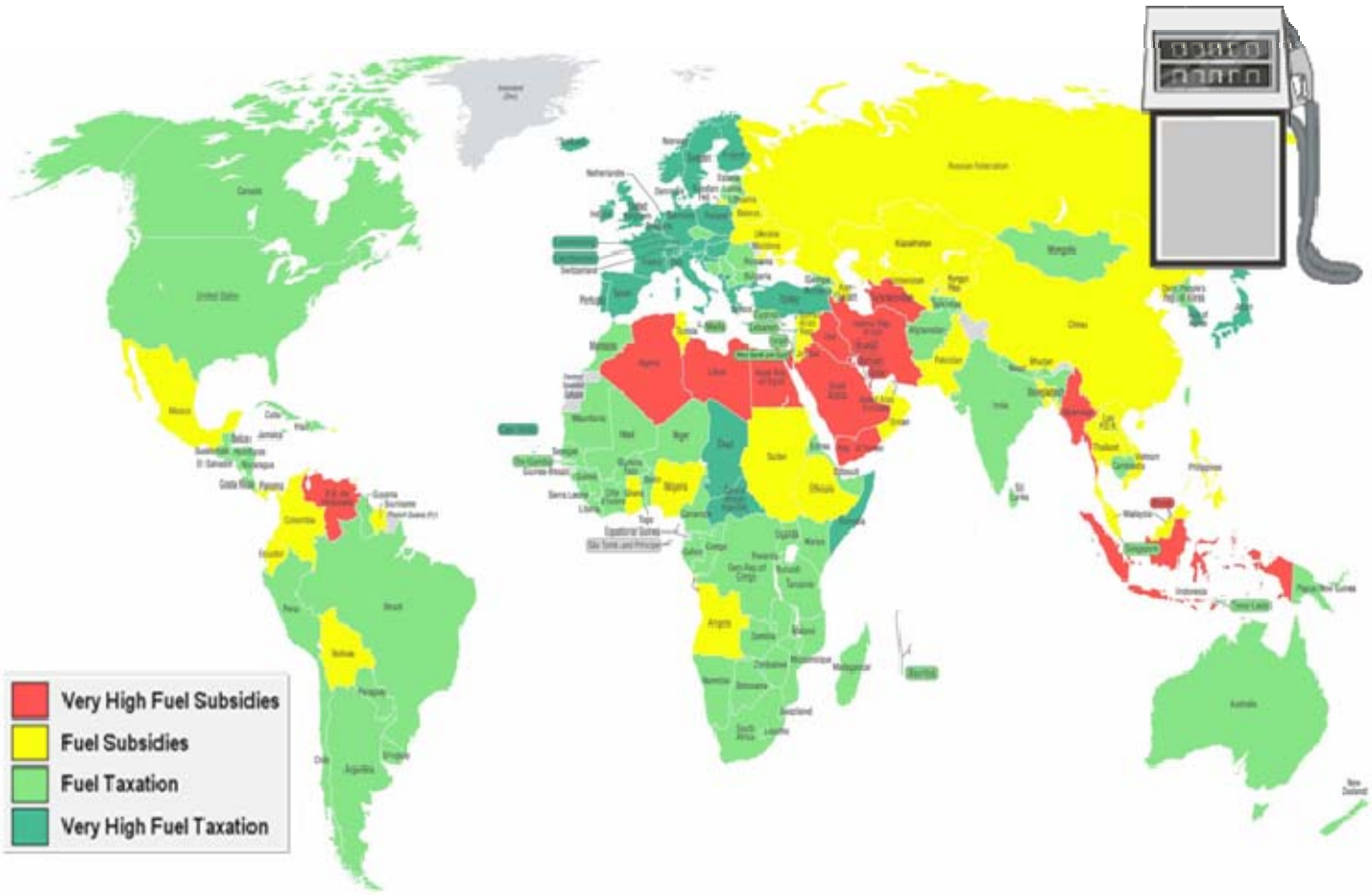
Division 44
Environment and Infrastructure
Sector Project "Transport Policy Advisory Service"



Dr Gerhard P. Metschies

International Fuel Prices 2005

4th Edition – 172 Countries

Deutsche Gesellschaft für
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Document Info

Study Description	**The study "International Fuel Prices 2005 (4th Edition)" presents the retail prices for diesel and gasoline of 172 countries as of November 2004 and time series data for these prices for the years 1991 to 2004. The study also focuses on fuel pricing (fuel taxation, fuel subsidies) and fuel contraband.**
Surveys Times	> **Current survey: 2004 (November)** > Previous surveys: 2002, 2000, 1998, 1995, 1993, 1991
Key Words for Search Engines	**Key Words for Fuel Prices:** International Fuel Prices, International Petrol Prices, World Fuel Prices, Compare Fuel Prices, Car Fuel Prices, FuelPrices, World Diesel Prices, Diesel Fuel Prices **Key Words for Fuel Taxation:** Fuel Pricing, Petrol Pricing, State Fuel Tax, Federal Fuel Tax, Fuel Taxation, Fuel Taxes, Tax on Fuel, Petrol Taxes, Diesel Fuel Tax, Diesel Tax, Gasoline Taxes **Key Words for Fuel Subsidies:** Fossil Fuel Subsidies, Gasoline Subsidies, Oil Subsidies
Data Sources	> **Global network of regional GTZ offices** > German Automobile Association ADAC (www.adac.de) > German Embassies and Consulates worldwide
Study Download	www.gtz.de/fuelprices
Languages	**The previous edition of this study (International Fuel Prices 2003 - 3rd Edition) is available in 6 languages (English, French, Spanish, Russian, Arabic and Chinese) at www.International-Fuel-Prices.com with the following titles:** > International Fuel Prices 2003 > Prix Internationaux des Carburants 2003 > Precios Internacionales de Combustibles 2003 > Цены на топливо в международном масштабе 2003 > 2003 أسـعار الوقـود العـالمية > 国际燃油价格 2003
Cooperation	**World Bank - World Development Indicators** The data of this study are also published in the "World Development Indicators 2005" of the World Bank (www.worldbank.org) in table "3.12 Traffic and Congestion": WDI Online: www.worldbank.org/data/wdi2005/wditext/TOC.htm WDI Book: ISBN 0-8213-6071-X (www.worldbank.org/data/wdi2005) (page 174-177)

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1. Executive Summary

Basic Crude Oil Price

This publication on fuel data is available in its 4th edition and draws on data from 172 countries. The price data were taken during the week 15-19 November 2004 on a crude oil price (Brent) of US$ 43 per barrel. In the previous edition of this study 2 years ago, the price for crude oil was US$ 26 per barrel. All prices are given in litres (1 US gallon = 3.785 litres) and US cents or US$.

Rising crude oil prices at world market may influence the price levels of this study [see p.96] not less than:

- + 8 US cents / litre (at 55 US$ / barrel)
- +11 US cents / litre (at 60 US$ / barrel)
- +14 US cents / litre (at 65 US$ / barrel)

Conclusions of this Fuel Price Survey

1. The globalisation of world trade has levelled motor **vehicle prices** all over the world to such an extent that the price ratio for equivalent vehicles no longer exceeds about 1 to 2 between any two countries. Maximum import duties for vehicles in WTO member countries is even limited to about 25%.

But transport **fuel prices** in different countries still differ on a scale of as much as 1 to 150. Thus the relative fuel price differences remain an issue of international debate. The issue of appropriate fuel pricing world-wide needs urgent clarification, not only from the point of view of the world economy and of environmental aspects. But this international issue of the "right" fuel price may even be more urgent in the general context of widespread general energy subsidies worldwide, as they are considered to be 5 times higher than all international development aid.

2. According to the results of this survey [see p. 63/64], the fuel policies of all countries in the world may roughly be assigned to one of the **4 fuel price categories** which were now defined as follows:

Category 1 contains countries with very low fuel prices, where diesel and gasoline are sold at prices even below the international crude oil price. Prices start at 1 US cent per litre for diesel fuel. In the case of oil producing countries in this category, prices – even if nominally taxed – are indirectly subsidised at the expense of the oil sector of a country. Gasoline prices in TURKMENISTAN (2 US cents per litre) and VENEZUELA (4 US cents per litre) are the lowest in the world.

Category 2 contains countries, which pursue a low-price policy below the US price level for motor fuel (i.e. gasoline selling below 54 US Cents per litre and diesel selling below 57 US Cents per litre). This often implies subsidies from the government and furthermore the average levy of approximately 10 US cents per litre diesel and gasoline isn't covered, as it is applied in the US for the expenditures of the transport sector (Federal and State Road Funds).

Category 3 contains countries in the intermediate zone between the US level and the EU-LUXEMBOURG level (used as EU accession limit). i.e. price policies for diesel between 57 and 98 US cents per litre.

Category 4 contains the high-price countries – as JAPAN and the EU – where the total taxes on gasoline and diesel may even reach more than 1 US $ per litre.

3. **Fuel subsidies** are a special topic of this edition with examples from MALAYSIA, TURKMENISTAN, and YEMEN [see p. 71, …]. The world map on fuel subsidies displays the countries with subsidies and very high subsidies [see p. 74].

1. Executive Summary

4. **Fuel taxation** may become even a major source of **state financing**. The main finding of this 4th edition of the GTZ fuel price report is, that in countries like URUGUAY, ALBANIA, and SOUTH KOREA fuel taxation accounts for more than 20% of total state revenues [see p. 78].
On the other hand, **fuel subsidisation**, as practised in VENEZUELA, YEMEN, INDONESIA and EGYPT may become a major cause of state deficit or even bankruptcy. The additional burden of other non-motor fuels, as subsidised cooking oil (kerosene) - not handled in the report - may even aggravate the situation. Subsidisation of motor fuel is executed specially in a belt of countries between ALGERIA up to INDONESIA, where the idea of a direct state responsibility for the price and living conditions of the people may prevail. VENEZUELA may be a similar case, too. It may be noted that in countries like CHINA, NIGERIA, ETHIOPIA, VIETNAM, GHANA and even MEXICO, RUSSIA and PAKISTAN the fuel sector doesn't (or insignificantly) contributes to state or even road financing at all [see p. 103].
In YEMEN they spend 17% of their total state revenues on subsidising fuel and in SOUTH KOREA they receive 33% of their total state revenues from fuel taxation [see p. 78].
A change in fuel price policy may even substantially contribute to **avoiding the financial collapse of a state administration**, especially in times of inflation. TURKEY, which increased diesel and gasoline consumer prices in the period 1995-2004 by the factor 3, is a good example [see p. 47].

5. The **fuel tax policies in the Asian countries** like CHINA, INDIA and INDONESIA, which together account for over 2.3 billion people, deserve special attention [see p. 80].
INDIA has continuously increased prices and revenues from gasoline (consumer price now 87 US cents per litre) and diesel (now 62 US cents per litre) over the last 9 years and can serve – also due to its parallel economic growth rate - as a benchmark for many Less Developed Countries (LDC) [see p. 40].
Within the former Eastern Bloc and its traditional low-price both countries RUSSIA and CHINA could not find the way to a taxation of diesel. As for gasoline, CHINA still applies a very low tax, whereas RUSSIA reached the US level [see p. 35].
INDONESIA however (with its 200 million inhabitants) still heavily subsidises gasoline and diesel, even though prices have increased recently [see p.41].

6. The **fuel tax policies in the European countries** are in need for an appropriate government action for harmonisation of fuel prices between neighbouring countries (as LUXEMBOURG and its neighbours).
The long-term perspective of rising fuel taxes in GERMANY during 40 years deserves a special attention.

7. The implementation of **fuel price rises** requires a careful planning considering the local purchasing power. The danger of fuel price riots is real and experienced especially in lowest price countries like YEMEN, NIGERIA, VENEZUELA and INDONESIA. Although a step-by-step approach, avoiding price surges in excess of 10 % in real terms at one time is recommended, even much higher price increases were accepted by the population as in CAMBODIA [see p. 39].
The argument of **social sustainability** and of reduced **purchasing power** caused by paying higher fuel prices are also common. This study measures local purchasing power in various countries in a way understandable to the general public. This study uses the **egg index**, which displays how many hen's eggs are equal to 1 litre of diesel [see p. 84]. The differences are considerable:
In lowest price countries such as VENEZUELA, SYRIA and EGYPT, 1 litre of diesel still costs the equivalent of less than 2 eggs, while in other countries like BRAZIL, TURKEY and GERMANY 1 litre of diesel may cost as much as 10 hen's eggs or even 15 as in INDIA.

8. The chapter 'Globalisation of the Fuel Market' displays the 8 mayor **oil consumers and oil producers** as well as 14 minor oil exporting countries showing the strategic role of supplies from RUSSIA and SAUDI ARABIA [see p. 68].

9. Fuel taxation is the mayor source for **road financing** [see p. 89].

10. Poverty reduction and achieving the **Millennium Development Goals MDG** is a top priority for many developing countries. Taxation of motor fuels could substantially increase state and transport sector revenues, which is very important for countries facing a hard budget constraint. Thus GTZ's experience world-wide comes to the conclusion, that e.g. for the maintenance of all the roads in a country a maximum of 10 US cents per litre fuel would be sufficient, out of which 2 US cents per litre should be used to preserve the rural roads [see p. 92].
This report, now in its 4th edition, may serve as a compendium for practical action, including for oil producing countries, since **Good Governance** in most cases has to recognise the limits of the own oil resources and a sound government tax policy.

2. Preface

Rising prices for crude oil – sometimes beyond the benchmark of 60 US$ per barrel (= 38 US cents per litre) – brought the price issue for fuel again into the headlines all over the world. But a general evaluation – by the governments concerned as well as by the bilateral and multilateral development agencies - on the consequences of the price hikes proved to be very difficult - due to the lack of data.

Despite the internationally agreed basic requirements for sustainable transport and energy policies, the general knowledge of national fuel prices, data and facts remains remarkably rudimentary. This can mainly be attributed to the weakness of statistical organizations in most developing countries. Even the international data pooling points of organizations, such as the International Energy Agency, the World Bank or Germany's Federal Statistical Office cannot overcome this problem.

Consequently, the German Technical Cooperation GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), with its global network of projects in 135 countries, its regional offices and representations in 64 developing countries, has decided to publish a comprehensive database for the global fuel sector.

This book on international fuel prices has been available since 1999, and is now in its 4th edition. Its basic data are taken over and published by the World Bank in its yearly WORLD DEVELOPMENT INDICATORS and by the UN-ESCAP data base as well.

In a wider context this fuel price survey advocates reviewing the price policies and use of existing fuel energy - being a precondition for the introduction of new forms of energy.

The comments and conclusions drawn in this report, however, reflect the author's experience and views, not necessarily those of GTZ. This paper is intended to serve as an initial impetus to encourage the competent ministries in developing countries to start their own deliberations on how to achieve sustainable long and medium-term fuel price policies.

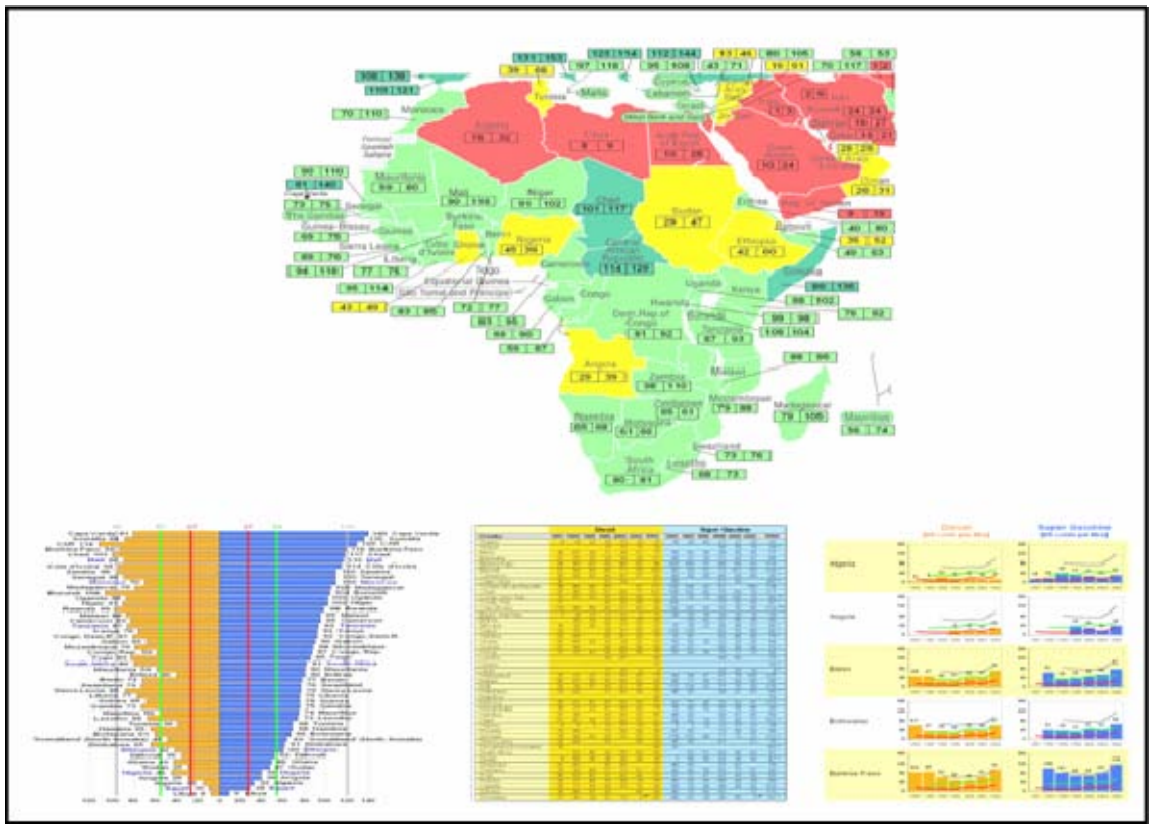
The survey was executed within the framework of the sector project P.N. 98.2055.6 "Transport Policy Advisory Services" and was financed by the German Federal Ministry for Economic Cooperation and Development.

The author wishes to express his special gratitude to all those who have contributed to this database, in particular the GTZ offices (primarily in Africa and Asia), and the German Federal Foreign Office (for such individual countries as North Korea, Turkmenistan, Myanmar, Cuba and several countries in the Caribbean), the German Automobile Association ADAC (for the European countries), as well as EU Delegations and the World Bank (www.worldbank.org).

