



**PROPOSALS TO CONSERVE FUEL IN
ZIMBABWE**

SUPPLEMENT 3

TO THE MAY TO JULY 2005

MONETARY POLICY REVIEW STATEMENT

**DELIVERED BY THE GOVERNOR OF
THE RESERVE BANK OF ZIMBABWE**

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1. INTRODUCTION

- 1.1 Against the background of an improvement in foreign exchange inflows in 2004, the Reserve Bank accorded greater priority to fuel procurement through direct allocation of foreign exchange to NOCZIM and private companies under the Auction System.
- 1.2 In 2004, a total of US\$413 million was utilized for the importation of fuel. Of this private oil companies were allocated US\$217.1 million.
- 1.3 In 2005, more foreign exchange has been availed to NOCZIM because of the strategic nature of fuel imports. NOCZIM imports fuel for Government as well as for agriculture, which is the anchor of the current economic turnaround strategy
- 1.4 Adjustments to international oil prices have adversely affected **non-oil producing economies, which are dependent on oil imports.** In Zimbabwe, firming international prices have presented a major challenge to the country's efforts to procure adequate supplies of fuel for the economy.

1.5 There has been a sharp **increase in international oil prices** from US\$12 at the beginning of 1999 to US\$61 per barrel by July 2005, **against the background of reduced global supply and increased demand**. There are indications that oil prices may escalate to around US\$70 per barrel within the next few months. However, currently, the world demand for fuel is lower than the initial projections due to a lower forecast in world economic growth of around 4% which is below the 2004 level of over 5%.

Table 1: Fuel Imports as (%) of Exports

Year	Exports FOB (US m.)	Fuel Imports (US m.)	Fuel Imports % of Exports
1992	1530.0	206.8	13.5%
1993	1610.1	260.1	16.2%
1994	1946.6	149.7	7.7%
1995	2247.7	175.9	7.8%
1996	2515.0	200.8	8.0%
1997	2454.6	225.8	9.2%
1998	1925.0	225.2	11.7%
1999	1933.9	172.3	8.9%
2000	2202.9	310.2	14.1%
2001	2113.7	278.7	13.2%
2002	1802.3	323.3	17.9%
2003	1669.9	397.9	23.8%
2004	1684.2	413.0	24.5%
2005*	1982.4	500.0	25.2%

