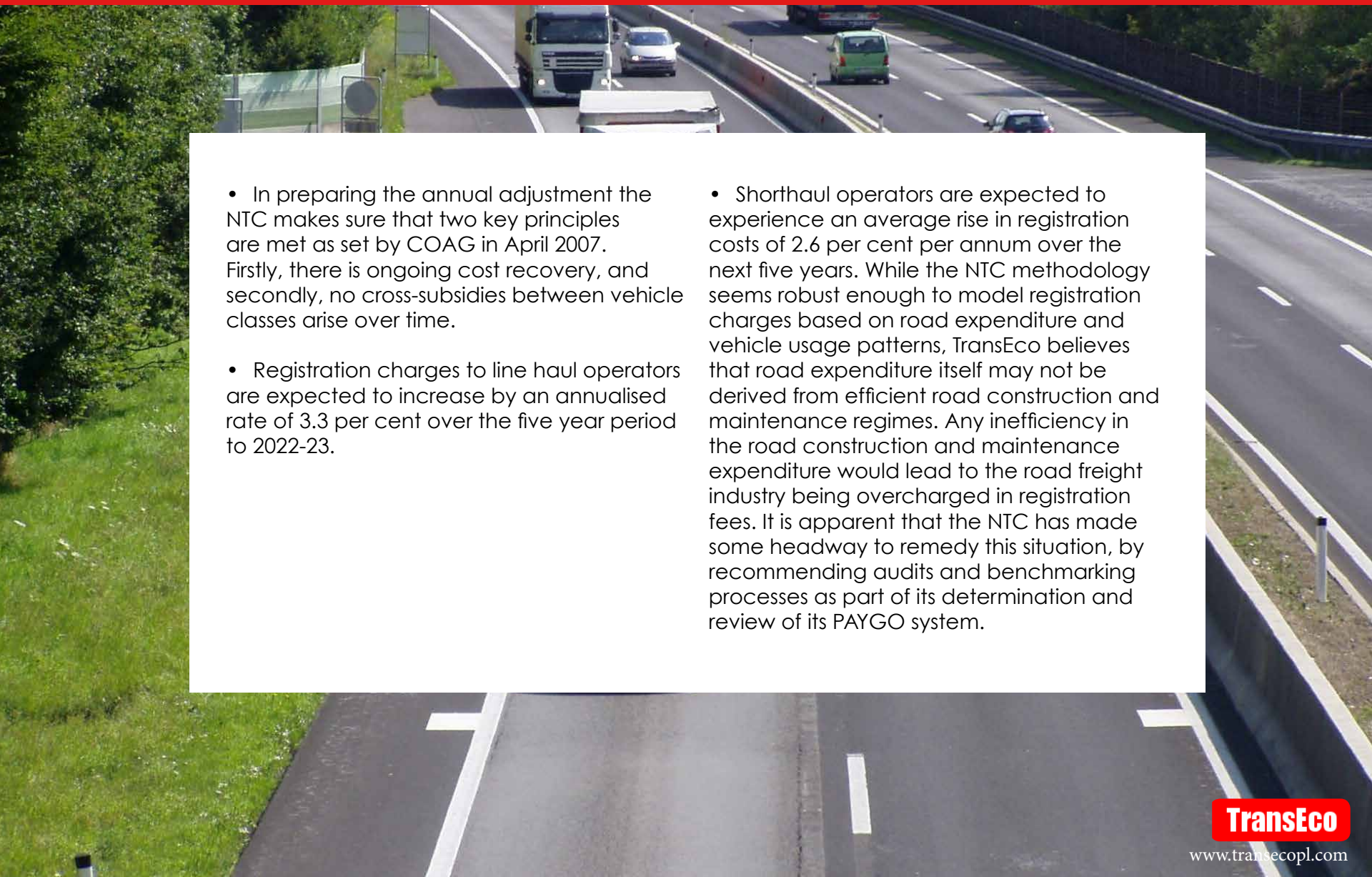


- The past high registration charges on B-Doubles have been due to the removal of subsidy for B-Double configurations over three years from 2008. The subsidy was first applied to encourage the use of B-Doubles, and this strategy was successful in introducing wide spread use of B-Doubles.

- Since then, registration charges are expected to increase only slightly after a drop in 2014-15.

