## **BUS PASSENGER TRANSPORT**

## **Busworld India.**

NORMAL TRANSPORT IN AUTOMOTIVE

Vehicle	Ton	speed	HP	Fuel	Fuel/h	pass	kmpl	Co2e	\$/p-km
Bike	0.25	100	8	Petrol	1	2	100	24	0.6
Car	2	100	100	Diesel	10	5	10	240	2.0
Bus	15	100	240	Diesel	20	40	5	480	0.5

Normal operation of bus run is, engine in front and propulsion of rotary drive is on rear wheels. Hence there is ramming at front wheels to retort speed as both wheels are 10x20 in size. Avoid ramming.

#### RAMMING EFFECT ON BUS AXLE WHEEL DRIVE PROPULSION DESIGN:

No	Engine	Wheel drive	Ramming	Advantage	Life yrs
1	Front	Rear	YES	50:: 50	10
2	Front	Front	NO	3.Best	12
3	Back	Back	YES	Worst	8
4	Mid	Mid	NO	2.Best	15
5	No	No	NO	1.Best no C	20

## I LOW CARBON BUS TRANSPORT DESIGN:

ONE-HALF ENGINE VOLUME, FUEL, CO2e for the same Ton-HP-Speed-Seat-Vehicle. Changes in design are in connecting rod and method of cranking of same crank shaft

Design	Ton	speed	НР	Fuel/hr	Fuel Lit saved/yr	kmpl	Co2e g/km	Cost \$ /100km	\$/p- 100km	Vehicle Cost \$
Normal	15	100	240	20	Nil	5	480	20	0.5	100,000
<b>Low Carbon</b>	15	100	240	10	72,000	10	240	10	0.25	110,000
No Carbon	120	100	120	120 cbm	144,000			20	0.5	160,000

# BUS 40 SEAT, 20 HOURS/DAY RUN, 360 DAYS BUS TRANSPORT ON DIESEL COSTING \$1/Lit CO2e= 2400/KMPL g/km. FARE 1C/KM IS LOW. CAN GO UPTO 2 C/KM

Design	Seat	Speed	Fuel I /br	Fuel Lit	Fare	Revenue	Expense	Net	Vehicle	ROI
			ruei L/III	saved/yr	c/km	\$/yr	\$/yr	\$/yr	Cost \$	%
Normal	40	100	20	Nil	1	228,000	205,200	22,800	100,000	22.80%
<b>Low Carbon</b>	40	100	10	72,000	1	228,000	136,800	163,200	110,000	148.36%
No Carbon	40	100	120 cbm	144,000	1	228,000	170,000	58,800	160,000	36.75%

### II NO CARBON BUS TRANSPORT DESIGN: No drive axle.

NO ENGINE, VOLUME, FUEL, CO2e for the same Ton-HP-Speed-Seat-Vehicle.

Design	Ton	speed	НР	Fuel/hr	Fuel Lit saved/yr	kmpl	Co2e g/km	Cost \$ /100km	\$/p- 100km	Vehicle Cost \$
Normal	15	100	240	20	Nil	5	480	20	0.5	100,000
<b>Low Carbon</b>	15	100	240	10	72,000	10	240	10	0.25	110,000
No Carbon	120	100	120	120 cbm	144,000			20	0.5	160,000

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				saved/yr	c/km	\$/yr	\$/yr	\$/yr	Cost \$	%
Normal	40	100	20	Nil	1	228,000	205,200	22,800	100,000	22.80%
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No Carbon	40	100	120 cbm	144,000	1	228,000	170,000	58,800	160,000	36.75%

Patended Property: concept demo: 1+1 mn\$ 2yr. Chennai

III Global license fee: 400 mn\$/yr/Brand/type design

Advace 100 mn\$ once

## **IV BUSINESS PROPOSAL:**

- 1. LICENSE FEE for Low Carbon Energy 400 mn\$/yr +advance 100 mn\$ once
- 2. LICENSE FEE for No Carbon Energy 400 mn\$/yr +advance 100 mn\$ once
- 3. EQUITY FUND 1000 mn\$
- 4. COLLATERAL FREE LOAN of 1000 mn\$. REPAID IN 6 Yrs.

## V CARBON DIOXIDE EMISSION; CLIMATE CHANGE.

Design	Ton	Speed	НР	Fuel/hr	Fuel Lit saved/yr	kmpl	Co2e g/km	CO2e T/yr	Co2e Saved	Saved %
Normal	15	100	240	20	Nil	5	480	417.60	Nil	Nil
<b>Low Carbon</b>	15	100	240	10	72,000	10	240	208.80	208.80	50
No Carbon	120	100	120	120 cbm	144,000			Nil	417.60	100

## **VI RECOMMENDATION:**

- 1. BETTER TO MAKE, FLEET OPRATE AND MAINTAIN THAN TO SELL IT AT 100 % PROFIT.
- 2. LOW FARE LEADS TO 100 % OCCUPANCY.
- 3. TECHNOLOGY IS APPLICABLE TO ALL RECIPROCATING HEAT ENGINES.

## **DESIGN ENGINEER**

Muthukal Andy Appan, M. E, 55 yrs Expert, Chennai. India.