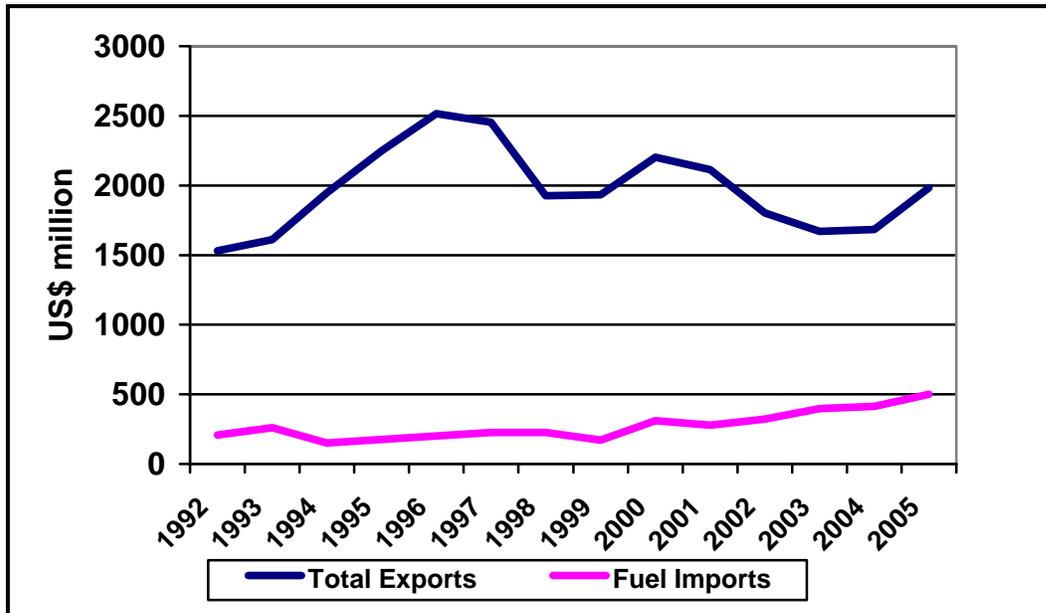
****Projection***

Source: Reserve Bank and NOCZIM

1.6 Against expected annual export proceeds of around US\$1.9 billion, this indicates that about **25% of the country's export earnings will be absorbed by fuel imports for 2005.**

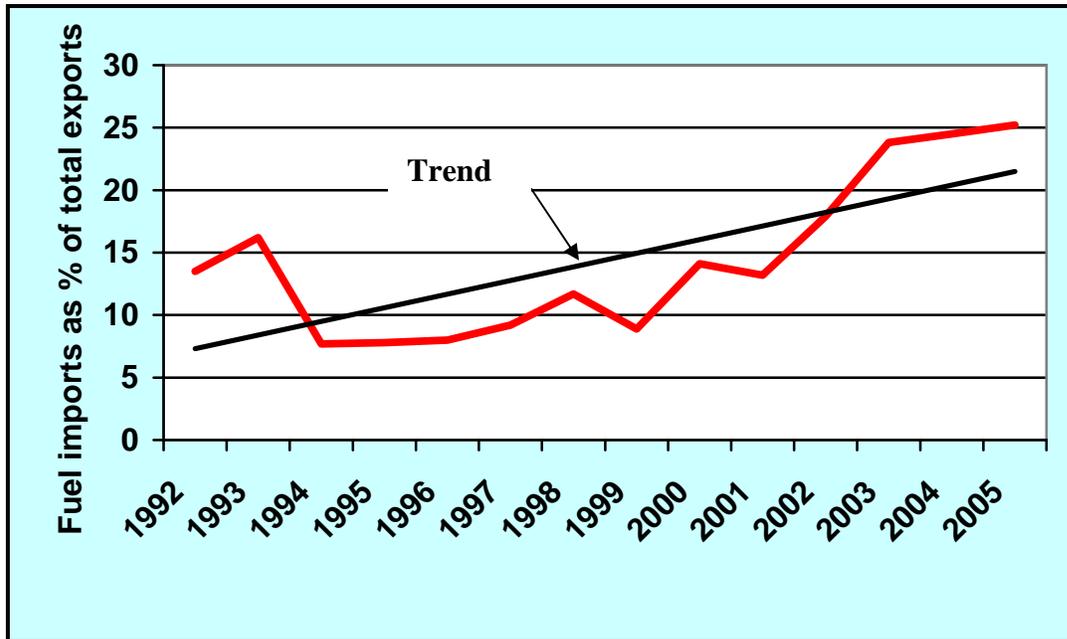
1.7 Figure 1 below shows the value of total exports in relation to the value of fuel imports.

Figure 1: Total Exports and Fuel Imports



1.8 Figure 2 below shows the trend of the proportion of fuel imports to total exports which has been increasing since 1992.

Figure 2: Percentages of Fuel Imports to Total Exports



1.9 The latest round of increases in oil prices has meant that for the same volume of oil imports, the country has had to finance import bills, more than double that of 1998. The cumulative effect of this development is imbalance in the country's balance of payments and, hence, pressures on the foreign exchange market. This is particularly so, in view of the country's reliance on export earnings in an environment of negligible external resource flows.