- The Standing Council on Transport and Infrastructure (SCOTI) has adopted recommendations from the Heavy Vehicle Charge Review and have asked for modelling that increases the road usage charge beyond the current 62%.

Registration Cost Outlook, continued



- In preparing the annual adjustment the NTC makes sure that two key principles are met as set by COAG in April 2007. Firstly, there is ongoing cost recovery, and secondly, no cross-subsidies between vehicle classes arise over time.

- Registration charges to line haul operators are expected to increase by an annualised rate of 3.3 per cent over the five year period to 2022-23.

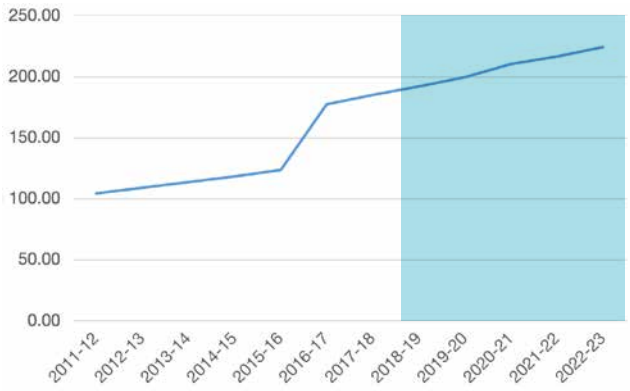
- Shorthaul operators are expected to experience an average rise in registration costs of 2.6 per cent per annum over the next five years. While the NTC methodology seems robust enough to model registration charges based on road expenditure and vehicle usage patterns, TransEco believes that road expenditure itself may not be derived from efficient road construction and maintenance regimes. Any inefficiency in the road construction and maintenance expenditure would lead to the road freight industry being overcharged in registration fees. It is apparent that the NTC has made some headway to remedy this situation, by recommending audits and benchmarking processes as part of its determination and review of its PAYGO system.

Toll Charges

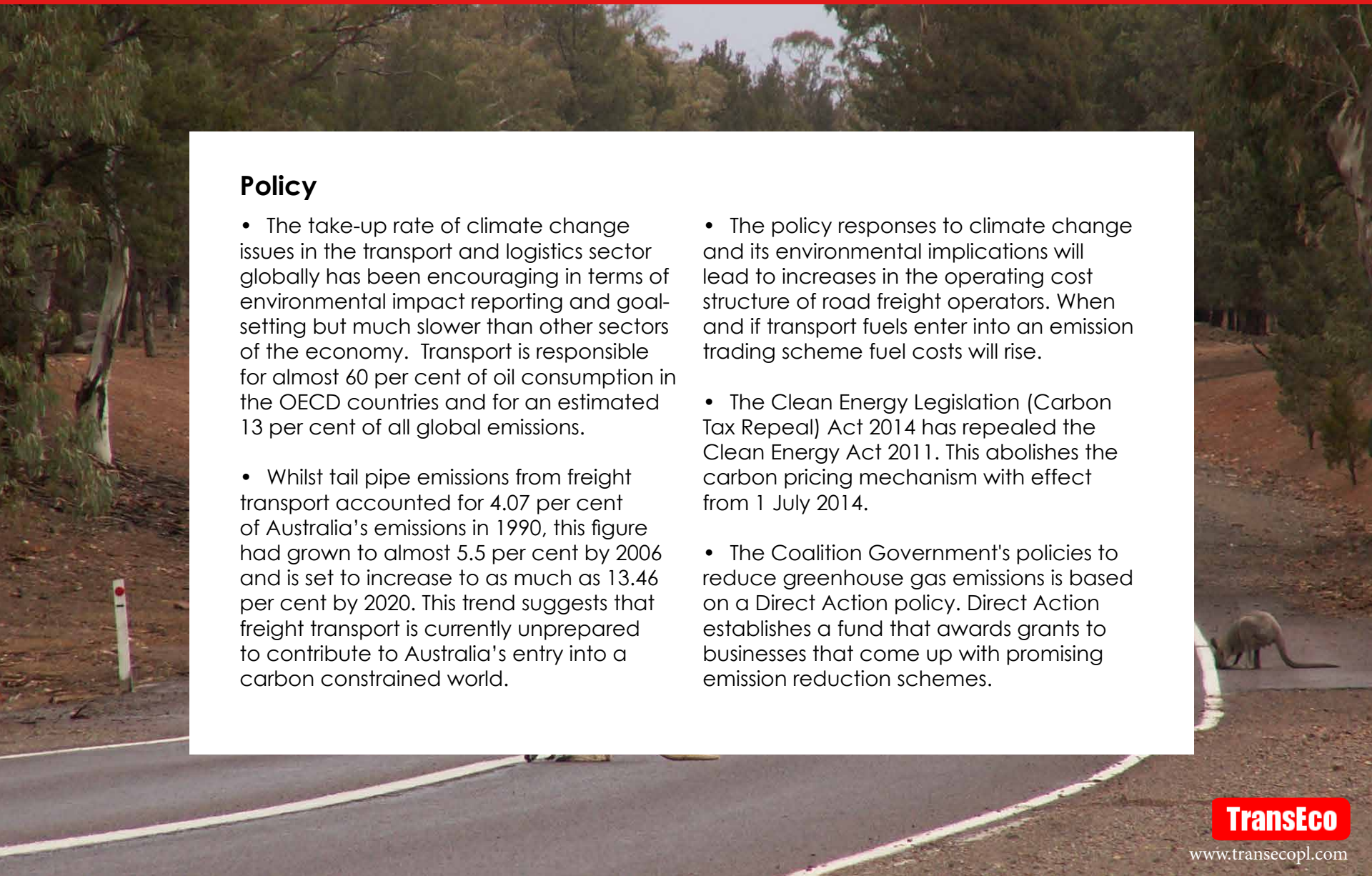
- The acceptance of tolling by users has allowed operators to increase tolls on mature assets ahead of Consumer Price Index (CPI).