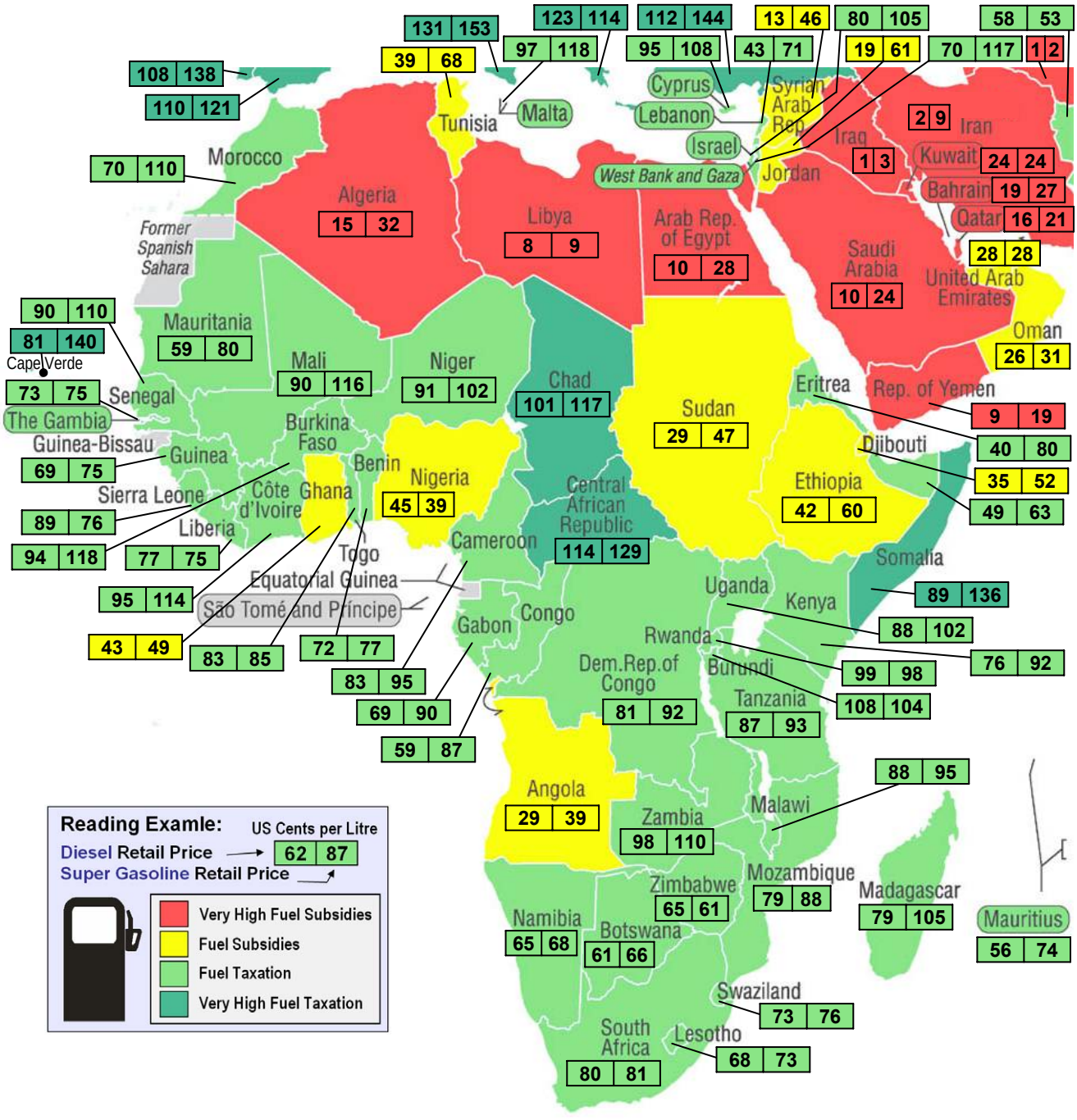
The Author

Fuel Prices in Africa

- Geographic Overview of Diesel and Gasoline Prices (Map)
- African Ranking of Gasoline Prices (Graph)
- Fuel Price Trend in Africa (Table)
- Fuel Price Trend in African Countries (Graphs)



3.1 Retail Fuel Prices in Africa
as of November 2004 in US Cents per Litre



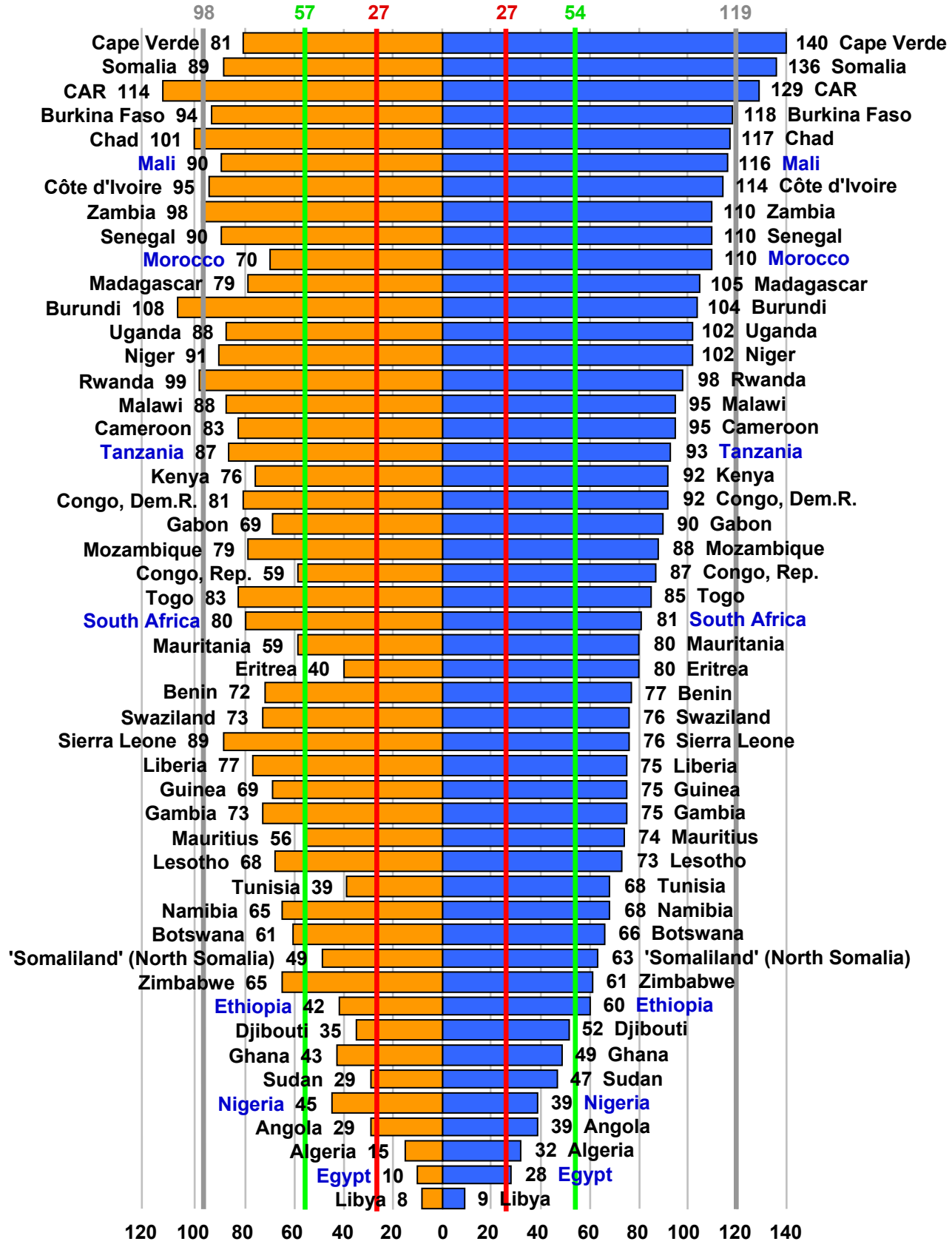
Fuel Taxation Category 1: Very high Fuel Subsidies
The retail price of fuel (average of Diesel and Super Gasoline) is below the price for crude oil on world market.

Fuel Taxation Category 2: Fuel Subsidies
The retail price of fuel is above the price for crude oil on world market and below the price level of the United States.
Note: The fuel prices of the United States are aver. cost-covering retail prices incl. industry margin, VAT and incl. approx. 10 US cents for the 2 road funds (federal and state). This fuel price being without other specific fuel taxes may be considered as the international minimum benchmark for a non-subsidised road transport policy.

Fuel Taxation Category 3: Fuel Taxation
The retail price of fuel is above the price level of the United States and below the price level of Luxembourg.
Note: The fuel prices of Luxembourg are the approx. minimum entrance level for new EU accession countries.

Fuel Taxation Category 4: Very high Fuel Taxation
The retail price of fuel is above the price level of Luxembourg.

3.2 Comparison of Retail Fuel Prices in Africa
as of November 2004 in US Cents per Litre



Grey Benchmark Line = Retail Fuel Prices of LUXEMBOURG = approx. Minimum Entrance Level for new EU Accession Countries
Green Benchmark Line = Retail Fuel Prices in the UNITED STATES = aver. Cost-Covering Retail Prices incl. Industry Margin, VAT and incl. approx. 10 US Cents for the 2 Road Funds (Federal and State). This Fuel Price being without other Specific Fuel Taxes may be considered as the International Minimum Benchmark for a non-subsidised Road Transport Policy.
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

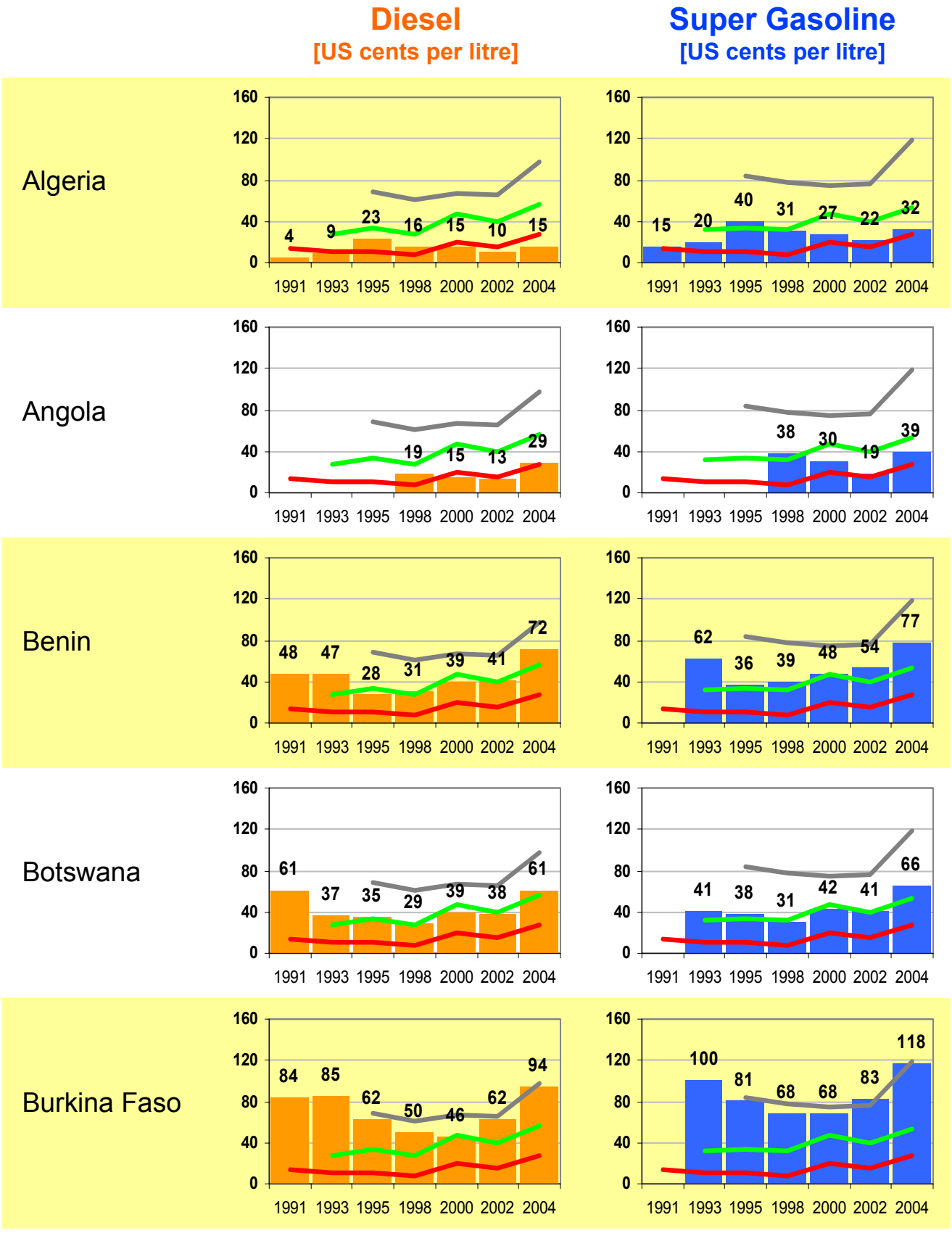
3.3 Time Series of Retail Fuel Prices in Africa

in US Cent per litre (last survey 17-20 Nov 2004)

	Diesel							Super Gasoline						
Country	1991	1993	1995	1998	2000	2002	2004	1991	1993	1995	1998	2000	2002	2004
Algeria	4	9	23	16	15	10	15	15	20	40	31	27	22	32
Angola				19	15	13	29				38	30	19	39 *
Benin	48	47	28	31	39	41	72	63	62	36	39	48	54	77
Botswana	61	37	35	29	39	38	61	68	41	38	31	42	41	66
Burkina Faso	84	85	62	50	46	62	94	103	100	81	68	68	83	118
Burundi	61	54	48	66	71	54	108	63	59	52	72	101	58	104 *
Cameroon	58	58	50	48	47	57	83	68	69	68	64	56	68	95 *
Cape Verde	40			43	39		81	68			81	59		140 *
Central African Republic	99	98	64	65		87	114	133	128	82	81		100	129
Chad	97	95	70	61	60	77	101	105	102	80	70	68	79	117
Congo, Dem. Rep.	73	67	70	50	93	69	81	81	74	73	50	100	70	92 **
Congo, Rep.	71			40	30	48	59	105			72	53	69	87 *
Côte d'Ivoire	115	86	56	45	51	60	95	124	123	83	74	76	85	114 ***
Egypt, Arab Rep.	7	9	12	12	10	8	10	29	30	29	29	26	19	28
Eritrea		29	19	23	33	25	40		50	40	37	56	36	80
Ethiopia	14	19	24	25	27	32	42	27	26	32	36	46	52	60 *
Gabon	83	70		39	37	53	69	118	116		63	53	69	90 *
Gambia	52	48		63	47	40	73	73	67		83	64	46	75 *
Ghana	43	45	33	30	19	23	43	53	53	38	32	20	28	49
Guinea	61	56		56	69	56	69	67	61		68	85	66	75 *
Kenya	37	33	43	54	60	56	76	53	40	56	70	71	70	92
Lesotho				38	47		68				39	50		73
Liberia							77							75 *
Libya				17	16	8	8				22	25	10	9 *
Madagascar	25	31	32	33	45	65	79	43	54	47	47	76	108	105
Malawi	56	67	55	45	68	62	88	64	71	65	51	69	66	95
Mali	74	74	57	48	43	55	90	112	114	82	77	70	69	116
Mauritania	53	43		31	40	39	59	86	85		59	67	63	80 *
Mauritius							56							74
Morocco	45	41	47	47	53	55	70	82	75	94	79	82	87	110
Mozambique	26	21	32	41	54	43	79	74	48	53	55	56	46	88
Namibia	41	38		36	44	43	65	46	42		38	47	45	68
Niger	81	60	55	52	48	55	91	94	92	79	76	68	77	102 *
Nigeria	4	1	3	10	27	19	45	5	2	13	13	27	20	39
Rwanda	79	88		72	84	84	99	81	93		72	89	84	98
Senegal	74	88	62	48	52	53	90	119	123	94	71	73	75	110 *
Sierra Leone	43	44		53		50	89	45	49		61		51	76
Somaliland (N.Somalia)	15						49	21						63 *
South Africa		52	46	39	50	40	80		52	51	43	50	43	81
Sudan	6	58	25	26	24	24	29	7	58	50	33	28	30	47 *
Swaziland	41	40		36	44		73	46	43		37	47		76
Tanzania	25	30	44	57	73	61	87	42	43	56	63	75	67	93
Togo	66	63	40	37	40	46	83	81	72	47	42	48	56	85
Tunisia	33	31	44	33	29	19	39	58	52	64	60	49	29	68
Uganda	55	71	85	68	75	70	88	69	79	98	86	86	83	102
Zambia	24	66	57	49		60	98	40	72	60	53		72	110
Zimbabwe	37	28	29	22	72	5 CF	65	68	47	38	26	85	5 CF	61 *

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98); CF = because of currency fluctuations.