- 1.10 International oil price hikes **directly transmit themselves into higher production costs, and ultimately into rising general price levels, as is currently being experienced in the economy.**
- 1.11 To mitigate the effects of this undesirable development, the supply side of the **economy must be made to rapidly expand** as this will dampen fuel price-induced inflationary pressures. **Optimal and efficient** use of fuel would also stabilize import volumes, and, **minimize the negative effects of this latest round of fuel price increases and any future upward adjustments.**
- 1.12 In the short term, there is need for all Zimbabweans to realize that we need to find **ways of conserving fuel.** It is in this regard that the country should come up with a **sustainable transport system,** which saves fuel since international developments are moving against non-oil producing countries.

2. REASONS FOR INCREASED DEMAND FOR FUEL IN ZIMBABWE.

The reasons for increased demand for fuel in Zimbabwe include the following:

- 2.1 The influx of privately owned public transport operators especially commuter omnibuses, to cater for the increased number of people in urban areas following the deregulation of the transport sector;
- 2.2 New entrants in the haulage transport sector have also accounted for the increase in demand for fuel;
- 2.3 The liberalization of trade which has seen a huge increase in the importation of relatively cheaper and affordable second hand vehicles, particularly from Japan;
- 2.4 The shift in company policies whereby most employees within managerial grades are accorded company vehicles as part of their total employment package;

- 2.5 Growth in the urban population due to rural-urban migration, which has put pressure on the urban transport system;
- 2.6 The proliferation of small-scale farmers and miners who largely rely on diesel-powered equipment;
- 2.7 Suboptimal pricing of Zimbabwe's fuel saw a significant number of foreign truckers refueling locally as the price was heavily discounted. The country has over the years been subsidizing other regional economies; and
- 2.8 The growth of an urban elite class whereby some families have a minimum of 3 motor vehicles each which they utilize at the same time.

3. OPTIMUM SECTORAL FUEL REQUIREMENTS

- 3.1 The economy currently requires 900 million litres of diesel and 730 million litres of petrol per annum to operate **at full capacity**.

3.2 Taking 1996 as the base year when the economy was operating at close to full capacity, the sectoral breakdown of the current annual diesel requirements will be as follows; transport sector requires 413 million litres (46%); commerce and services, 236 million litres (26%); agriculture, 122 million litres (14%); manufacturing 89 million litres (10%); and mining 40 million litres (4%) per annum.

Table 2: Sectoral Diesel Requirements

Sector	1996 Annual Consumption (Million Litres)	Proportion (%)	Full Capacity Annual Requirements (Million Litres)
Agriculture	110	14	122
Commerce & Services	213	26	236
Mining	36	4	40
Industry	80	10	89
*Road Transport	306	38	339
Rail Transport	67	8	74
Total	812	100	900

Source: NOCZIM

* For the year 1996, 60% of road transport consumption was attributed to public transport.

4. IMPLICATIONS OF FUEL SHORTAGES AND OIL PRICE INCREASES ON THE ZIMBABWEAN ECONOMY

4.1 Persistent fuel shortages arising from the lack of foreign exchange in sufficient quantities have the following effects on the economy:

- a. Reduction in productivity across the key sectors of the economy namely agriculture, mining, manufacturing, tourism, construction and transport. In particular, small-scale miners and farmers will be hardest hit as they rely on equipment, which is powered by diesel;
- b. Increase in inflationary pressures in the economy. Already, local fuel prices have been adjusted in response to changes in the international oil prices. Fuel constitutes around 15% of total production costs;

