



IRU Academy – Fuel efficiency training

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iru.org

IRU 30-by-30 Resolution



the world road transport organisation  International Road Transport Union

AG/G100129/JHU

Geneva, 6 November 2009

IRU "30-BY-30" RESOLUTION

adopted unanimously by the IRU General Assembly in Geneva on 6 November 2009.

IRU Resolution on a voluntary commitment of the road transport industry to reduce CO₂ emissions by 30% by 2030.

The International Road Transport Union (IRU), representing truck, bus, coach and taxi operators through its 180 Members in 74 countries on 5 continents,

Considering that:

The road transport industry – recognising the role that road transport plays in economic, social and environmental progress and in accordance with the IRU's 3 "I" strategy for achieving sustainable development based on innovation, incentives and infrastructure – has taken up its responsibilities by significantly reducing toxic and non-toxic emissions by up to 98% which helped to significantly improve air quality;

The globalisation process has led to an increase in tourism and trade and thus transport, and therefore to an increase in fuel use and consequently CO₂ emissions;

Road transport is the only mode of transport that can provide high quality door-to-door service with in many cases a better CO₂ emissions footprint than other modes of transport;

Overall transport accounts for 30% of CO₂ emissions while the commercial road transport industry is responsible for 3% of total CO₂ emissions;

Inadequate road infrastructure can easily triple the fuel consumption of a heavy commercial vehicle;

Apart from urban distribution and short-distance road passenger transport, commercial road transport is and will remain dependent on oil, with no economically viable alternative in sight.

Taking into account the above, the road transport industry, represented by the IRU and its Member Associations:

Voluntarily commit, on the basis of innovative technologies and practices, to reduce CO₂ emissions by 30% by 2030 - calculated as transport performance in tkm and pkm and related to the base year 2007 - through means such as:

IRU Resolution

IRU policy on decarbonisation



Operational innovation



Business case to invest



Recognition for all alternative fuel options



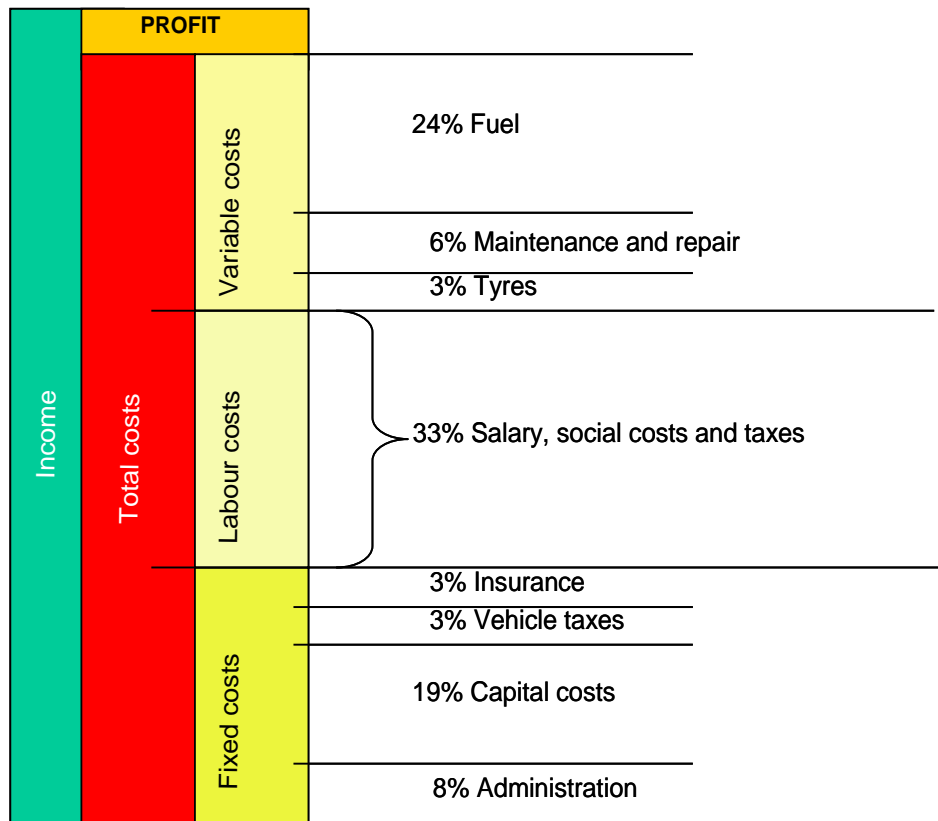
Eco-driver training



Why eco-driving?

- Less CO2 emissions
- Less fuel consumption
- Lower maintenance costs
- Less goods damaged
- Improved road safety
- More productive & aware drivers

Generic transport operation cost structure



All variable costs are highly impacted by driver's abilities



How to benefit from long-term fuel savings?