3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Algeria to Burkina Faso)



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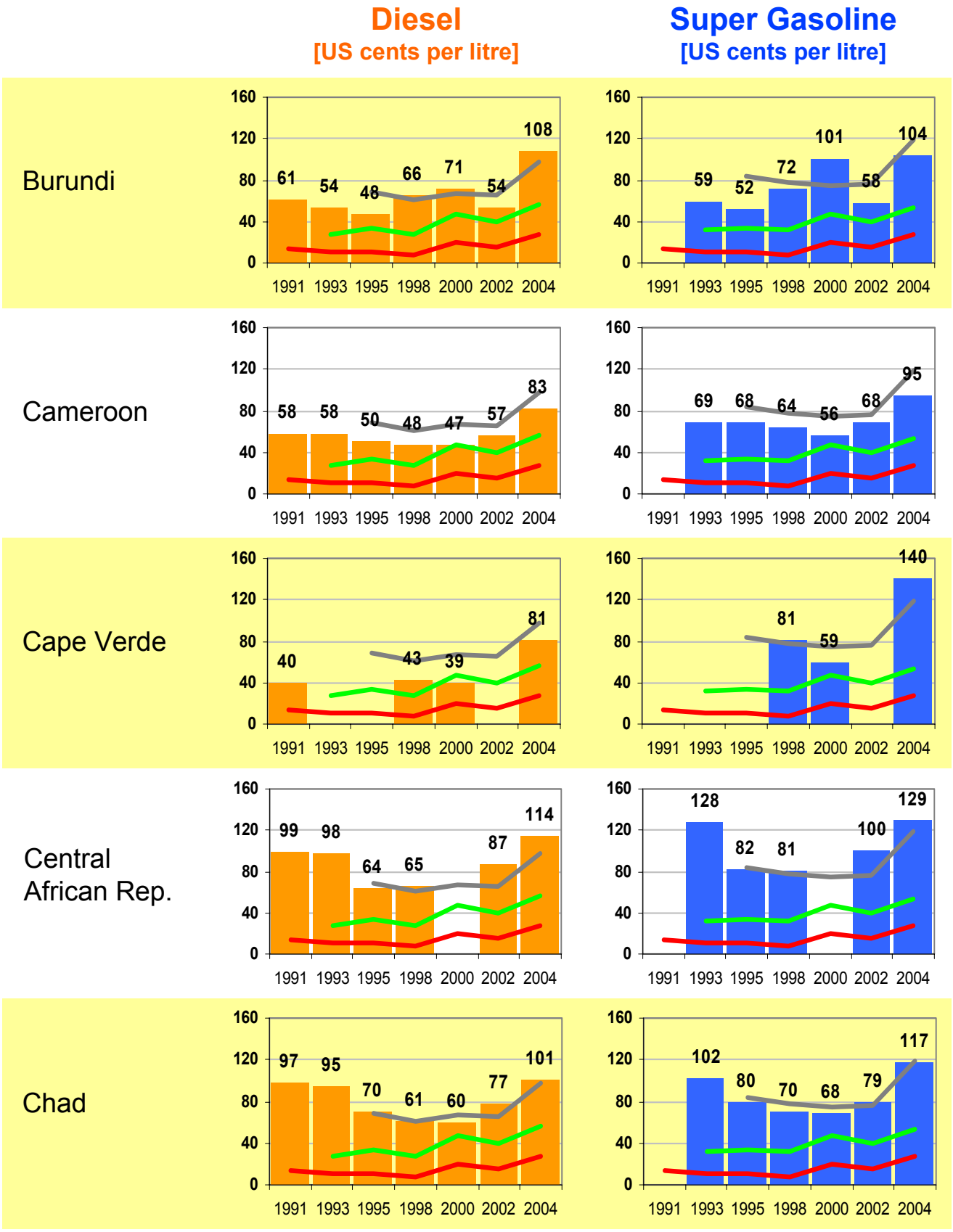
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Burundi to Chad)



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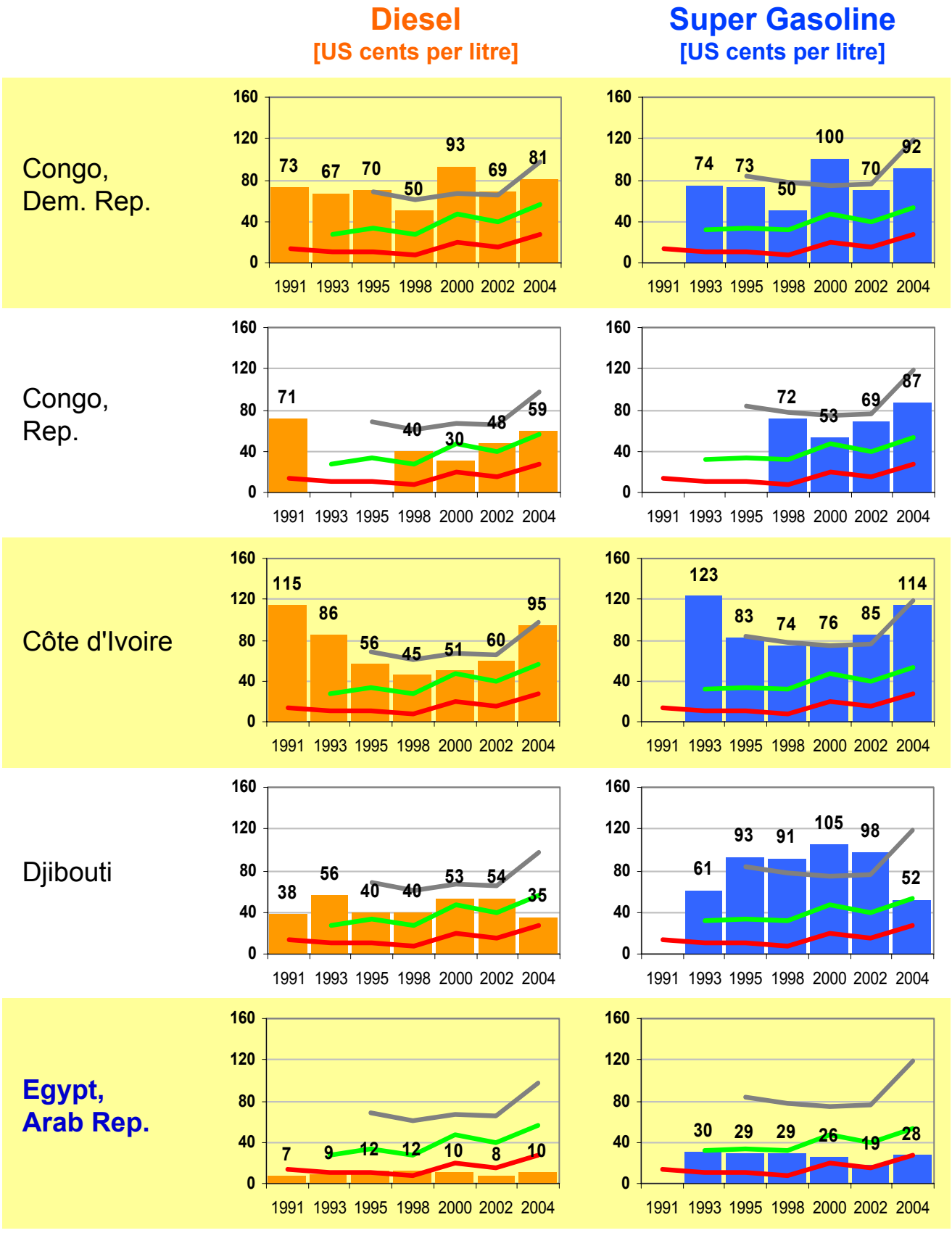
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Congo to Egypt)



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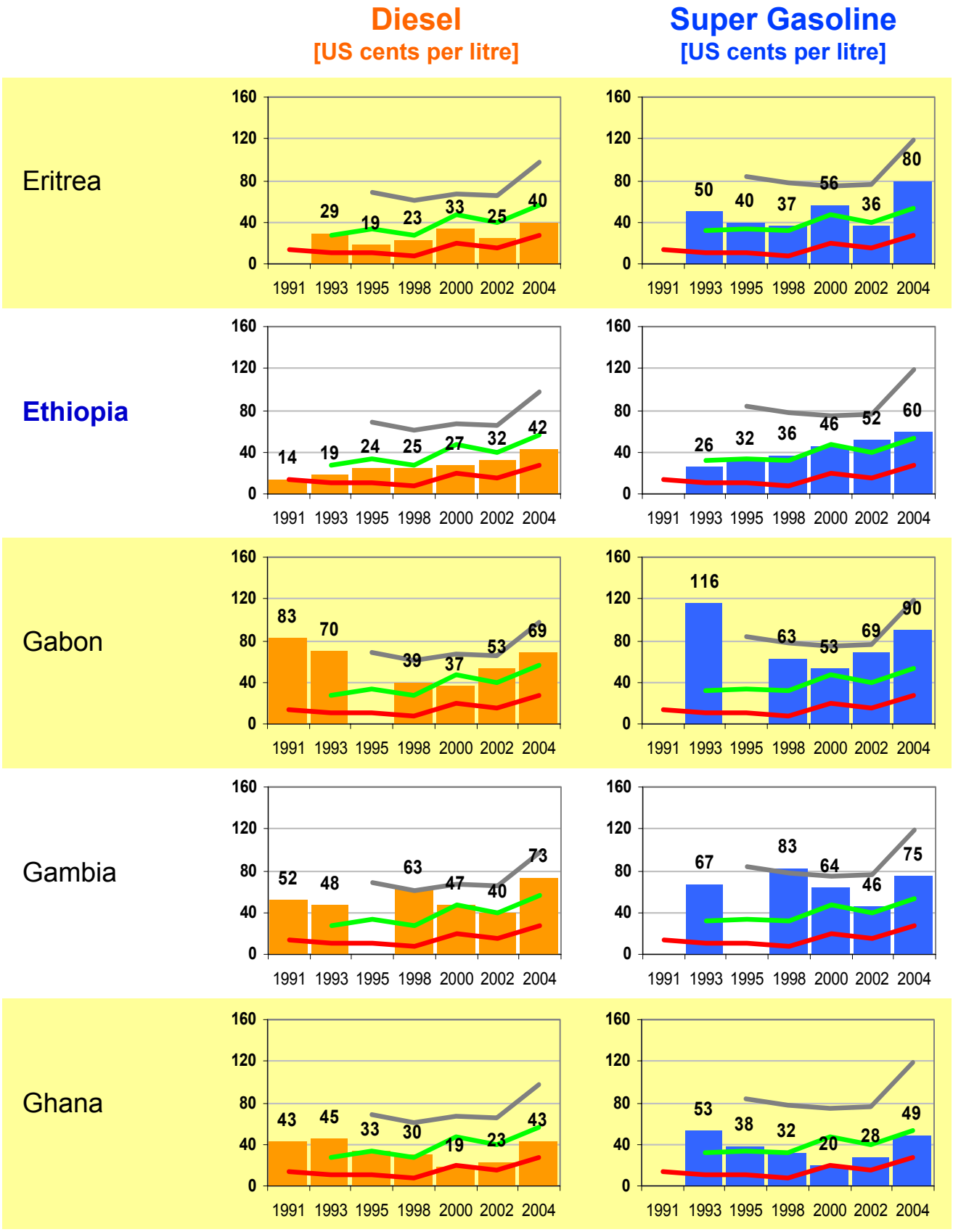
1991 – 2004 (from Eritrea to Ghana)



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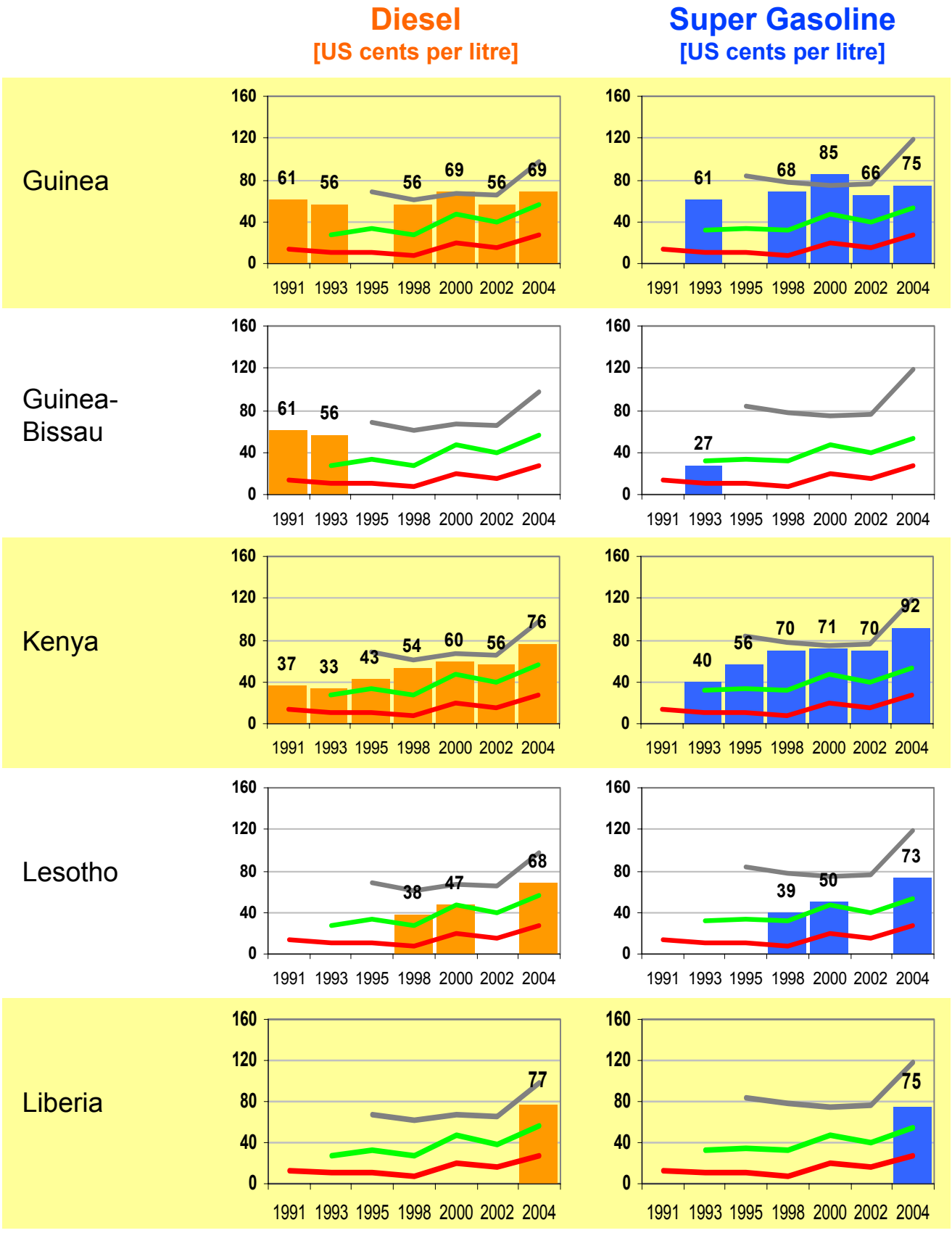
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Guinea to Liberia)



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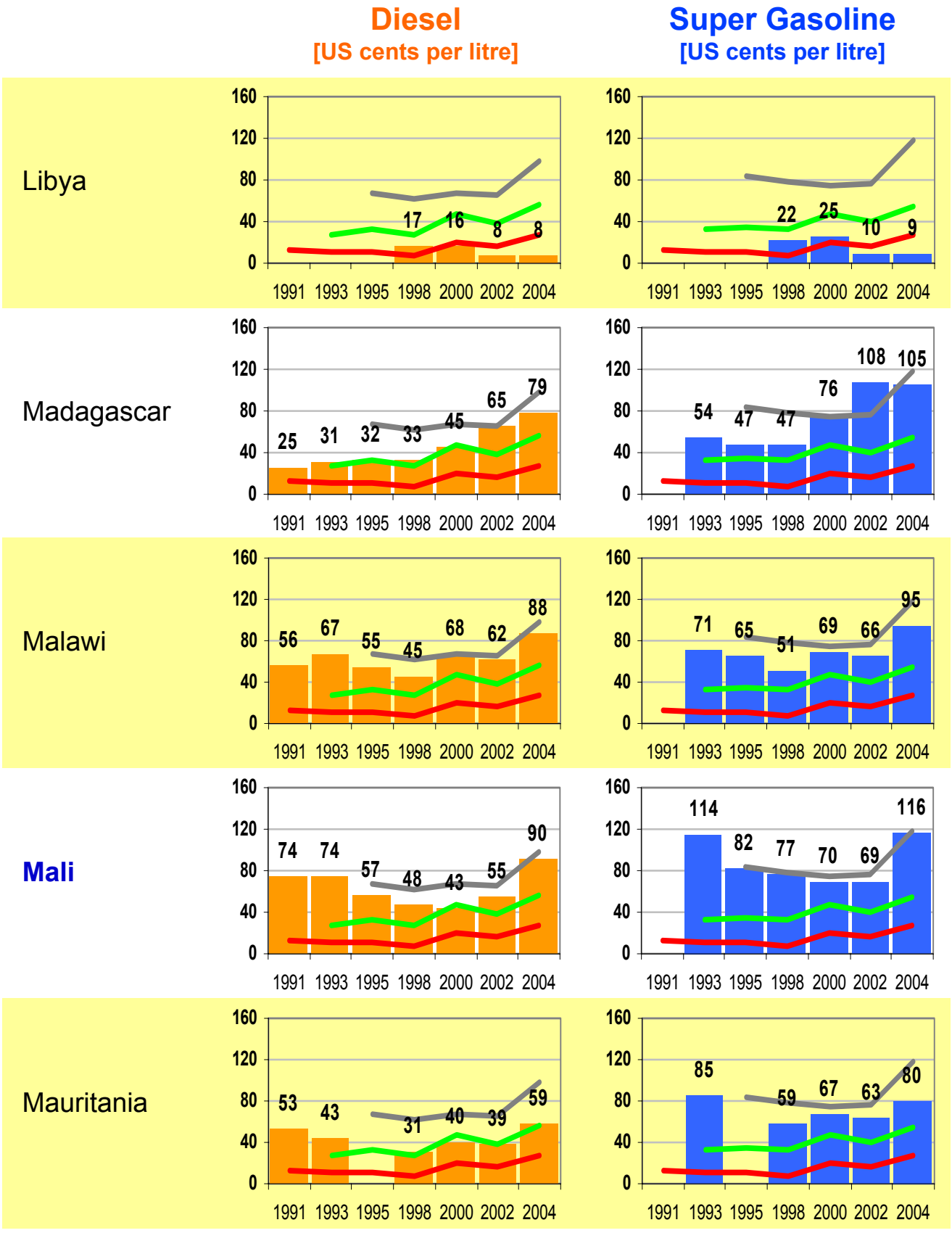
1991 – 2004 (from Libya to Mauritania)



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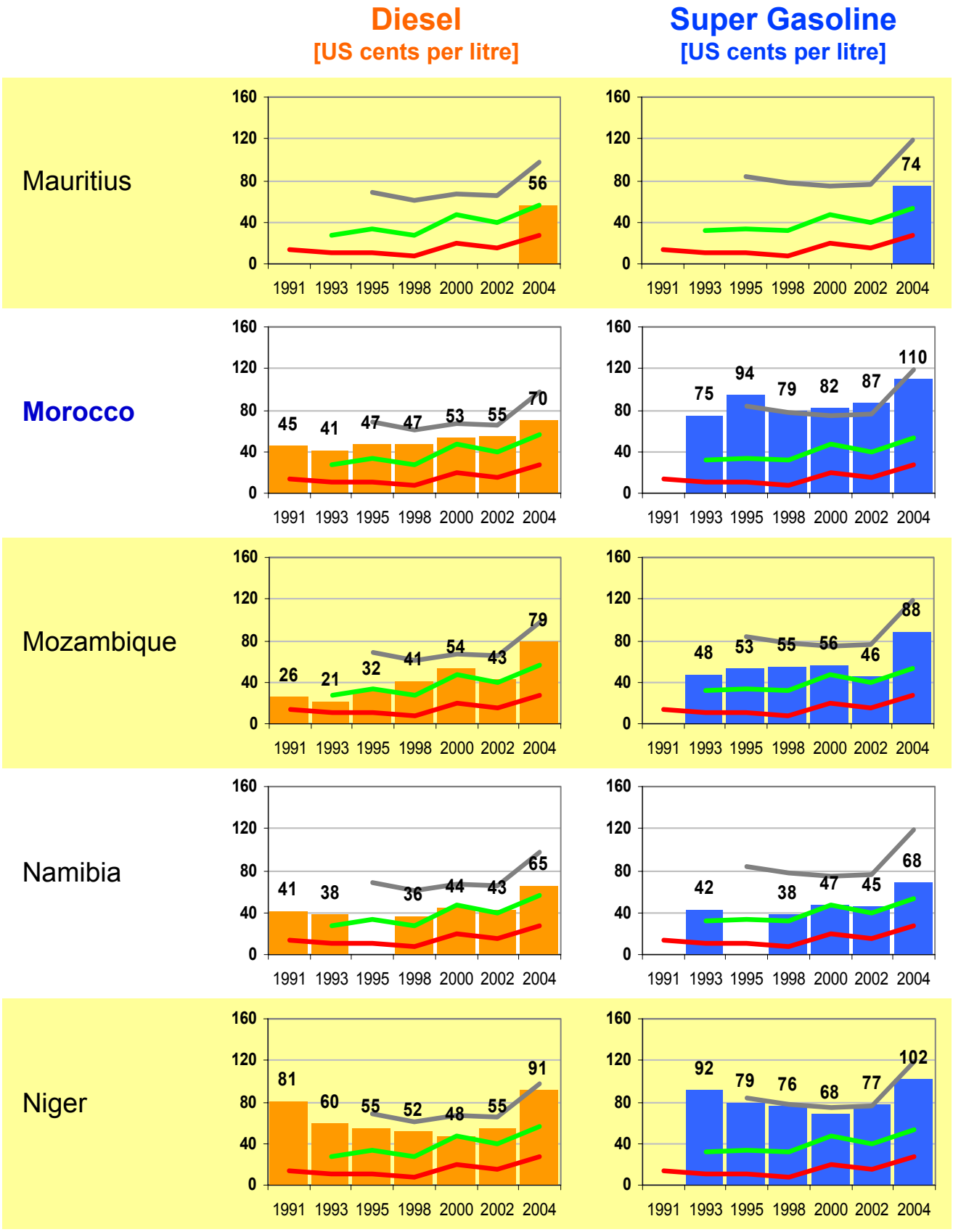
1991 – 2004 (from Mauritius to Niger)