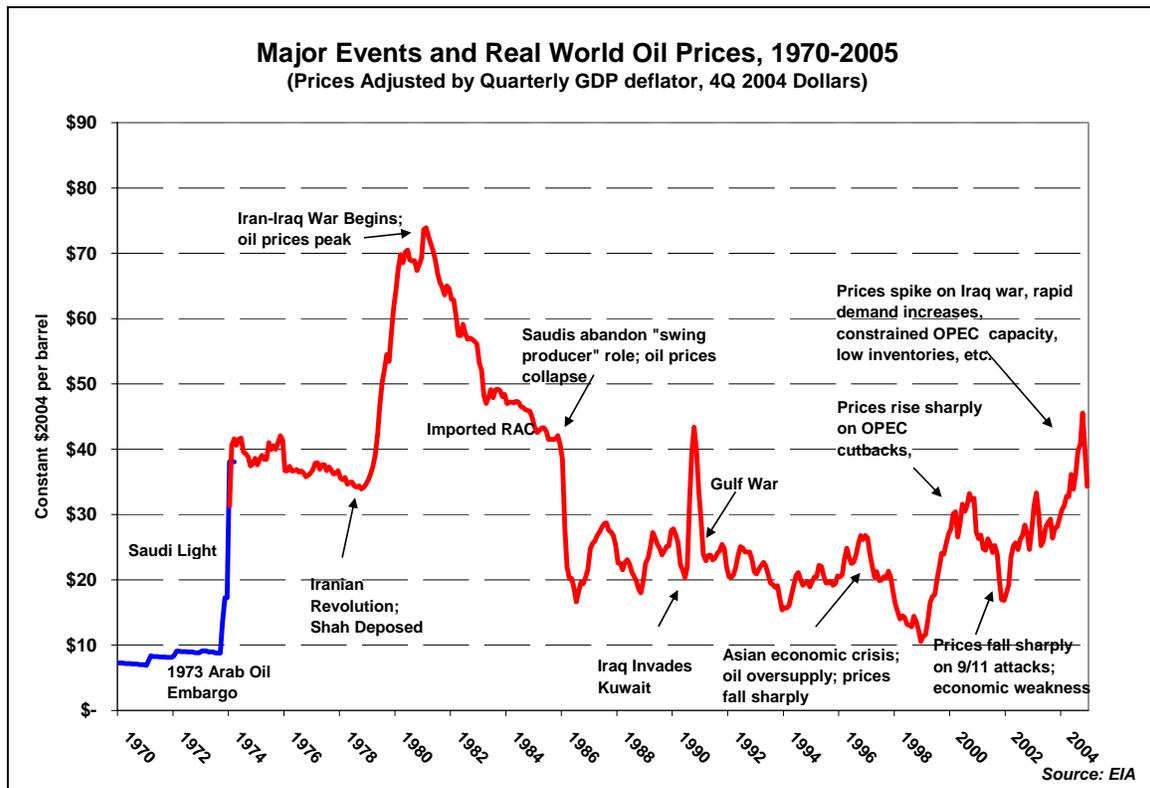
- c. The increase in international oil prices means Zimbabwe has to spend more of the scarce foreign exchange to obtain the same amount of fuel. This exerts pressure on the country's balance of payments position;

5. GLOBAL OIL PRICE TRENDS

- 5.1 In the 1980s there was an oversupply in the oil market, forcing unprecedented price cuts by OPEC member states. Prices firmed towards the 1980s due to supply constraints. The escalation of oil prices continued into the 1990s due to supply constraints. The increase in oil prices during this period was also attributable to the Gulf war.

- 5.2 Oil prices rose sharply from 1999, on the back of OPEC production cutbacks and increased global demand. There was however, a sharp decline between 2001 and 2002 due to weakening global economic performance and reduced demand. From 2003 to date, oil prices have increased significantly largely due to rising demand and indications are that this trend might continue.

Figure 3: Major Events & Real World Oil Prices, 1970-2005



Source: <http://www.wtrg.com/prices.htm>

6. FUEL CONSUMPTION PATTERNS OF VEHICLES

- 6.1 According to ZIMRA records, there were 1,200,123 vehicles registered in Zimbabwe as at April 2005. Over the past decade, there has been an increase in vehicles within the net mass range of 2300-4600 kilogramme and 4601-9000
- 6.2 kilogramme. These ranges of vehicles generally consume more fuel as compared to smaller vehicles weighing less than 2300 kg.

