SUSTAINABLE ENERGY AUTHORITY OF IRELAND

A Guide to

Road Diesel Purchasing & Control

Good fuel management saves you money, typically 3-5% in Litres used. Understanding how much fuel your vehicles use helps you cost work accurately, prevent fuel fraud and manage energy.

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SUMMARY

Oil prices can fluctuate rapidly and widely: during 2008 AA Ireland reported diesel fuel prices as high as €1.40, prices returned below €1.00 per litre early in 2009. This makes planning and cost control difficult as prices may have varied dramatically between time when price for work is agreed and fuel is used to complete the work.

YOU CANNOT CONTROL THE PRICE OF OIL, YOU CAN CONTROL HOW MUCH YOUR VEHICLES USE.

The reasons for oil price variations are many and complex, but it is reasonably certain that diesel demand will continue to rise due to (Source: IEA International Energy Agency Medium Term Oil Report 2nd July 2008):

- Increased demand from developing countries.
- Low investment in new refinery capacity over last 10 years.
- Increased use of diesel in passenger cars switching from petrol.

TIPS

- Measure and report in Litres per 100 Km, this figure reduces as your fuel efficiency improves, so its easier to see savings. Also much of the literature across Europe and UK uses L/100Km so you can compare more easily (see conversion tables on last page).
- Train your drivers to always fill tanks to brim (or second click): Unless tanks are very large and where weight of fuel may take away from pay load capacity.

GOLDEN RULES

- Always measure in Litres per 100 km.
- Always capture vehicle by vehicle.
- Always capture odometer reading at fill-up.

BENEFITS

- Reduced fuel consumption, continuous – weekly – fuel monitoring delivers savings of 3-5%.
- Highlights the most cost effective vehicle for the job.
- Reduced operating costs, if fuel is 25% of your costs, a 10% saving is 2.5% of profit.
- Makes it easier to cost fuel for each job, delivery or journey.

FUEL PURCHASING

The diesel and oil market is a competitive market.

- Purchase centrally to maximise volumes.
- Negotiate prices directly with suppliers for company as a whole.
- Consolidate suppliers wherever possible.

CHECK YOUR FUEL INVOICES

- Make sure you are paying the prices you expect.
- Make sure you receive the litres you pay for.

CAPTURE ODOMETER AT EVERY PURCHASE

- Check fuel usage weekly in L/100km to calculate savings and highlight exceptions.

CONSIDER LARGER STORAGE TANKS (ON-SITE)

- Buy in larger volumes when prices are low, e.g. 45,000 – 50,000 litres – full load.
- Control deliveries to vehicles – fuelling – with a pump and reader key + PIN or similar security device.
- Seek electronic report from pump direct to office.
- Undertake monthly stock control to ensure no loss of product (due to theft, leakage or short delivery).

ANALYSE FUEL REGULARLY

Because fuel costs are such a large proportion of transport budgets, we tend to focus on the price of fuel and total cost rather than actual usage. Although price is important, experience has shown that a few hours effort in analysing fuel usage will deliver savings of up to 10%.

CAPTURING FUEL COSTS

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You can use a paper log if a driver signs for fuel, or download the Excel spreadsheets available from your fuel pump or fuel card supplier. Whichever you choose, make sure odometer readings are completed.

FUEL CARDS

Your fuel card suppliers should be able to provide detailed fuel purchase records with price, volume in litres and odometer readings.

ON-SITE TANKS

Consider investing in on-site fuel tanks and electronic reporting, this allows you to purchase fuel wholesale and tightly control deliveries to your specific vehicles.

Some Telematics (also known as vehicle tracking) systems report on vehicles' actual fuel usage. They deliver fuel usage to your IT systems by mobile phone from the vehicle to your office. Typically these solutions are aimed at Heavy Goods vehicles.

For Light Commercial vehicles and Cars, vehicle tracking systems can report mileages. These save the driver paperwork and deliver accurate figures for computation with your fuel bills.