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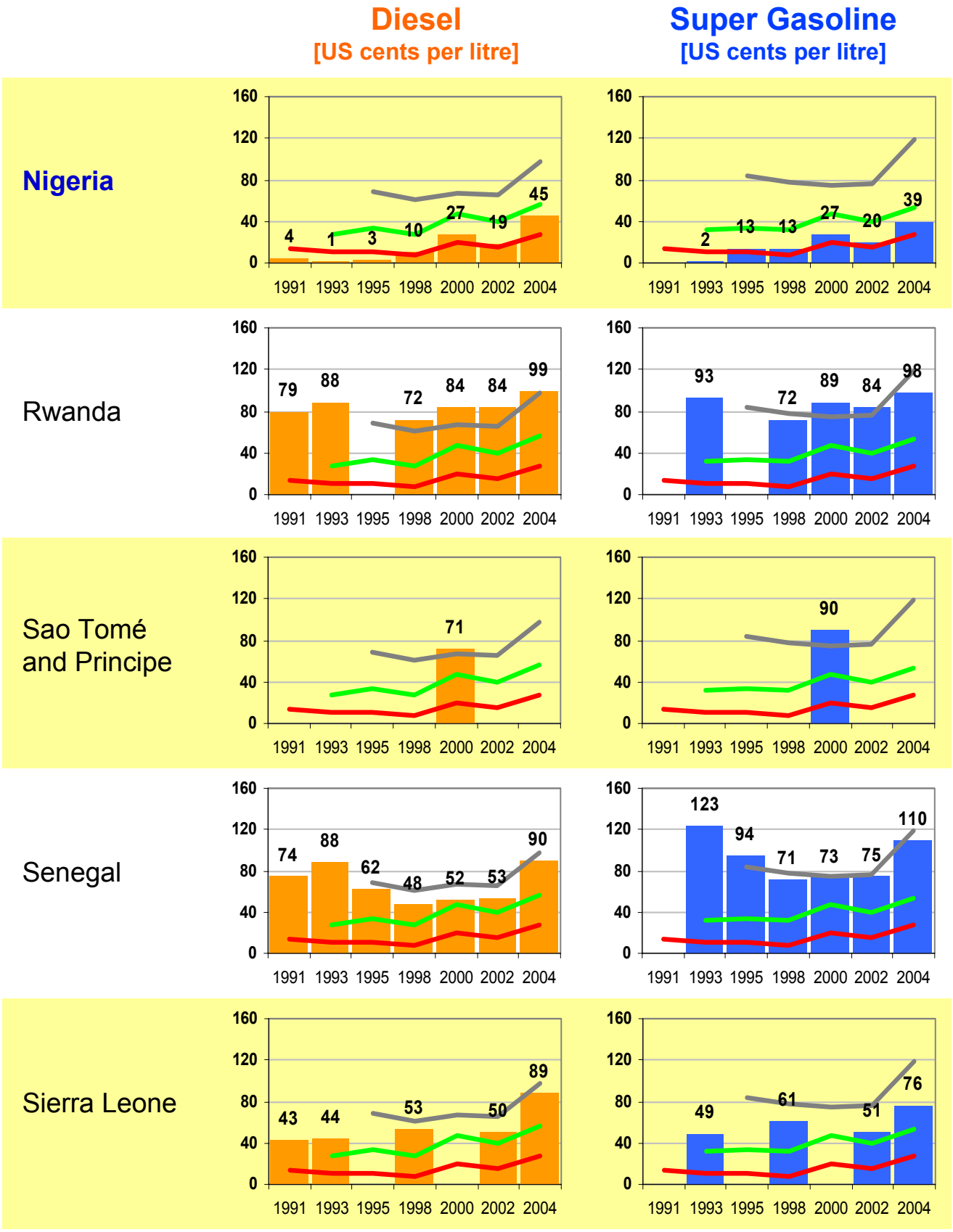
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Nigeria to Sierra Leone)



Grey Benchmark Line = Retail Fuel Prices of LUXEMBOURG = approx. Minimum Entrance Level for new EU Accession Countries
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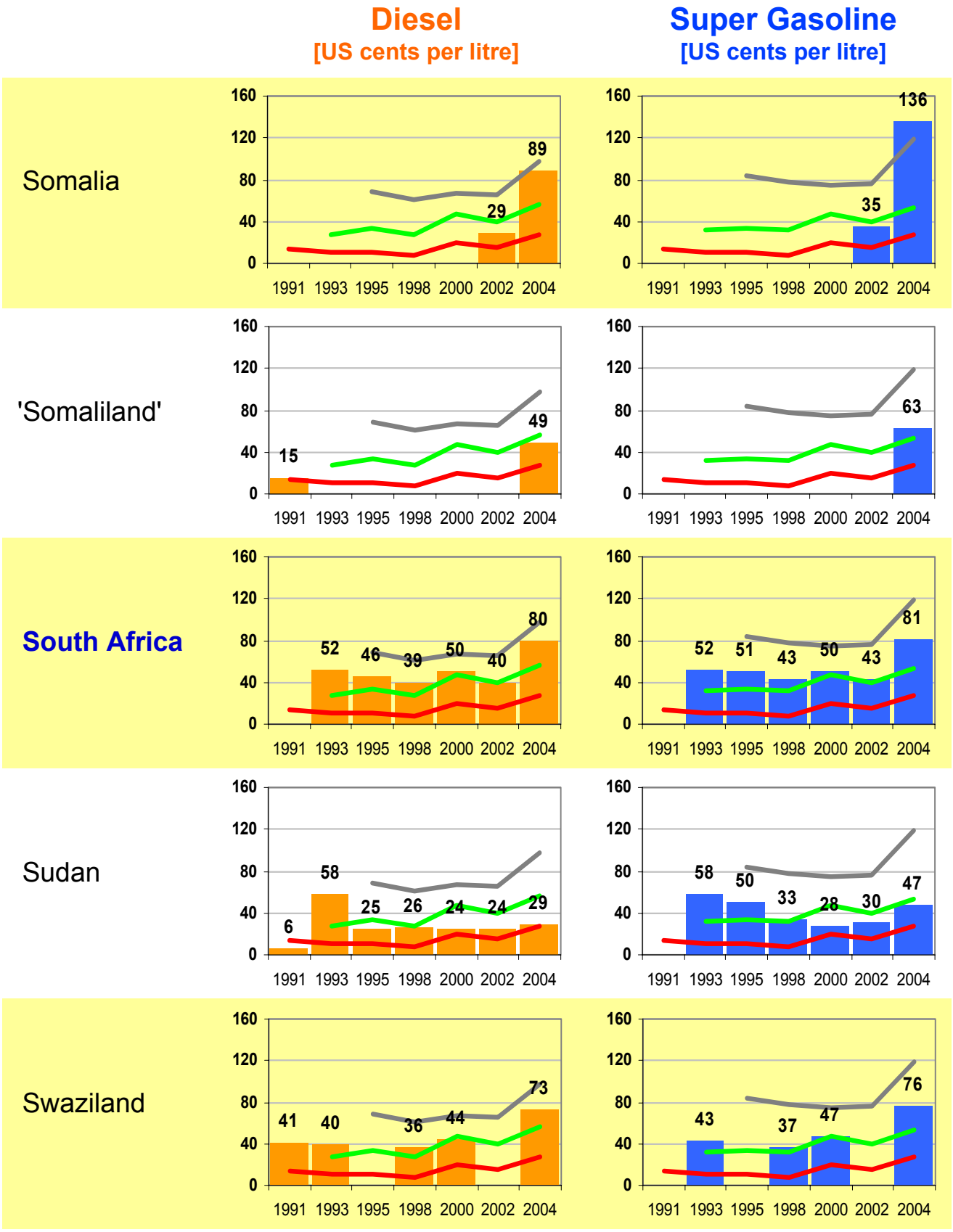
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Somalia to Swaziland)



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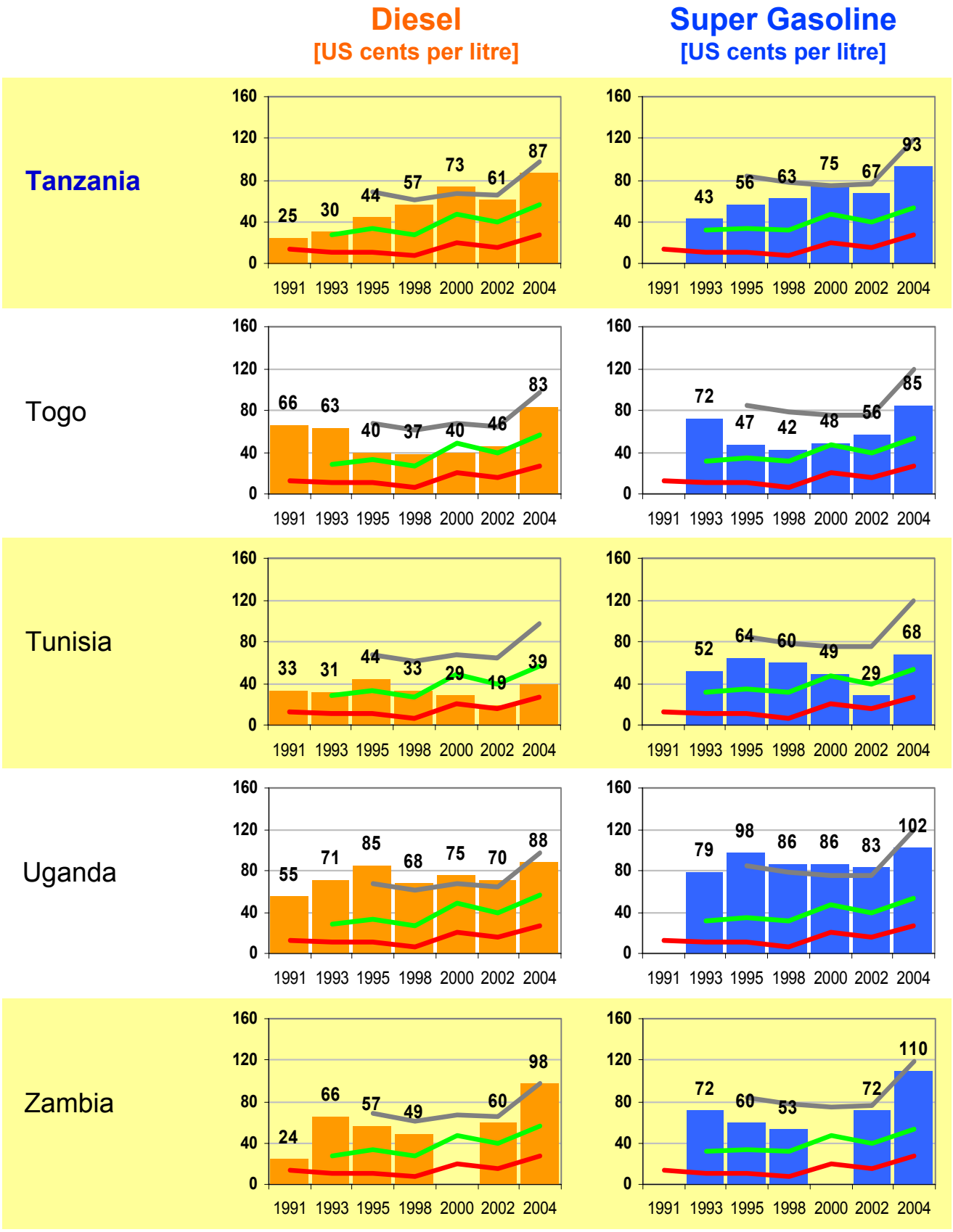
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Tanzania to Zambia)



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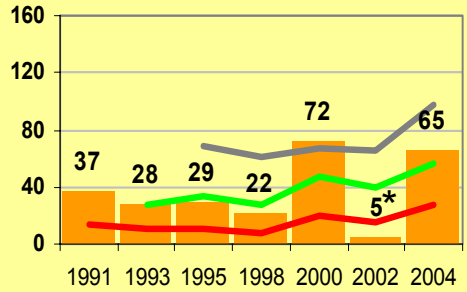
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

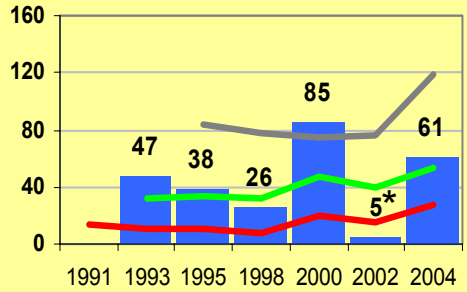
3.4 Detailed Time Series of Fuel Prices in Africa
1991 – 2004 (from Zimbabwe)

Zimbabwe

Diesel
[US cents per litre]



Super Gasoline
[US cents per litre]



* = because of currency fluctuations

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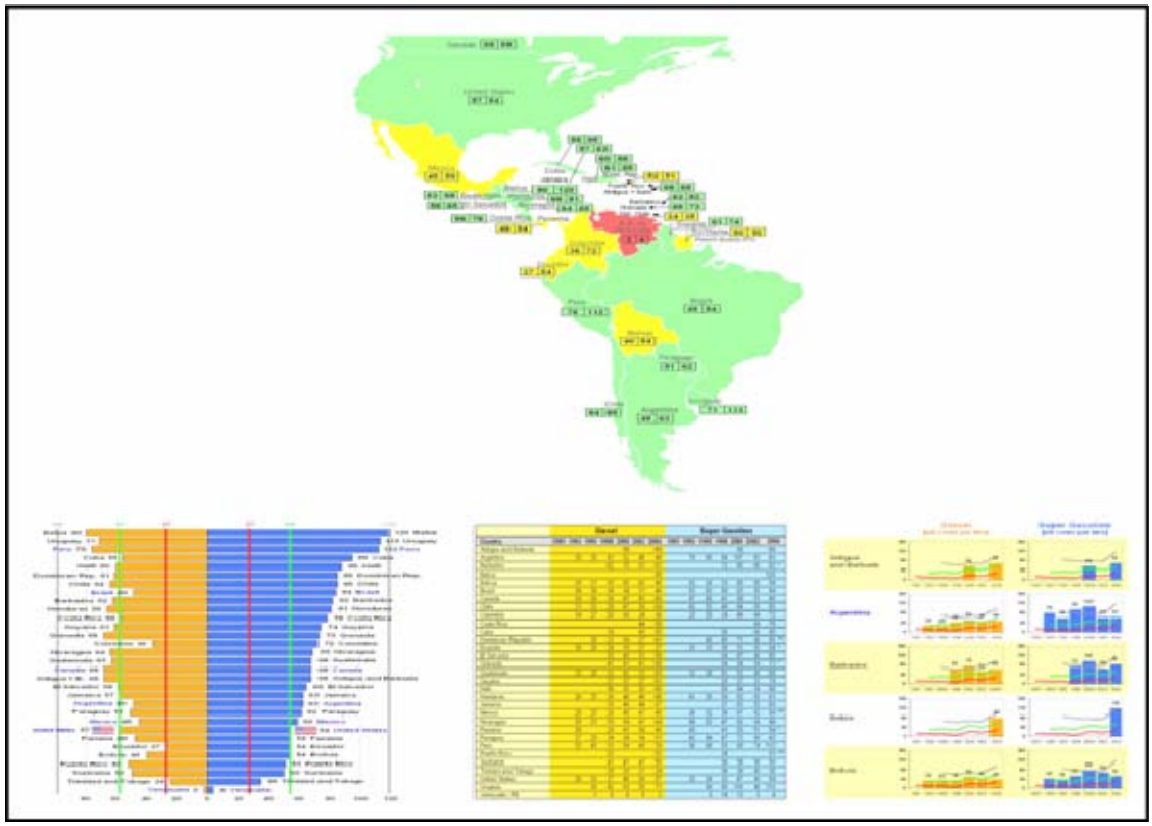
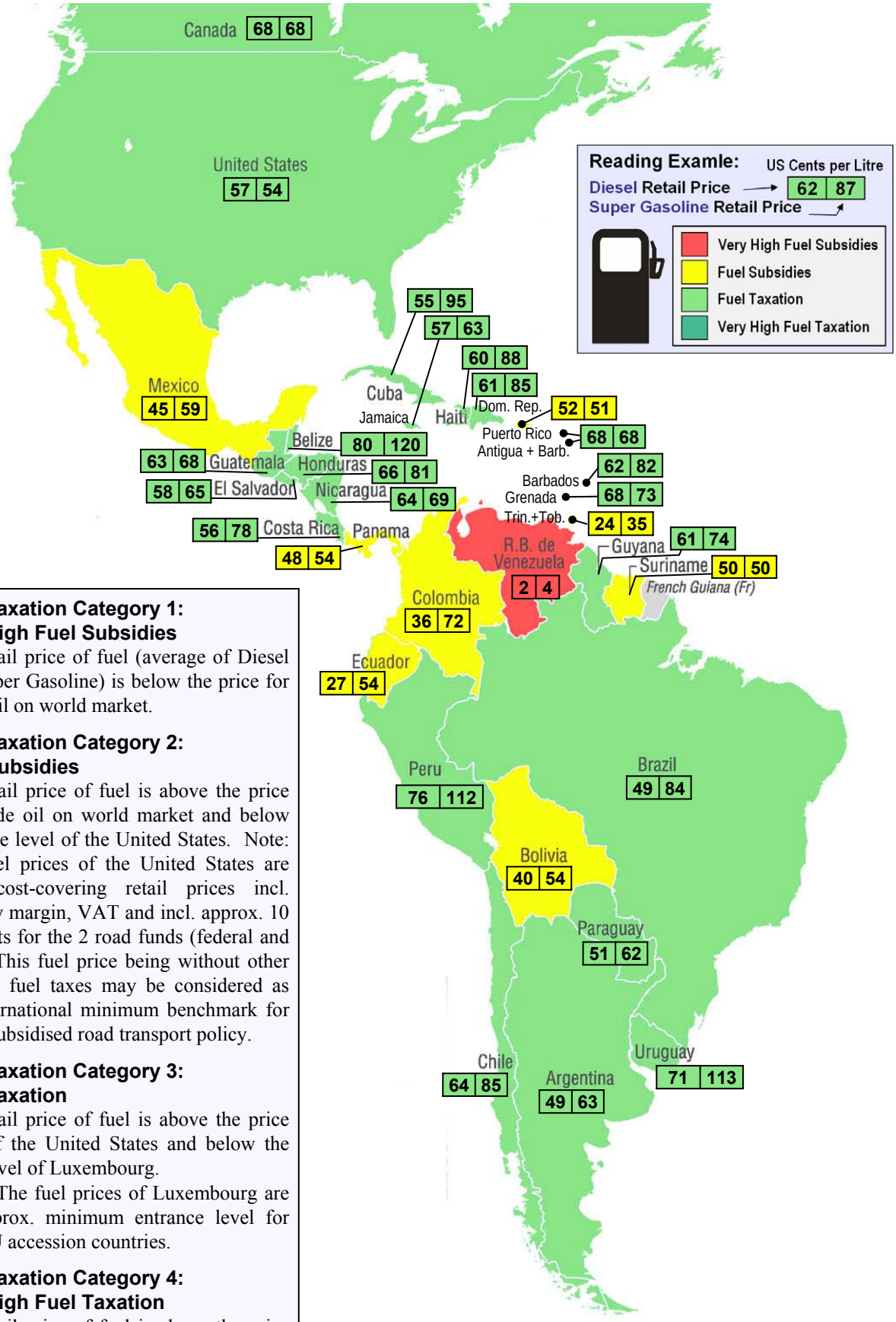
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