Vision + Skills + Incentives + Resources + Action plan = **Change**

+ Skills + Incentives + Resources + Action plan = **Confusion**

Vision + + Incentives + Resources + Action plan = **Anxiety**

Vision + Skills + + Resources + Action plan = **Resistance**

Vision + Skills + Incentives + + Action plan = **Frustration**

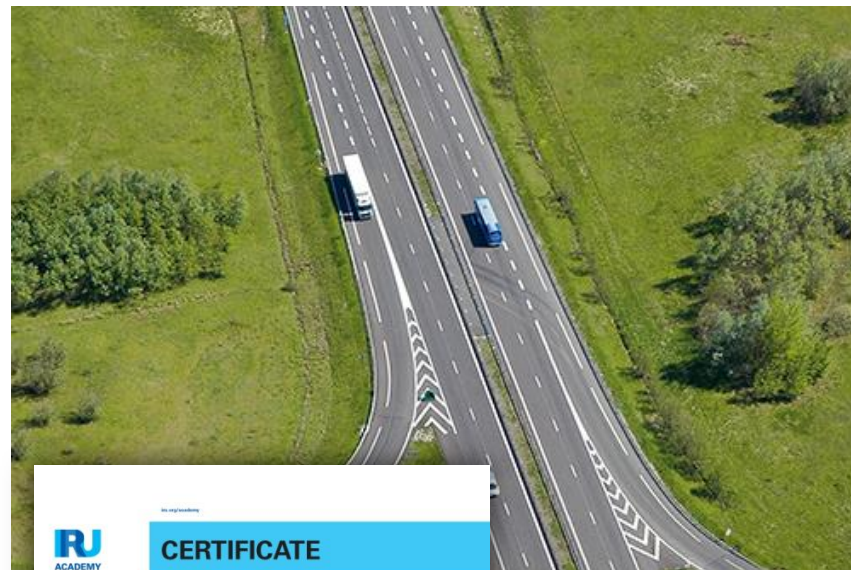
Vision + Skills + Incentives + Resources + = **Treadmill**

For all professional drivers - ECO-driving Course



Teaches drivers fuel efficiency techniques, emphasising road safety, economy and the environment. Eco-driving can increase fuel efficiency by up to 15%.

The course makes drivers aware of road conditions and the impact of their driving style on vehicle efficiency. It shows them how to drive 'eco-efficiently' without losing time.




Individual training report



Fuel savings monitoring					
Eco-Proactive Driving Behaviour "What You Can't Measure, You Can't Manage"					
RESULTS					
		TRIP 1	TRIP 2	Difference	%
Elapsed Time	mm:ss	39:36	36:04	03:32	8,92%
Average Speed	km/h	34,25	37,53	3,28	9,58%
Total Fuel Consumption	l	11,67	9,21	-2,46	-21,09%
Average Consumption	l/100km	51,6	40,8	-10,8	-20,94%
RESULT ANALYSIS					
Average Position Throttle	%	27%	28%	1%	3,27%
Time vehicle in motion - Zero Throttle	mm:ss	08:42	10:24	01:42	19,54%
Time - Use of Breaks	mm:ss	06:12	03:18	02:53	46,65%
Total Distance - Zero Throttle	km	5,37	6,97	1,59	29,59%
Total Distance - Use of Breaks	km	2,60	1,34	-1,26	-48,54%
Number of Brakings	#	54	33	-21	-38,32%
Gear shifts	#	181	123	-58	-32,04%
Gear shifts(upshift)	#	116	72	-44	-37,93%


Training results HSF Poland



TRIP 1 Average consumption	TRIP 2 Average consumption
32,9 L/100 km	28,9 L/100 km
(deviation between 23,8 and 55L / 100km)	(deviation between 22,6 and 45L / 100km)
Average reduction in consumption (L /100km) = - 4 L/100km	
Average reduction in fuel consumption during training	 -12,24%
Number of drivers trained: 670 drivers trained	
Accomplished by: HSF Logistics and Vive Transport	
Training results over 14 months	
Training performed by 20 ECOeffect certified internal trainers, measured with EETS	
Training trips: all kind of road circumstances, approx. 35 km	

Training results Romania



TRIP 1 Average consumption	TRIP 2 Average consumption
29,52L / 100	26,79L / 100
Average reduction in consumption (L /100km) = - 2,7L / 100 km	
Average reduction in fuel consumption during training	
Number of drivers trained: more than 700 drivers	 -9,24%
Accomplished by: Cartrans Preda, Com Divers, Duvenbeck, Hoedlmayr, Holleman, Intl. Lazar Cy, Labirint, Lagermax, Logistics RO Tir, Vectra Intl, Willi Betz	
Training results over 15 months	
Training performed by certified trainers, at 11 companies, measured with EETS	

Long-lasting success



monitoring and incentives



IRU Checklist

Eco-Driving Safely For Trucks Think Economically And Environmentally!