CORRELATE WITH PRODUCTIVE WORK

Whilst businesses frequently focus on the cost of fuel, a better measure is the amount of fuel used for a given amount of work: an Energy Performance Indicator or EPI. To calculate this figure you must have a clearly agreed measure of productivity relevant to your business and consistent reporting of same.

- Litres per 100Km is fine for calculating fuel efficiency of vehicle.
- Use Litres used per Job / Load / Delivery / Passenger to measure and report an EPI that relates to your business activity and profit.

EXAMPLE

To calculate Litres per 100Km, record litres filled eg. 398L

- Record start odometer reading e.g. 150,000Km, and finish, 151,532km
- Subtract Start from Finish reading = 1,532km / 100 = 15.32 **Divide Litres filled (398L) / 100Km figure (15.32) = 26L/100km** (To convert to MPG divide L/100km into 282.5 (282.5/26 = 10.9mpg)

To calculate an EPI – Energy Performance Indicator – for transport: Take the activity that best describes your business, e.g.

- Cases or Pallets delivered, Passengers carried, or Service jobs completed e.g. for 30 passengers
- 26L/100Km / 100 = .26L/Km or 260ml/Km
- 260ml/Km / 30 = 8.6ml/Passenger/Km

ROUTE	IDENTIFICATION
DRIVER	S. Murphy
MATE	
DATE	
VEHICLE	
TRAILER	
* START SPEEDO	150,000km
* FINISH SPEEDO	151,532km
** Speedo readings apply from start to finish of route*	

	FUEL / OIL USAGE RECORD			
	VEHICLE		REFRIGERATION UNIT	
	Litres	Cost	Litres	Cost
SITE FUEL	398			
OFF-SITE FUEL				
SITE OIL				
OFF-SITE OIL				
OTHER				

DEPART	TIME	ARRIVE	TIME	DELIVER	OTHER	BASE	B/DOWN	ADMIN	REST	COMMENTS
START TIME										
DELIVERY 1										
DELIVERY 2										
DELIVERY 3										

DRIVERS CAN CALCULATE THEIR OWN MPG:

FUEL IN:	SPEEDO IN:	MPG IS GIVEN BY:
Litres	Kilometres	2.825 x km ÷ litres
Litres	Miles	4.546 x miles ÷ litres
Gallons	Kilometres	0.621 x km ÷ gallons

CONVERSIONS

TO CONVERT:	TO:	MULTIPLY BY:
Miles	Kilometres	1.609344
Kilometres	Miles	0.621371
Litres	Gallons	0.21997
Gallons	Litres	4.54609
Horsepower (bhp)	kiloWatts	0.746
kiloWatts	Horsepower (bhp)	1.341
Imperial tons	Metric tonnes	1.016
Metric tonnes	Imperial tons	0.984
NB: Don't forget, if using US Gallons, they should be converted to Imperial Gallons by multiplying 0.83268		

MPG TO L/100km

Although litres / 100km should be used (because it goes downwards with improved efficiency) many of us still think in Miles Per Gallon (MPG).

To convert from mpg to litres/100kms and vice versa, use the following calculators:

MPG = 282.5 divided by Litres per100km

OR

Litres per 100km = 282.5 divided by MPG.

For greater accuracy, replace 282.5 above with 282.4859.

CHECKLIST

SECURITY

- Check Cards, PIN numbers, keys.
- Pad lock pumps if necessary.
- Siphoning: Fit anti-siphon devices if evidence of siphoning.

ACCURACY

- When were your pumps last calibrated – see **www.pumpwatch.ie**
- Dip tank and record readings regularly.

LEAKS / SPILLAGES

- Environmental; check tank and bunding for leaks.
- Health & Safety: Are procedures and spill kits in place in event of spill?

STOCK CONTROL

- Compare total deliveries to total fuel pumped.
- Distance travelled / Investigate variances.

For more information refer to SEAI's other Transport Energy Guides, visit **www.seai.ie/transport**

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Ireland's EU Structural Funds Programmes 2007 - 2013 Co-funded by the Irish Government and the European Union
The Sustainable Energy Authority of Ireland is financed by Ireland's EU Structural Funds Programme co-funded by the Irish Government and the European Union.