Fuel Prices in America

- Geographic Overview of Diesel and Gasoline Prices (Map)
- American Ranking of Gasoline Prices (Graph)
- Fuel Price Trend in America (Table)
- Fuel Price Trend in American Countries (Graphs)



4.1 Retail Fuel Prices in America
as of November 2004 in US Cents per Litre



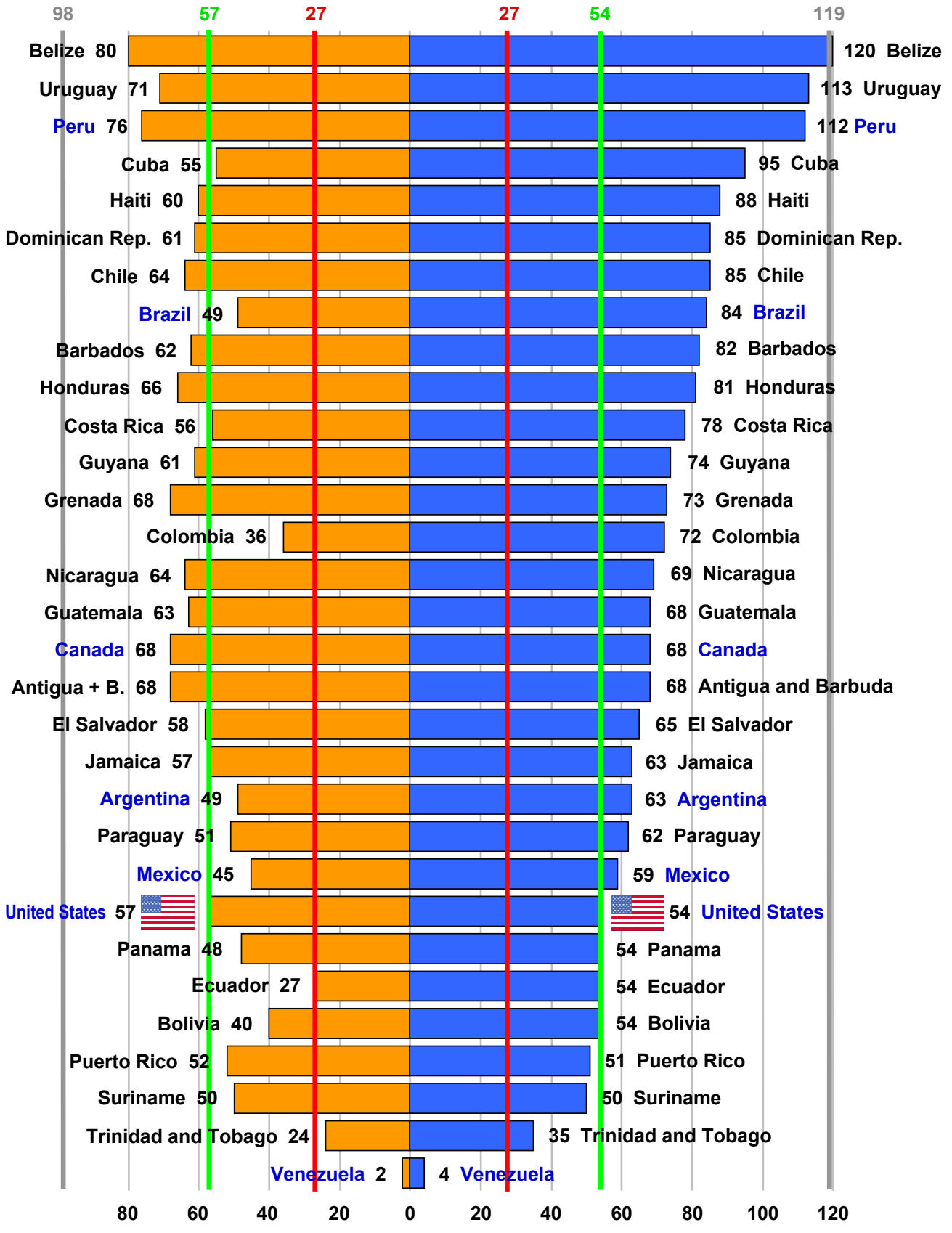
Fuel Taxation Category 1:
Very high Fuel Subsidies
The retail price of fuel (average of Diesel and Super Gasoline) is below the price for crude oil on world market.

Fuel Taxation Category 2:
Fuel Subsidies
The retail price of fuel is above the price for crude oil on world market and below the price level of the United States. Note: The fuel prices of the United States are aver. cost-covering retail prices incl. industry margin, VAT and incl. approx. 10 US cents for the 2 road funds (federal and state). This fuel price being without other specific fuel taxes may be considered as the international minimum benchmark for a non-subsidised road transport policy.

Fuel Taxation Category 3:
Fuel Taxation
The retail price of fuel is above the price level of the United States and below the price level of Luxembourg.
Note: The fuel prices of Luxembourg are the approx. minimum entrance level for new EU accession countries.

Fuel Taxation Category 4:
Very high Fuel Taxation
The retail price of fuel is above the price level of Luxembourg.

4.2 Comparison of Retail Fuel Prices in America
as of November 2004 in US Cents per Litre



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Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

4.3 Time Series of Retail Fuel Prices in America
in US Cent per litre (last survey 17-20 Nov 2004)

	Diesel							Super Gasoline						
Country	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**
Antigua and Barbuda					56		68					56		68
Argentina		29	28	42	52	46	49		79	60	94	107	63	63
Barbados				62	75	53	62				72	95	66	82 *
Belize							80							120
Bolivia		35	31	35	50	42	40		43	38	53	80	69	54
Brazil		38	39	34	34	31	49		53	63	80	92	55	84
Canada		39	36	39	47	43	68		47	45	41	58	51	68
Chile		31	33	29	47	39	64		43	53	49	64	58	85
Colombia		19	27	20	35	24	36		23	35	24	49	44	72
Costa Rica						44	56						64	78
Cuba				18		45	55				50		90	95
Dominican Republic			28	22	39	27	61			40	40	71	49	85 ***
Ecuador		19	28	24	18	27	27		31	33	38	31	55	54 *
El Salvador				30	40	33	58				54	67	46	65
Grenada				41	41	41	68				54	54	54	73 *
Guatemala		25	28	32	42	32	63		32	39	41	53	48	68
Guyana				27	37	27	61				30	37	31	74
Haiti				36	35	30	60				59	64	54	88
Honduras		26	25	30	46	46	66		41	35	50	62	63	81
Jamaica				33	49	44	57				37	62	52	63
Mexico		28	25	28	45	47	45		39	32	36	61	62	59 ***
Nicaragua		30	31	35	54	41	64		69	62	47	62	54	69
Panama		30		28	41	36	48		43		41	53	51	54 *
Paraguay		27	28	24	34	34	51		43	44	47	72	56	62
Peru		32	43	33	54	48	76		56	68	55	80	74	112
Puerto Rico				32			52				34			51 ***
Suriname				41	41	41	50				56	56	56	50
Trinidad and Tobago				20	20	21	24				39	39	40	35
United States		28	33	27	48	39	57		32	34	32	47	40	54
Uruguay			38	42	53	20	71			89	90	119	46	113
Venezuela, RB			1	8	6	5	2			3	14	12	5	4

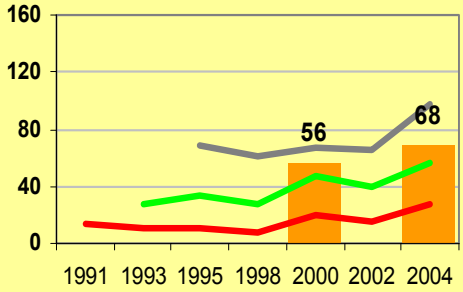
Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

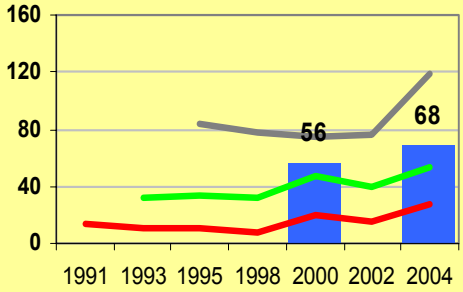
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Antigua and Barbuda to Bolivia)

Diesel
[US cents per litre]

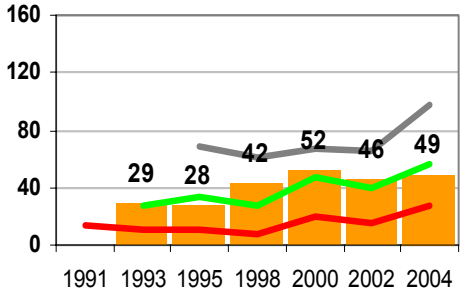
Super Gasoline
[US cents per litre]

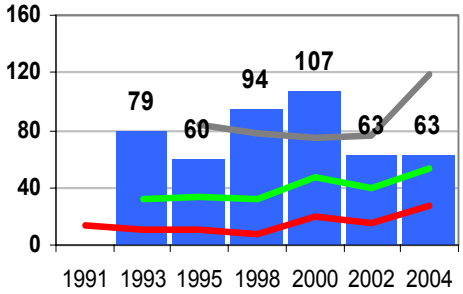
Antigua and Barbuda



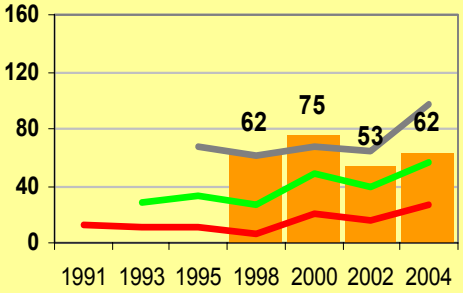


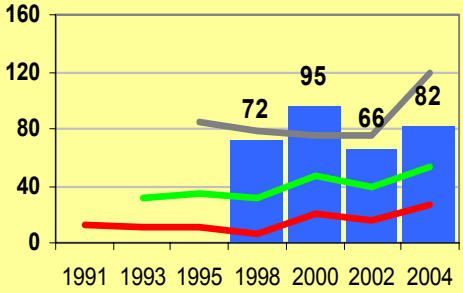
Argentina



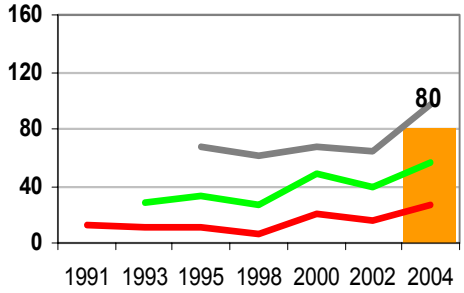


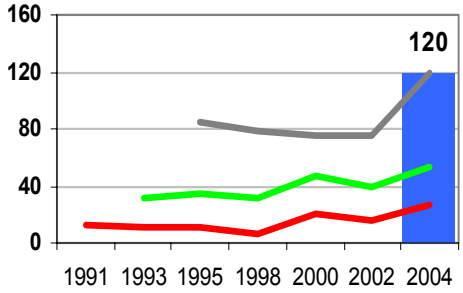
Barbados



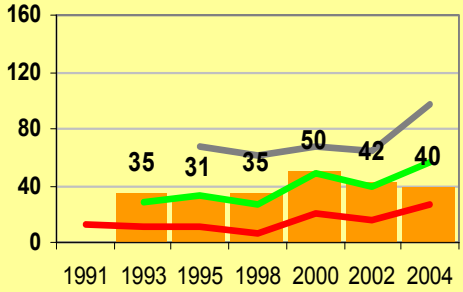


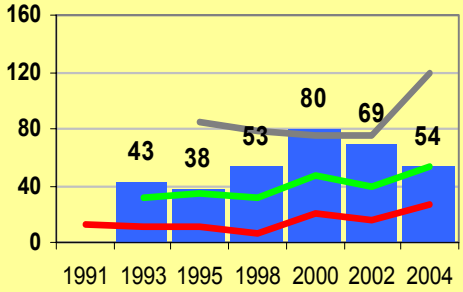
Belize





Bolivia





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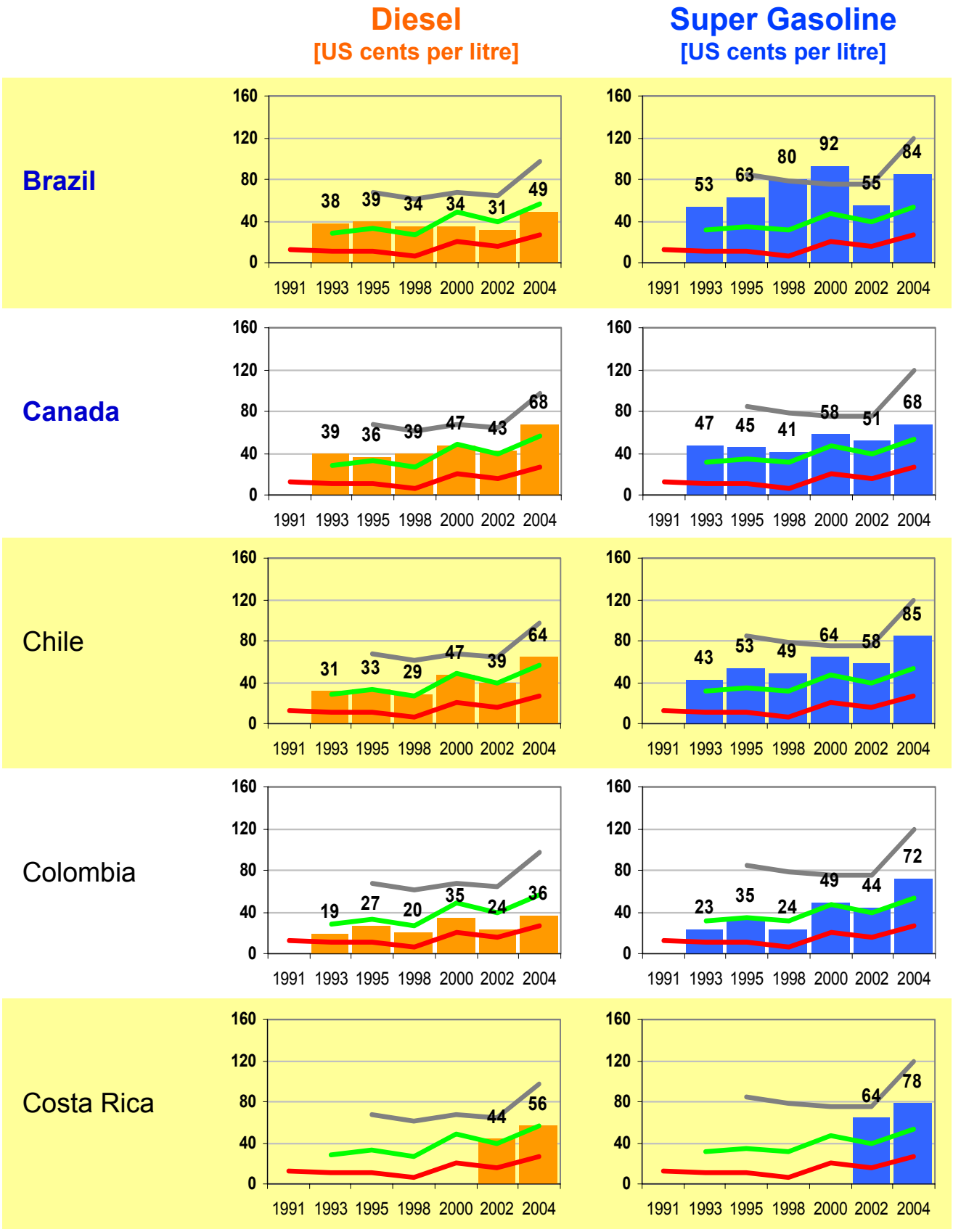
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Brazil to Costa Rica)



