



TE TARI TIAKI PŪNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY

Energy efficiency checklist

Heavy freight

Cost saving measures, productivity
enhancements and optimisation
opportunities.

September 2024



This checklist is a practical guide to help heavy freight operators establish both low and medium cost opportunities to save energy.

There are five sections within the checklist focusing on:

1. Fuel data
2. Driver practices
3. Route planning
4. Maintenance
5. Upgrades

ACTION	DETAIL	COMPLETE?
GETTING STARTED		
Measure Fuel Use	Use an emissions tool to estimate total emissions from your fleet and benchmark this against industry averages.	
	Set fuel-reduction targets for your business.	
	Monitor individual fuel consumption per vehicle, driver and route - monitoring fuel cards, vehicle management systems, GPS and telematics.	
	Measure and benchmark your fleet's fuel consumption and productivity, analysing in context of load weight using a metric such as 'per tonne-kilometre'.	
Driver practices	Incorporate driver training programmes and involve regular in-cab time with drivers.	
	Track and monitor driving scoring from telematics feedback.	
	Implement staff engagement initiatives such as 'driver leader boards' celebrating the highest scoring driver each week in your fleet.	
	Use telematics to monitor and reduce idle time, introduce minimum idle standards such as over 3mins switch it off.	
	Introduce speed limiters to vehicles to reduce maximum cruising speed.	
	Explore driver coaching aids that provide in-cab feedback to drivers on their behaviours.	
Route planning	Undertake detailed route planning and mapping to improve fleet utilisation.	
	Use route optimisation software to build optimal routes.	
	Consolidate loads to reduce travel where possible.	
	Ensure trucks are the right size for their routes.	
	Ensure heavy equipment such as pallet jacks are only being taken on routes they are required for.	
Maintenance	Ensure drivers are carrying out weekly formal maintenance checks.	
	Ensure the driver 'pre-trip walk around check' includes energy efficiency opportunities (inspection guide on last page).	
	Implement a Fleet Tyre Management Service with your preferred tyre supplier, to include daily tyre inspections for pressure, wear and alignment.	
	Check with the truck manufacturer if low-viscosity lubricants can be used to reduce friction and energy losses.	
	Schedule regular basic energy maintenance by a qualified technician.	

ACTION	DETAIL	COMPLETE?
UPGRADES		
Aerodynamics	Explore trailer modifications to reduce aerodynamic drag such as: <ul style="list-style-type: none"> • smooth-side van trailers • side skirtings 	
	Explore chassis modification to reduce drag including: <ul style="list-style-type: none"> • roof deflectors • chassis fairings • under-hood air-cleaners • vision systems that replace mirrors. Ensure the distance between the cab and trailer is minimised, either through trailer selection or aerodynamic aids.	
Tyres	Fit low resistance tyres.	
	Explore dual tyres to replace single wide tyres (reducing weight and rolling resistance).	
Vehicle mass and mass carried	Investigate ways to reduce vehicle weight, such as: <ul style="list-style-type: none"> • lightweight trailers • alloy wheels and super-single tyres • optimising fuel quantity carried • light stillage pallets. 	
Purchasing a new truck	Undertake a fleet optimisation exercise to see if the truck needs to be replaced.	
	If a new truck is required, check if a smaller or lower powered truck is appropriate.	
	Investigate whether a battery electric or hydrogen vehicle would be appropriate for the route.	
	Compare options from multiple manufacturers and their expected energy consumption.	
	When choosing options, select the best aerodynamic options for your intended body/trailer combination.	
NOTES		

Driver pre-trip walk-around inspection guide