- Increasing congestion on non-toll roads and the expanding urban sprawl are anticipated to support growth in the number of journeys on toll roads over the next five years. Congested roads provide the largest incentive for road users to pay for toll roads.

- However, over the last five years, journey times have steadily being reduced as toll roads themselves become congested particularly in Sydney and Melbourne and to a lesser extent in Brisbane. The net benefit of using certain toll ways have been eroded due to increasing toll way congestion and rising toll charges. Furthermore, planned additional toll infrastructure is being based on increasing current toll charges on freight vehicles. As a consequence, toll prices for trucks and heavy vehicles have risen at a faster rate than tolls for passenger vehicles. On average, toll charges for heavy commercial vehicles are expected to increase at a rate of 4.0% per annum over the forecast period to 2022-23.



Carbon Economy Outlook



Policy

- The take-up rate of climate change issues in the transport and logistics sector globally has been encouraging in terms of environmental impact reporting and goal-setting but much slower than other sectors of the economy. Transport is responsible for almost 60 per cent of oil consumption in the OECD countries and for an estimated 13 per cent of all global emissions.

- Whilst tail pipe emissions from freight transport accounted for 4.07 per cent of Australia's emissions in 1990, this figure had grown to almost 5.5 per cent by 2006 and is set to increase to as much as 13.46 per cent by 2020. This trend suggests that freight transport is currently unprepared to contribute to Australia's entry into a carbon constrained world.

- The policy responses to climate change and its environmental implications will lead to increases in the operating cost structure of road freight operators. When and if transport fuels enter into an emission trading scheme fuel costs will rise.

- The Clean Energy Legislation (Carbon Tax Repeal) Act 2014 has repealed the Clean Energy Act 2011. This abolishes the carbon pricing mechanism with effect from 1 July 2014.

- The Coalition Government's policies to reduce greenhouse gas emissions is based on a Direct Action policy. Direct Action establishes a fund that awards grants to businesses that come up with promising emission reduction schemes.

Policy, continued

- The objective of the Emissions Reduction Fund is to help Australia meet its emissions reduction target of 5% below 2000 levels by 2020.

- These grant based schemes are not expected to accelerate carbon abatement processes owing to the reluctance by businesses to comply with complex regulatory processes; and expected lengthy delays by the Clean Energy Regulator in approving applications; if Audit Office calculations in 2010 are an indication.