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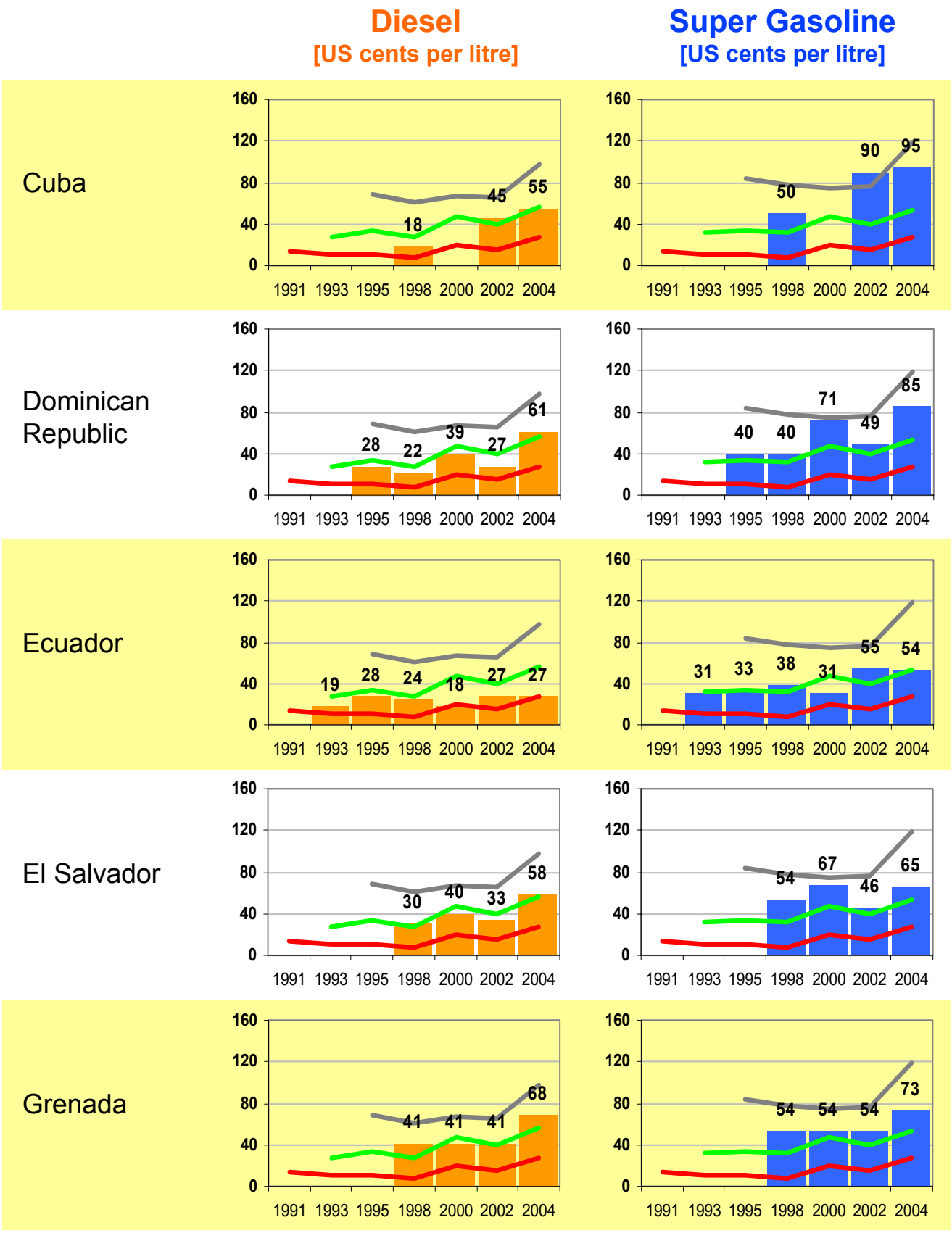
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Cuba to Grenada)



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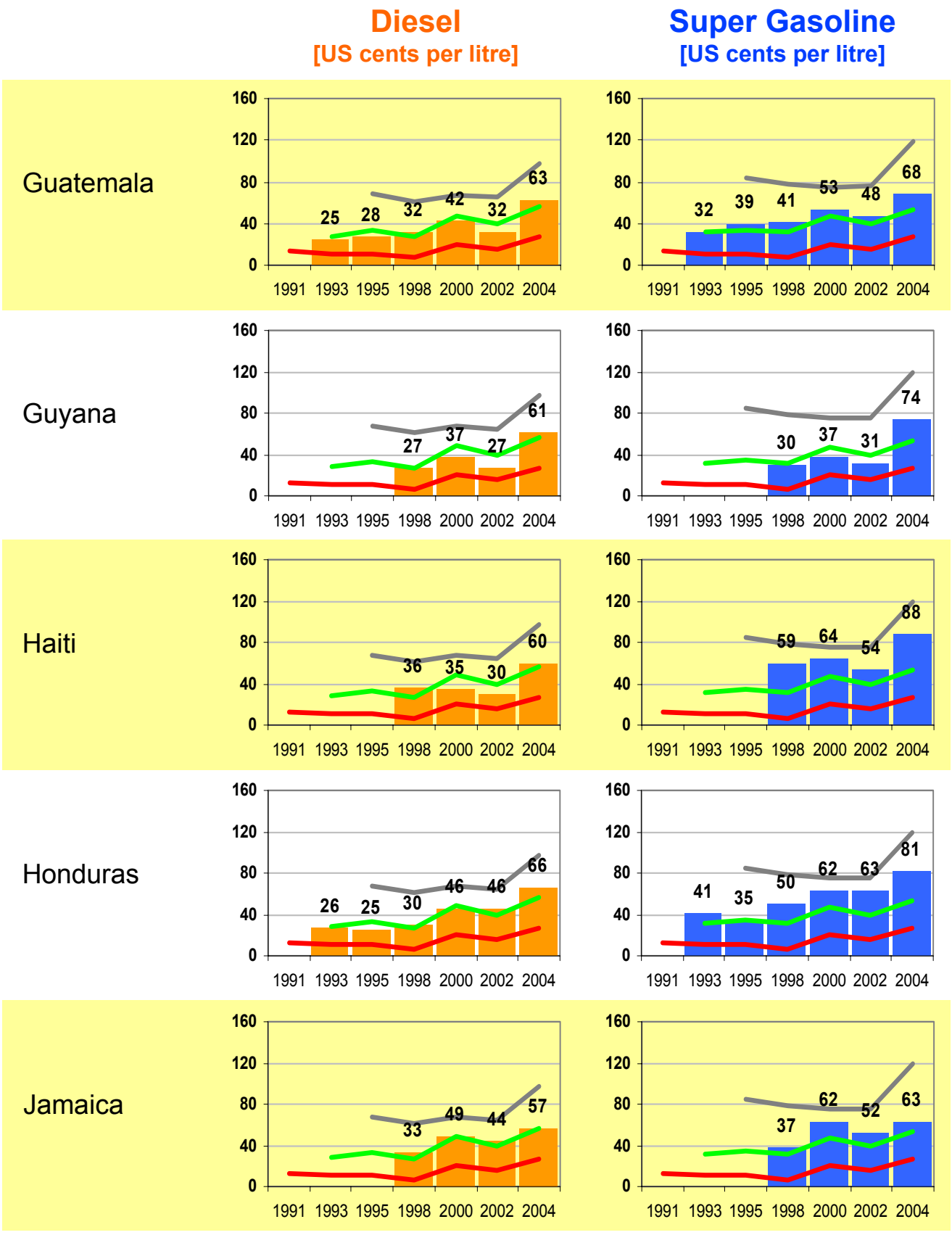
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Guatemala to Jamaica)



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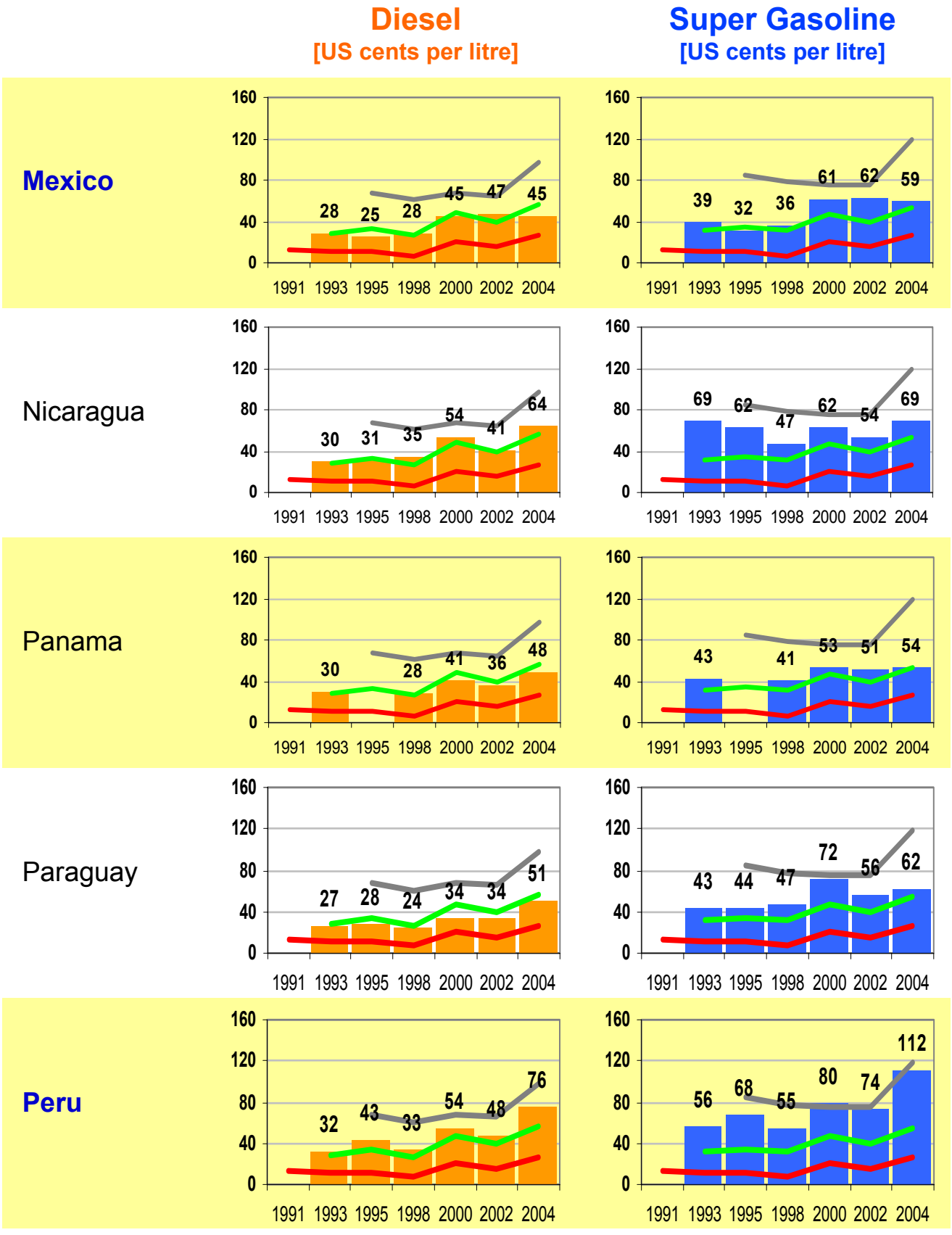
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Mexico to Peru)



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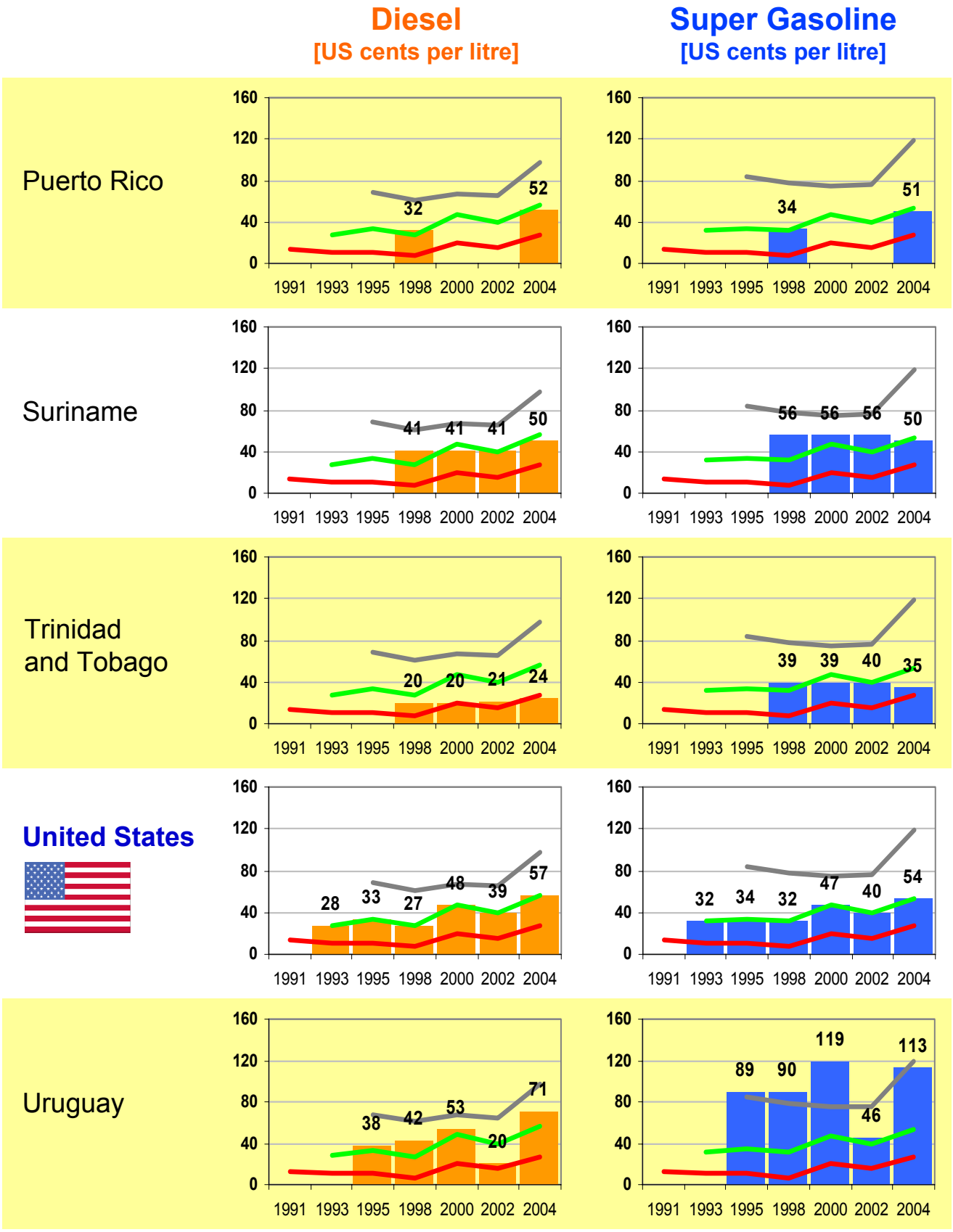
4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Puerto Rico to Uruguay)



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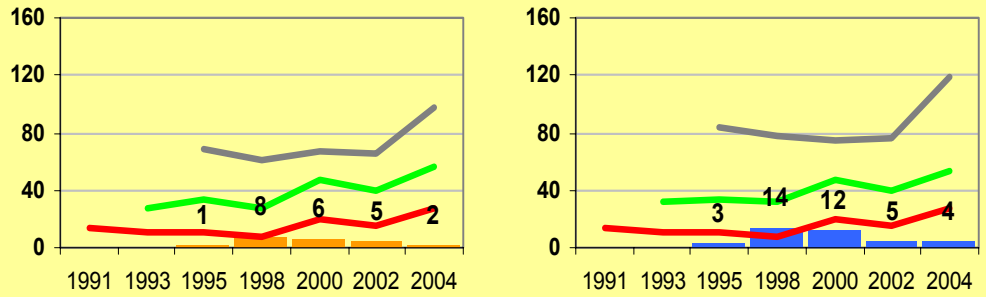
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

4.4 Detailed Time Series of Fuel Prices in America
1991 – 2004 (from Venezuela)

Diesel
[US cents per litre]

Super Gasoline
[US cents per litre]

Venezuela



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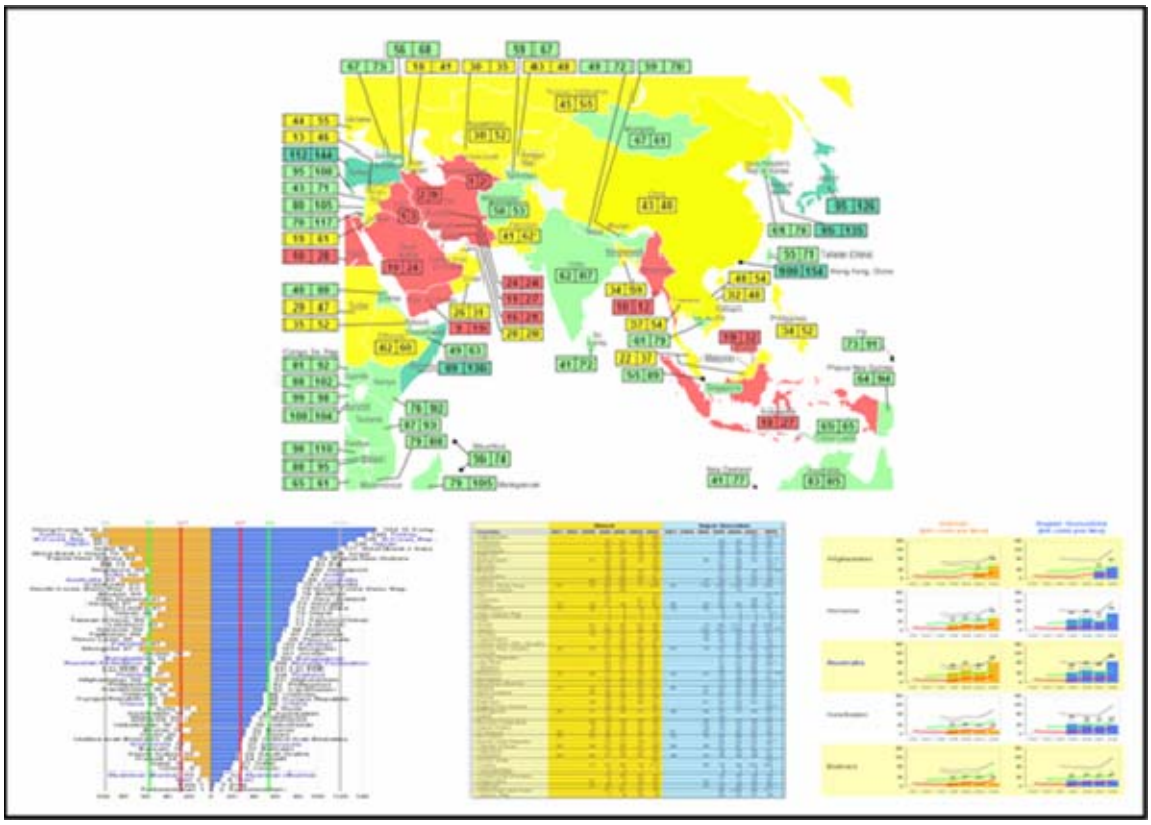
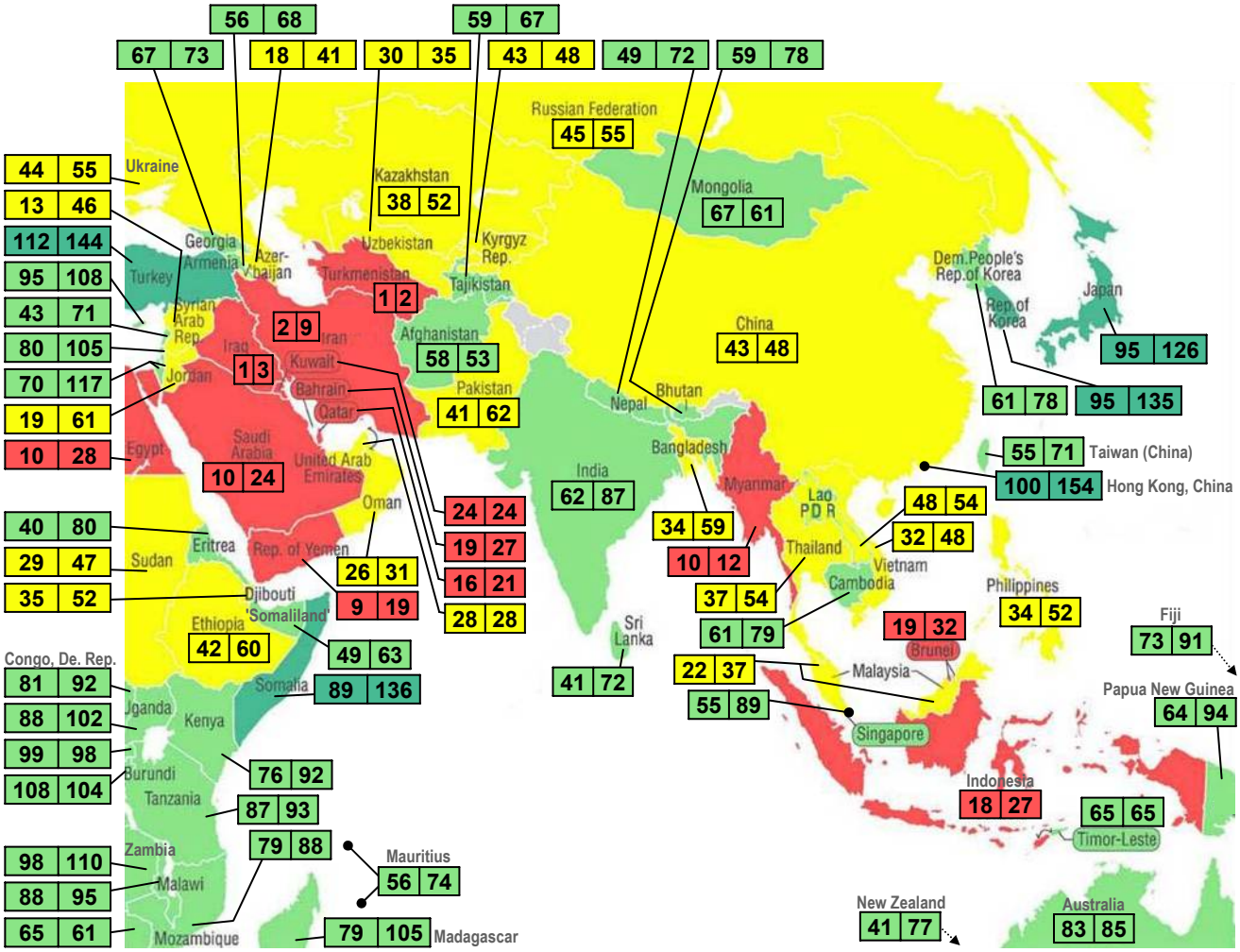
Fuel Prices in Asia incl. Middle East