- 6.3 In 1995, vehicles weighing between 2300-4600 kilogrammes and 4601-9000 kilogrammes accounted for 2.3% and 4.6% of the total vehicle population, respectively. As at 30 April 2005, these classes of vehicles accounted for 4% and 7%, respectively, which indicates a significant increase in large vehicles.
- 6.4 Smaller vehicles, which accounted for 74% of the total vehicle population in 1995, now account for fewer than 70%. This indicates that there has generally been a decrease in smaller vehicles, which have smaller engine capacities and are more fuel efficient.
- 6.5 However, it should also be noted that some smaller vehicles in the 1-2300 kg category have high fuel consumption, which makes it difficult to draw conclusions based on mass.
- 6.6 An analysis of Table 3 below shows that the number of small vehicles increased by 12% between 1999 and April 2005.

6.7 Motor vehicles with a net mass of over 4 600 kilogrammes increased by 80%. The latter category comprises of vehicles that consume more fuel.

6.8 The number of motorcycles, which are captured in categories 3*1 and 3*2 grew by only 8%. This is a mode of transport, which is fuel-efficient, and policies should be put in place to encourage their greater use.

Table 3: National Vehicle Population Analysis by Tax Class

YR	1	1*2	2*2	2*3	3*1	3*2	4*1	4*2	5	TOTAL
1995	384,044	11,815	23,860	2,258	6,582	28,516	35,623	20,622	9,362	522,682
1996	422,448	12,997	26,246	2,884	7,240	31,368	39,185	22,684	10,290	575,342
1997	464,693	14,297	28,871	3,172	7,964	34,505	43,104	24,952	11,328	632,886
1998	520,989	19,374	32,589	4,789	9,819	41,002	48,014	30,141	14,510	721,227
1999	534,577	19,975	33,523	4,966	9,846	41,731	48,649	30,967	15,309	739,543
2000	544,490	28,418	34,197	5,079	9,912	42,306	48,970	31,313	15,506	760,191
2001	556,280	29,072	45,797	5,247	10,069	42,912	49,389	31,915	15,641	786,322
2002	570,866	31,301	47,429	5,726	10,204	43,675	49,882	32,538	15,881	807,502
2003	584,714	32,390	61,330	5,960	10,383	44,404	50,216	33,721	15,926	839,044
2004	597,676	33,665	62,806	6,118	10,484	44,949	50,404	34,385	15,945	856,432
Apr-05	599,979	34,041	63,024	6,172	10,531	45,039	50,424	34,456	15,957	859,623
Government, Security, Diplomatic & Other Vehicles April 2005										300,500
Estimates of Outstanding Applications Allowed For April 2005										40,000
TOTAL NUMBER OF VEHICLES FOR APRIL 2005										1,200,123

Source: Central Vehicle Registry

Note

1	1-2300 KG net mass	3*1	1-70cm engine capacity
2*1	2300-4600 kg net mass	3*2	Over 70cm engine capacity
2*2	4601-9000 kg net mass	4*1	1550kg factory load capacity
2*3	9001 kg net mass	4*2	Over 550 kg factory capacity
		5	Tractors and farm implements

7. ALTERNATIVE SOURCES OF FUEL

7.1 Oil is a finite resource, which is only available in a few countries in the world. Against the background of rising international oil prices and modest foreign exchange inflows, Zimbabwe should exploit alternative sources of fuel.

7.2 Alternative energy sources can be divided into renewable and non-renewable.

Table 4: Alternative Energy Sources

NON-RENEWABLE	RENEWABLE
Oil sands, heavy oil	Wood/other biomass
Coal	Hydropower
Shale oil	Solar energy
Gas hydrates	Wind energy
Nuclear fusion	Wave energy
Geothermal	Tidal power

7.3 Coal

7.3.1 Zimbabwe has substantial coal reserves amounting to 26 billion tones, which at current extraction levels will take 270 years to exhaust. The country should attract investment in the extraction of fuel from coal to substitute fuel imports.

7.4 Wood and Other Biomass

7.4.1 Wood can be converted to a liquid fuel but the net energy recovery is low, and there is not enough wood available to be able to convert it to a liquid fuel in any significant quantities.