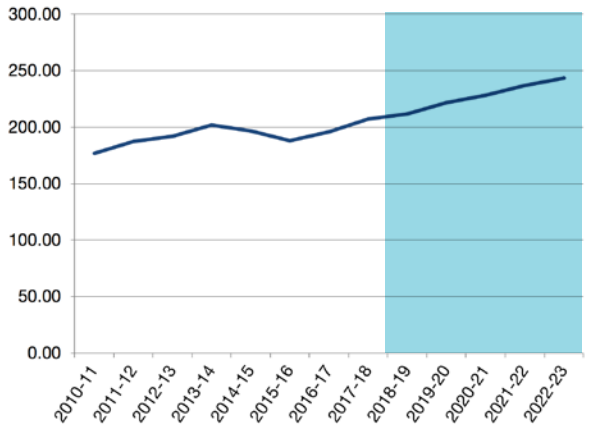
- At the climate summit in Paris in December 2015, Australia signed up to a scheme that backs the use of carbon markets in tackling climate change. The Paris Agreement came into force on 4 November 2016. It is doubtful that Australia will meet its targets under current policies and initiatives.

- The Turnbull government will consider domestic use of international carbon permits from a 2017 review of the direct action climate policy, which could be turned into a form of emissions trading scheme. This is seen as a temporary mechanism as long as international permits are less expensive than cost of abbatement domestically.

- In contrast, the U.S experience in policy development to reduce CO2 emissions is more developed to that of Australia. Emission and fuel efficiency standards in the heavy vehicle segment have been set to the year 2027 with significant gains for all stakeholders. However, the Trump led Republican government may unwind some of the initiatives in the next five years as it has signalled scepticism towards climate change.

- The U.S also seeks to re-negotiate its commitment to the Paris Agreement.

Forecast of B-Double Operating Costs (cents/km)



Year	Labour	Fuel	Tyres	Maintenance	Capital	Rego	Insurance	Tolls	Total	Fuel/Total
2004-05	32.29	42.67	14.29	15.19	24.78	3.77	1.64	2.10	136.74	31.21%
2005-06	33.40	56.00	15.21	15.66	26.08	3.81	1.71	2.20	154.07	36.35%
2006-07	34.61	53.87	15.68	16.14	26.35	3.89	1.78	2.30	154.62	34.84%
2007-08	35.98	66.51	16.16	16.47	26.88	4.01	1.59	2.40	170.00	39.12%
2008-09	37.44	62.16	16.66	16.98	27.16	4.14	1.70	2.50	168.73	36.84%
2009-10	39.00	55.32	16.83	17.33	27.43	4.93	1.73	2.60	165.15	33.49%
2010-11	40.62	63.95	17.00	17.50	27.43	5.60	1.73	2.80	176.63	36.21%
2011-12	42.49	70.30	18.21	18.03	27.57	5.73	1.85	3.50	187.68	37.46%
2012-13	43.79	71.21	18.59	18.62	28.03	5.56	1.97	4.30	192.08	37.08%
2013-14	45.40	76.92	19.30	19.27	28.31	5.70	2.05	4.80	201.74	38.13%
2014-15	46.88	65.71	19.64	19.67	28.87	5.41	2.17	8.10	196.46	33.45%
2015-16	48.34	52.95	20.14	20.38	29.52	5.63	2.36	8.90	188.21	28.13%
2016-17	49.85	54.68	20.62	21.20	30.11	5.63	2.46	11.50	196.03	27.89%
2017-18	51.21	61.98	21.42	21.81	30.51	5.75	2.50	12.00	207.18	29.92%
2018-19	52.96	62.48	21.77	22.66	31.18	5.88	2.59	12.40	211.92	29.48%
2019-20	54.70	67.08	22.51	23.45	31.96	6.01	2.68	13.00	221.39	30.30%
2020-21	56.35	69.09	23.13	24.35	32.83	6.16	2.76	13.60	228.5	30.27%
2021-22	58.09	72.45	23.84	25.32	33.78	6.33	2.86	14.10	236.77	30.60%
2022-23	59.90	73.89	24.55	26.21	34.79	6.43	2.95	14.50	243.22	30.38%

Notes:
1.) These operating costs are exclusive of GST, Profit Margins and Compliance Costs
2.) Compliance costs (Fatigue and Emissions) are estimated to be 2.93 cents per km for B-Double operations in 2010-11.
3.) Based on 280,000 km per year (fleet operations)