- Geographic Overview of Diesel and Gasoline Prices (Map)
- Asian Ranking of Gasoline Prices (Graph)
- Fuel Price Trend in Asia (Table)
- Fuel Price Trend in Asian Countries (Graphs)



5.1 Retail Fuel Prices in Asia incl. Middle East
as of November 2004 in US Cents per Litre



Reading Examle: US Cents per Litre

Diesel Retail Price → 62 87

Super Gasoline Retail Price →

- Very High Fuel Subsidies
- Fuel Subsidies
- Fuel Taxation
- Very High Fuel Taxation

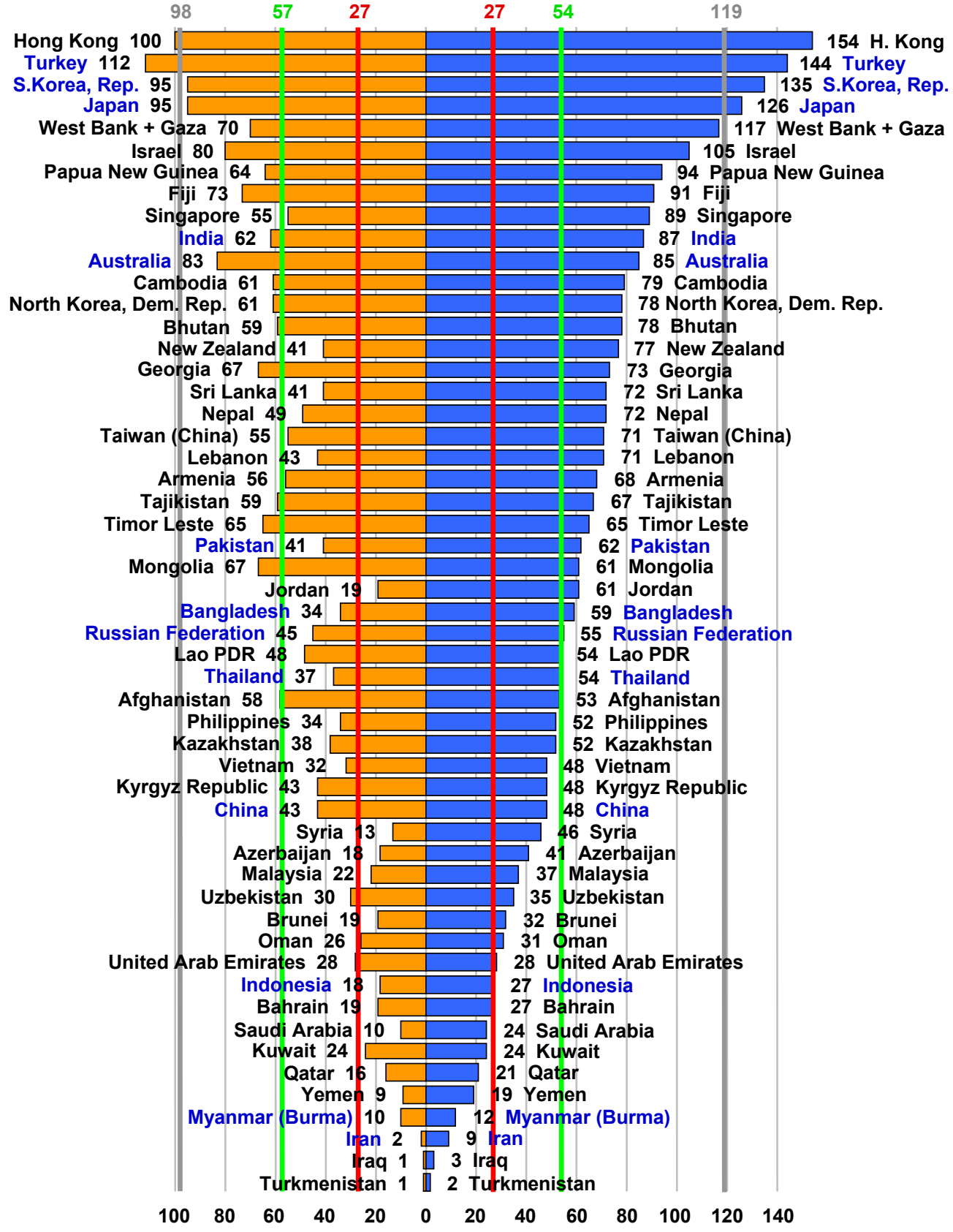
Fuel Taxation Category 1: Very high Fuel Subsidies
The retail price of fuel (average of Diesel and Super Gasoline) is below the price for crude oil on world market.

Fuel Taxation Category 2: Fuel Subsidies
The retail price of fuel is above the price for crude oil on world market and below the price level of the United States.
Note: The fuel prices of the United States are aver. cost-covering retail prices incl. industry margin, VAT and incl. approx. 10 US cents for the 2 road funds (federal and state). This fuel price being without other specific fuel taxes may be considered as the international minimum benchmark for a non-subsidised road transport policy.

Fuel Taxation Category 3: Fuel Taxation
The retail price of fuel is above the price level of the United States and below the price level of Luxembourg.
Note: The fuel prices of Luxembourg are the approx. minimum entrance level for new EU accession countries.

Fuel Taxation Category 4: Very high Fuel Taxation
The retail price of fuel is above the price level of Luxembourg.

5.2 Comparison of Fuel Prices in Asia incl. Middle East
as of November 2004 in US Cents per Litre



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Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

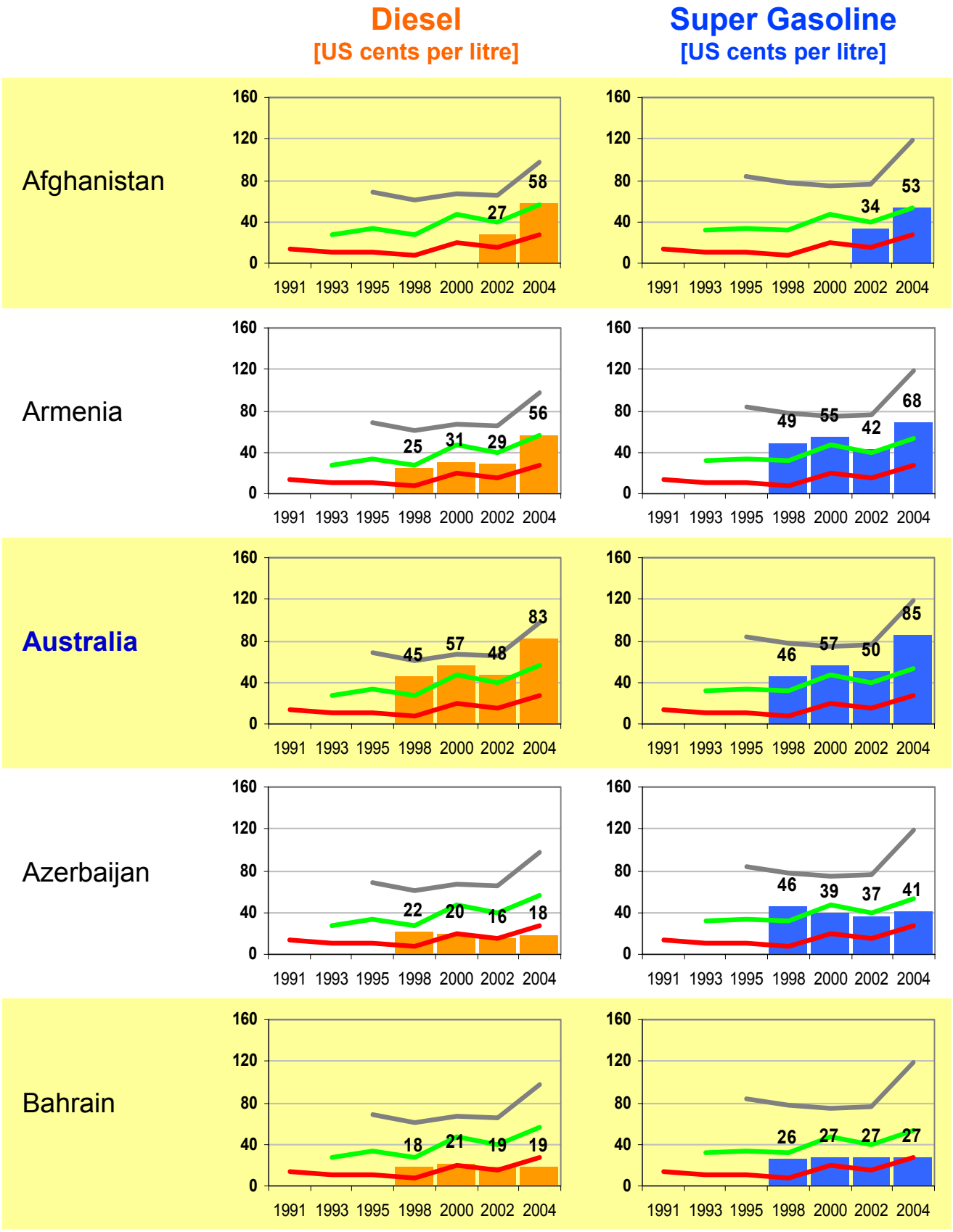
5.3 Time Series of Fuel Prices in Asia incl. Middle East

in US Cent per litre (last survey 17-20 Nov 2004)

	Diesel							Super Gasoline						
Country	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**
Afghanistan						27	58						34	53 **
Armenia				25	31	29	56				49	55	42	68
Australia				45	57	48	83				46	57	50	85
Azerbaijan				22	20	16	18				46	39	37	41
Bahrain				18	21	19	19				26	27	27	27
Bangladesh			31	26	29	29	34			36	47	46	52	59 **
Bhutan				26	38		59				59	58		78 *
Brunei				18	18	18	19				34	31	30	32 ***
Cambodia				28	44	44	61				47	61	63	79
China			24	25	45	37	43			27	28	40	42	48
China, Hong Kong	57		74	85	80	77	100	82		119	136	146	147	154
China, Macao				51	50						74	73		
Fiji				37			73				50			91 **
Georgia				25		41	67				46		48	73
India	23		19	21	39	41	62	56		48	56	60	66	87
Indonesia	13		20	7	6	19	18	24		44	16	17	27	27
Iran, Islamic Rep.				1	2	2	2				8	5	7	9 *
Iraq				1	3	1	1				1	3	2	3
Israel			31	31	64	62	80			73	86	114	90	105
Japan			75	69	76	66	95			125	102	106	91	126 ***
Jordan			15	15	15	17	19			40	42	45	52	61
Kazakhstan				24	29	29	38			30	30	36	35	52
Korea, Dem. Rep. (North)				41	35	41	61				73	55	55	78
Korea, Rep. (South)	25		33	41	66	64	95	54		79	93	92	109	135 *
Kuwait				13	18	18	24				17	21	20	24
Kyrgyz Republic				27	33	25	43				47	44	39	48
Lao PDR				24	32	30	48				31	41	36	54 *
Lebanon				22	31	25	43				35	53	65	71
Malaysia	22		26	17	16	19	22	40		42	28	28	35	37 ***
Mongolia				22	38	37	67				23	38	38	61
Myanmar (Burma)				12	12	28	10				13	33	36	12 *
Nepal	31		22	24	37	34	49	65		52	59	63	66	72 *
New Zealand			32	39	34	33	41			61	64	48	55	77
Oman				26	29	26	26				31	31	31	31
Pakistan			20	19	27	35	41			47	46	53	52	62
Papua New Guinea				28	34		64				41	53		94 *
Philippines	25		27	22	28	27	34	40		34	34	37	35	52
Qatar				15			16				16			21
Russian Federation			28	18	29	25	45			35	28	33	35	55
Saudi Arabia			9	10	10	10	10			16	16	24	24	24
Singapore	28		33	36	38	38	55	61		85	72	84	85	89
Sri Lanka	27		23	30	27	31	41	75		75	84	66	54	72
Syrian Arab Republic				14	13	18	13				45	44	53	46 *
Taiwan (China)	48		38	41	50	41	55	69		59	57	61	51	71
Tajikistan				13	55	24	59				26	45	36	67
Thailand	26		30	27	35	32	37	36		34	30	39	36	54
Timor Leste							65							65 *
Turkey			37	47	66	78	112			56	78	88	102	144
Turkmenistan				5	2	1	1				9	2	2	2
United Arab Emirates				15	26	30	28				23	25	29	28
Uzbekistan			31	9	9	26	30			32	11	14	38	35
Vietnam			25	26	27	27	32			34	35	38	34	48 *
West Bank and Gaza				31	61	52	70				86	108	99	117
Yemen, Rep.				7	6	10	9				26	21	21	19

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Afghanistan to Bahrain)



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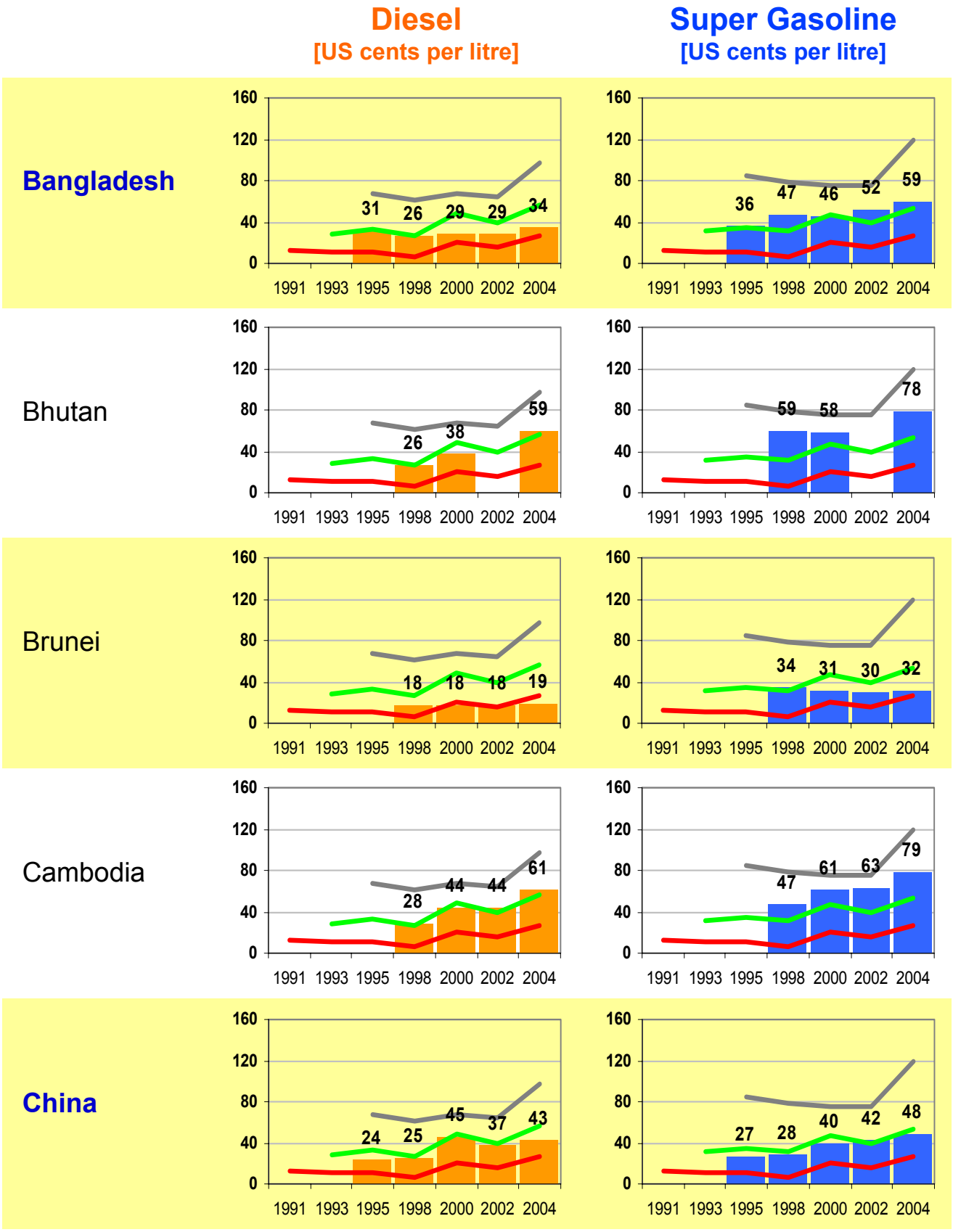
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Bangladesh to China)