ECO-driving is not only an easy and cost-efficient way to reduce fuel consumption, greenhouse gases and accident rates, but is also an attitude and respect for society as a whole. In order to help drivers

adjust their driving behaviour according to different situations, the IRU has developed this checklist with smart, smooth and safe ECO-driving techniques.

Before The Journey



Maintain your vehicle Maintain proper engine oil and air filters to keep vehicles running efficiently. Use the appropriate fuel as recommended by the manufacturer to keep the vehicle engine clean and performing efficiently. Always consult the vehicle's owner manual for proper maintenance.



Consolidate trips and use on-board devices Plan your trips ahead. This will enable you to bypass congested routes and mean less idling. An on-board computer may help to save time and take the right routes.



Travel "light" Unload as much as possible as soon as possible. The added frontal area reduces aerodynamics and loosening of the tarpaulin side and rear will hurt fuel economy, reducing it by as much as 5-8%. Remove unnecessary weight from the vehicle. Check roof spoiler angle as set by the manufacturer.



Check your tyres Keep tyres properly inflated to the tyre pressure recommended by the manufacturer. This alone can reduce the average amount of fuel used by 3-4 %. Under-inflated tyres increase rolling resistance and increase fuel consumption. They also wear more rapidly. Check the vehicle's owner manual or the tyre pressure label for minimum cold tyre inflation pressure. On a voluntary basis Tyre Pressure Monitoring System enables the driver to easily check the tyre pressure directly from the dashboard. Axle alignment on all axles and toe in / toe out on the steering axles should also be checked and kept it as recommended by the manufacturer.

During The Journey



Drive at a steady speed Try to maintain a steady speed by using the highest gear possible and by avoiding unnecessary acceleration and braking. The engine power to keep a steady speed is lower if you do not continuously brake and accelerate. Anticipate the traffic flow by looking ahead as far as possible. The cruise control on motorways helps smooth driving. Reduce speed in strong headwinds or heavy rain.



Accelerate and brake smoothly Avoid fast starts and hard braking; they waste fuel and wear out some vehicle components more quickly, such as brakes and tyres. Maintain a safe distance between vehicles and anticipate traffic conditions to allow more time to brake and accelerate gradually. Accelerate smoothly from a stop and brake softly to save fuel.



Close windows at high speeds Do not drive with the windows open unless you keep your speed under 60 km/h. Driving with the windows open at highway speeds increases aerodynamic drag on the vehicle and increases fuel consumption. Remove any article that impairs the vehicles streamline effect. Cover open high-sided vehicles such as tippers with tarpaulins.



Minimise use of heating and air conditioning Use heating and air conditioning selectively to reduce the load on the engine. Decrease your use of the air conditioner; it can help you save 10-15 % of fuel. Park your vehicle in the shade.

Return on investment

HSF Logistics									
		150000		150000		150000		150000	
		150000		5%		10%		15%	
		33		31	2	29.7	3.3	28.05	4.95
		3.03		3.19	0.16	3.37	0.34	3.57	0.53
litter		49500		47025	2475	44550	4950	42075	7425
	4.87	241,065.00		229,011.75	12,053.25	216,958.50	24,106.50	204,905.25	36,159.75
1	€1.20	€59,400.00		€56,430.00	€2,970.00	€53,460.00	€5,940.00	€50,490.00	€8,910.00
5		€297,000.00		€282,150.00	€14,850.00	€267,300.00	€29,700.00	€252,450.00	€44,550.00
10		€594,000.00		€564,300.00	€29,700.00	€534,600.00	€59,400.00	€504,900.00	€89,100.00
15		€891,000.00		€846,450.00	€44,550.00	€801,900.00	€89,100.00	€757,350.00	€133,650.00
20		€1,188,000.00		€1,128,600.00	€59,400.00	€891,000.00	€297,000.00	€1,009,800.00	€178,200.00
25		€1,485,000.00		€1,175,625.00	€309,375.00	€1,336,500.00	€148,500.00	€1,262,250.00	€222,750.00
30		€1,782,200.00		€1,692,900.00	€89,100.00	€1,603,800.00	€178,200.00	€1,514,700.00	€267,300.00
50		€2,970,000.00		€2,821,500.00	€148,500.00	€2,673,000.00	€297,000.00	€2,524,500.00	€445,500.00
100		€5,940,000.00		€5,643,000.00	€297,000.00	€5,346,000.00	€594,000.00	€5,049,000.00	€891,000.00
					€0.02		€0.04		€0.06

Fuel management significantly contributes to big savings and CO2 reductions

Key principles of eco-driving



- Benefits operators and decarbonisation agenda
- Active management by operators
- Ongoing monitoring is crucial
- Incentives for drivers





Thank you