Other biomass fuel sources include crops such as corn. The production, refining and distribution of these crops, however requires initial supplies of fuel.

7.5 Methane Gas

7.5.1 Zimbabwe has significant coal bed methane deposits in the Lupane District of Matabeleland North Province which are larger than any known natural gas field in Eastern and Southern Africa. These large deposits of natural gas can be exploited as an alternative form of energy.

7.5.2 Methane gas has been found in abundance in the Lupane – Hwange coal bed area, on the western side of Zimbabwe. Surveys and exploration for the gas started as far back as 1992.

7.5.3 In areas already explored, it has been discovered that the coal in Zimbabwe is very rich in methane gas of high grade.

7.6.1 The country can run its fleet of buses, trucks and cars on compressed natural gas (CNG). The fuel is cheaper and reduces air pollution. Development of such alternative

sources of fuel in Zimbabwe will result in saving of foreign exchange through import substitution.

8. OPTIONS IN THE CONSERVATION OF FUEL

8.1 Enhancing Efficiency in Public Transport

8.1.1 The country should put in place a public transport maintenance programme to optimize fuel usage. Poorly maintained public transport system results in the consumption of more fuel.

8.2 Introduction of Toll Gates

8.2.1 Toll gates must be introduced along the main highways where motorists would be required to pay a levy based on engine capacity. Vehicles with big engine capacity consume more fuel and these should pay higher fees.

8.2.2 The installation of toll gates would improve revenue for the Government. The revenue realized from such operations should be used to maintain and dualise the main highways.

8.3 Prioritization of Fuel

8.3.1 In order to minimize the adverse effects of fuel shortages on production, the allocation of fuel can be prioritized to productive sectors of the economy, including public transport.

8.4 Use of Bicycles and Motor Cycles

8.4.1 Motorcycles and bicycles have a key role to play in moving towards a sustainable transport system. Bicycles cost less and are environmentally friendly and good for the health of the population.

8.4.2 There is need to promote the use of bicycles to conserve fuel. Companies should also be encouraged to have schemes where they purchase bicycles for their employees.

8.4.3 Funds disbursed under PLARP should also be directed towards the construction of cycle tracks and footpaths to create a **safe cycling environment**.

8.5 Car pooling: Companies, Individuals, Families

8.5.1 There is need to encourage companies and individuals to pool resources and use the minimal number of vehicles. In particular, families should be encouraged to use one vehicle not only as a means of conserving fuel, but also to increase family time.

8.6 Controlled Fuel Consumption

8.6.1 This system would involve allocating monthly coupons per household to limit the amount of fuel consumed nationally. A computerized tracking system can be used at all fuel outlets to effectively monitor and control consumption.

8.7 Taxation

8.7.1 Customs duty on luxury vehicles with high capacity engines must be high enough to discourage their importation. Duty should therefore be charged on a sliding scale, penalizing imports of vehicles with bigger engines.

8.8 Government Vehicles

8.8.1 As is the case in other countries Government vehicles should not be allowed on the roads from Friday 6:00 pm to Monday 6:00 am unless permission is granted by the Secretary of each Ministry. This will significantly reduce fuel usage by the public sector.

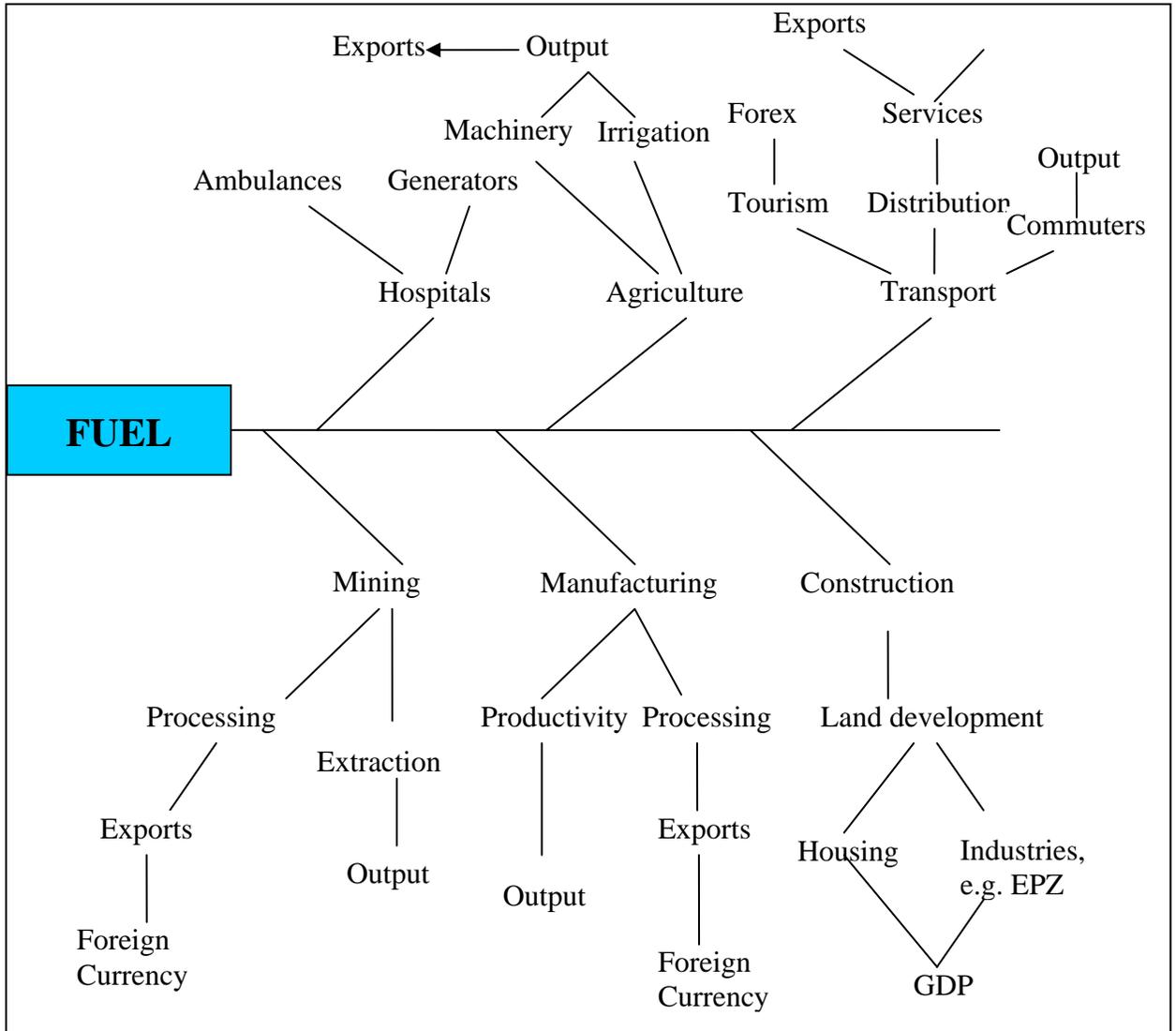
9. CONCLUSION

9.1 At a time when Zimbabwe's export performance has remained modest, the best way forward for the country is to reorient locals to accept the reality that the country cannot sustain the current demand for fuel.

- 9.2 In this regard, there is need to invest in transport infrastructure and change habits to encourage conservation of fuel.
- 9.3 The Authorities are urged to focus on rapid implementation of some of the alternative modes of transport like cycling and usage of smaller vehicles so as to save on fuel usage and foreign currency.
- 9.4 Government, business and the community at large are urged to collectively implement a framework that ensures efficient use of public transport. Planning of journeys is vital. Infrastructure development should therefore be focused on ensuring that a safe environment is created for those who want to cycle or walk to work. These other modes of transport are healthier.

Annex 1

Fish Bone Analysis for Fuel



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