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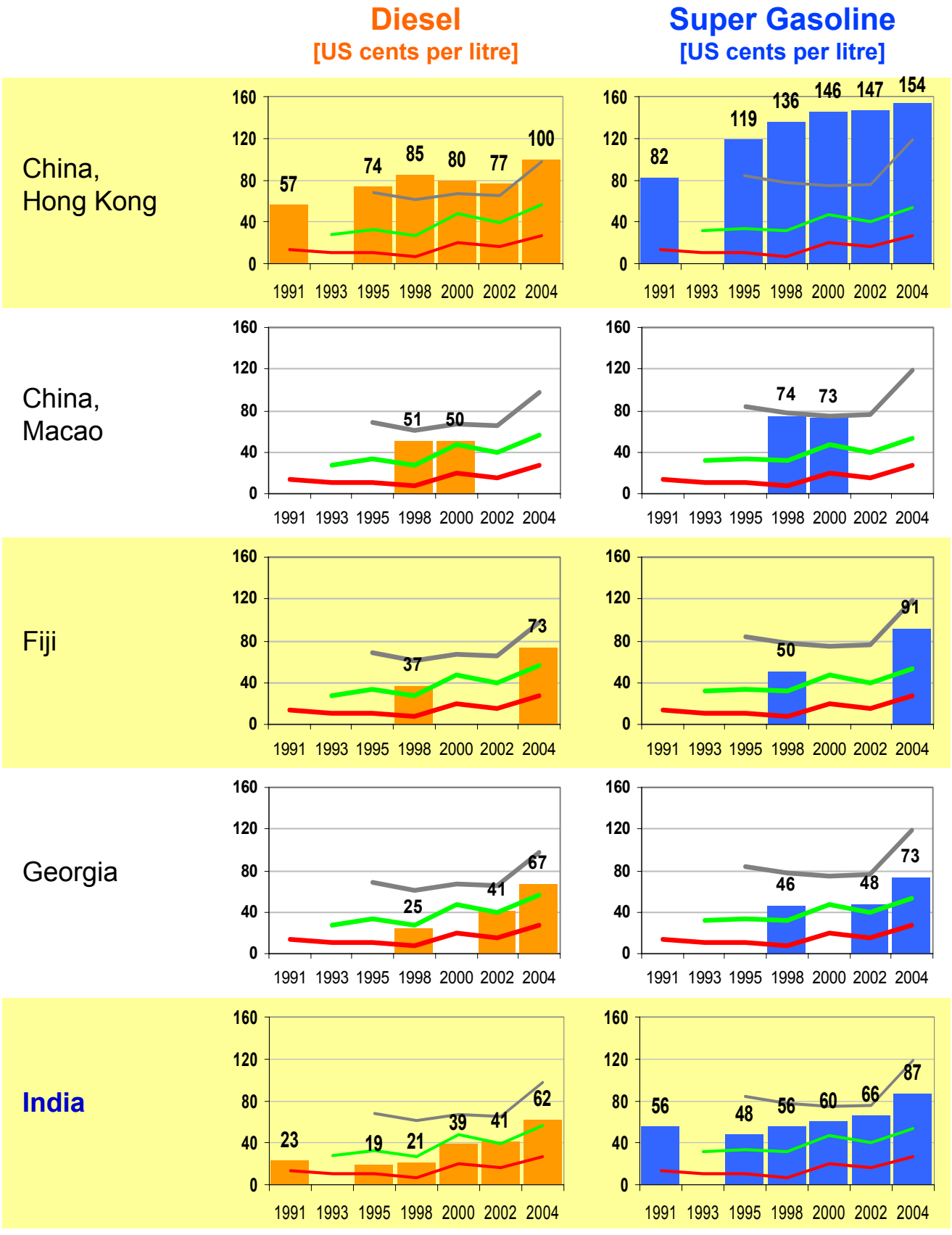
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from China to India)



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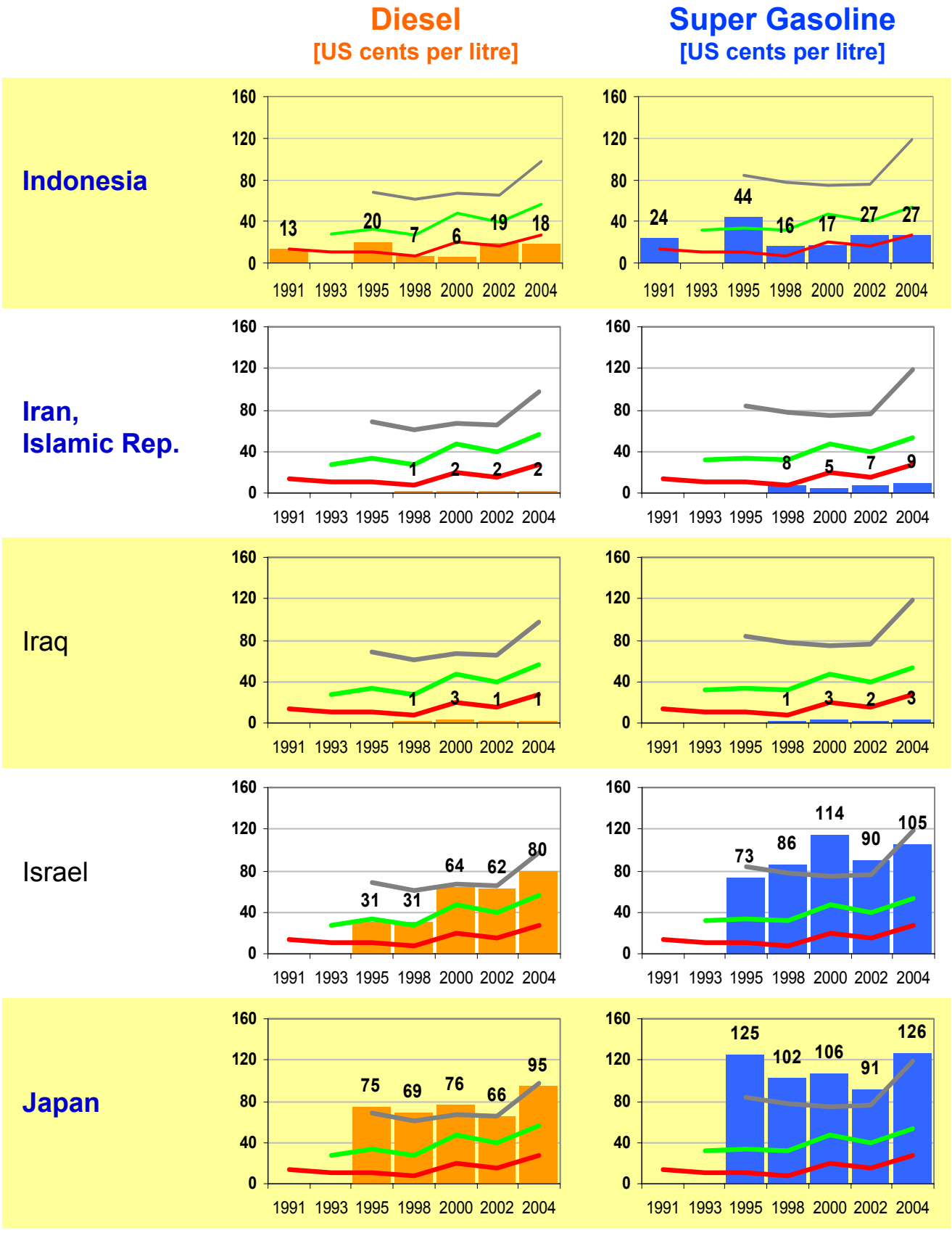
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Indonesia to Japan)



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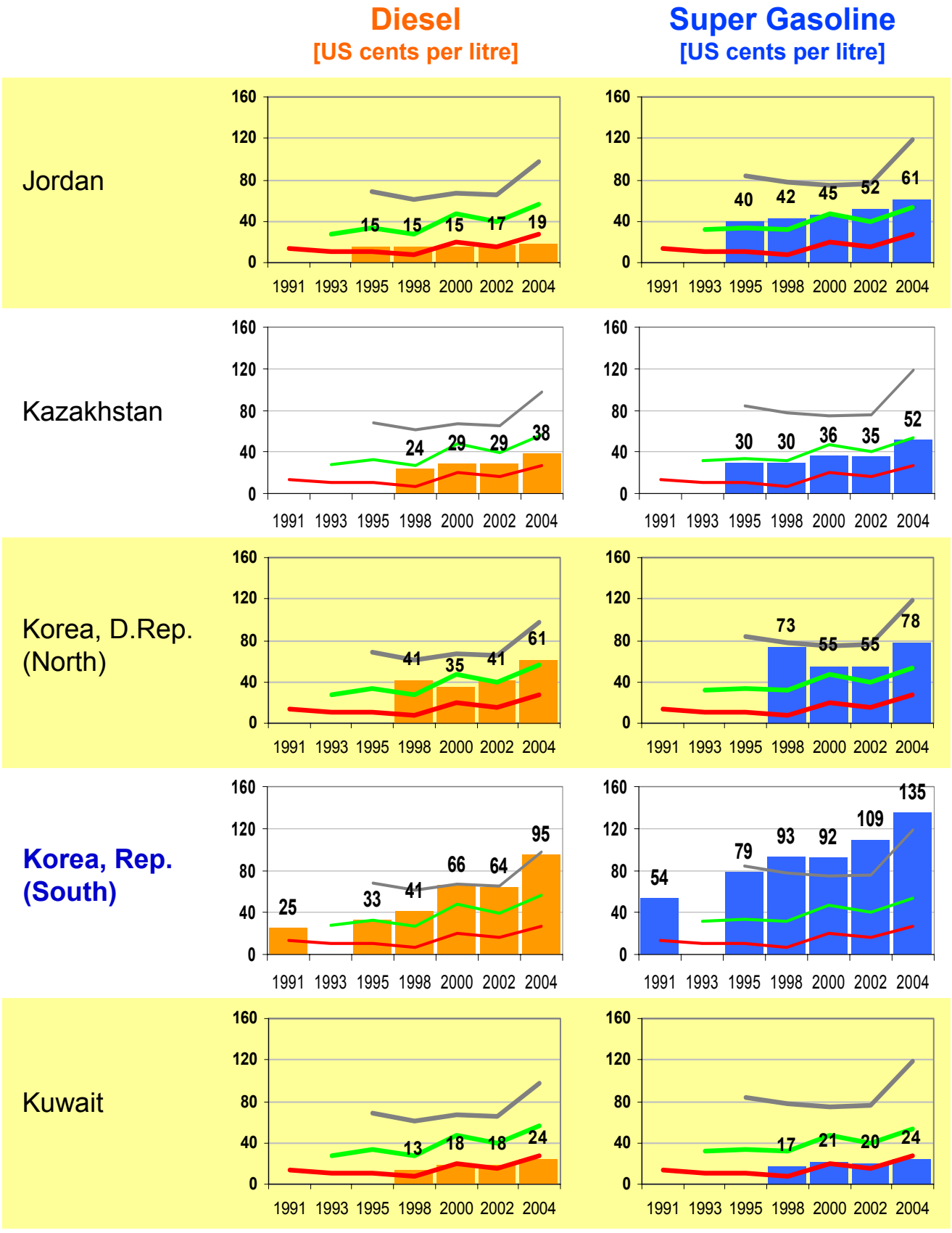
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Jordan to Kuwait)



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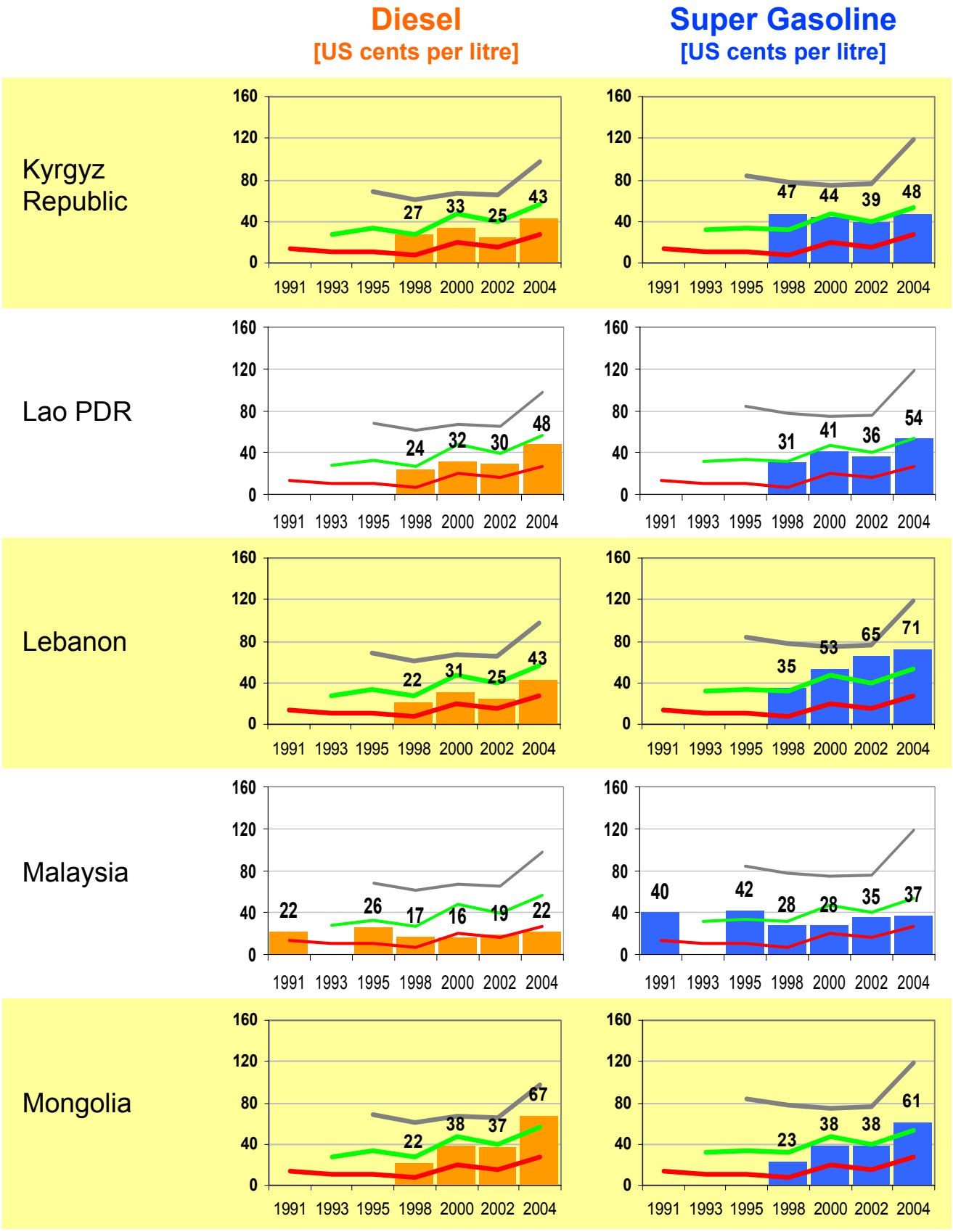
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Kyrgyz Republic to Mongolia)



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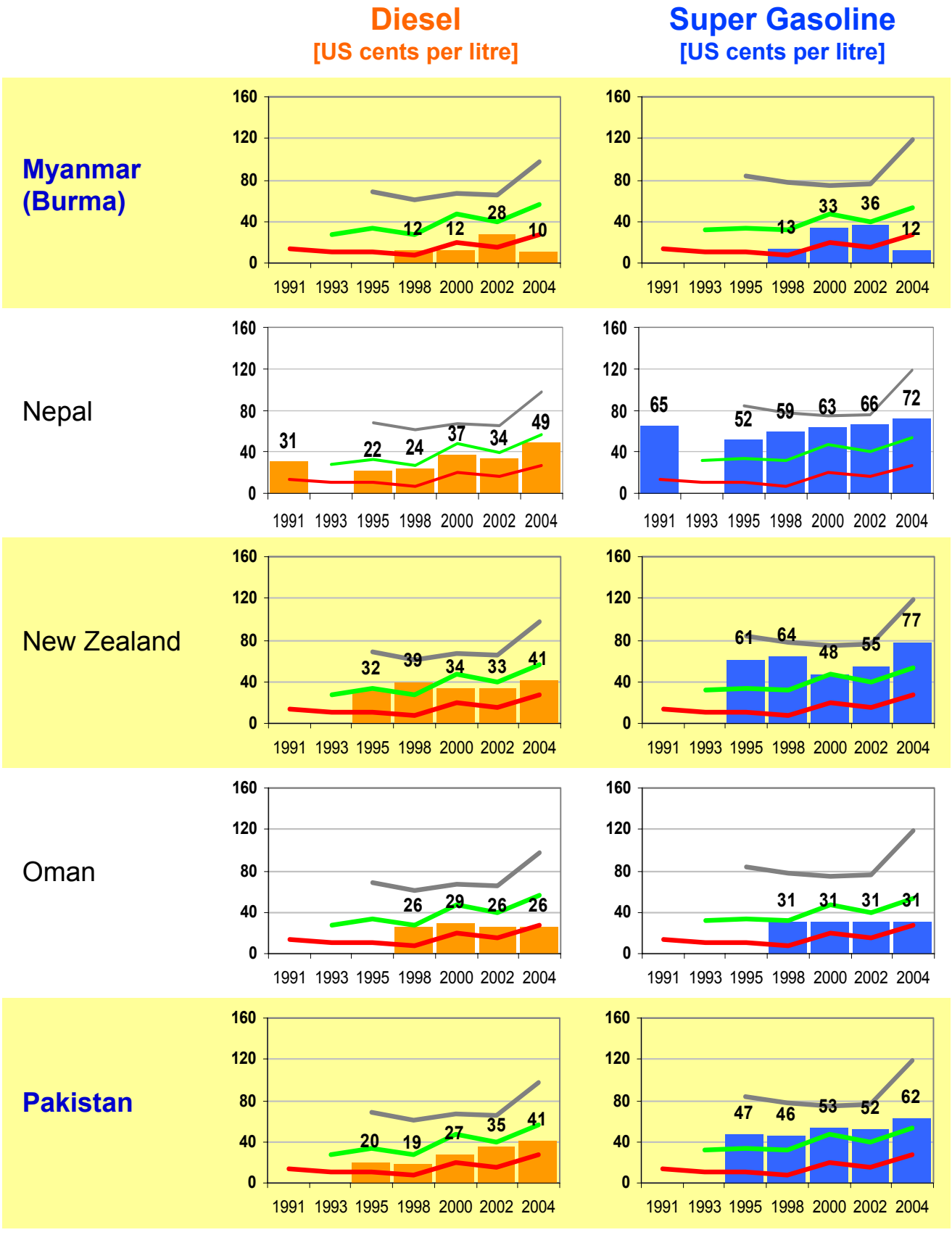
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Myanmar to Pakistan)



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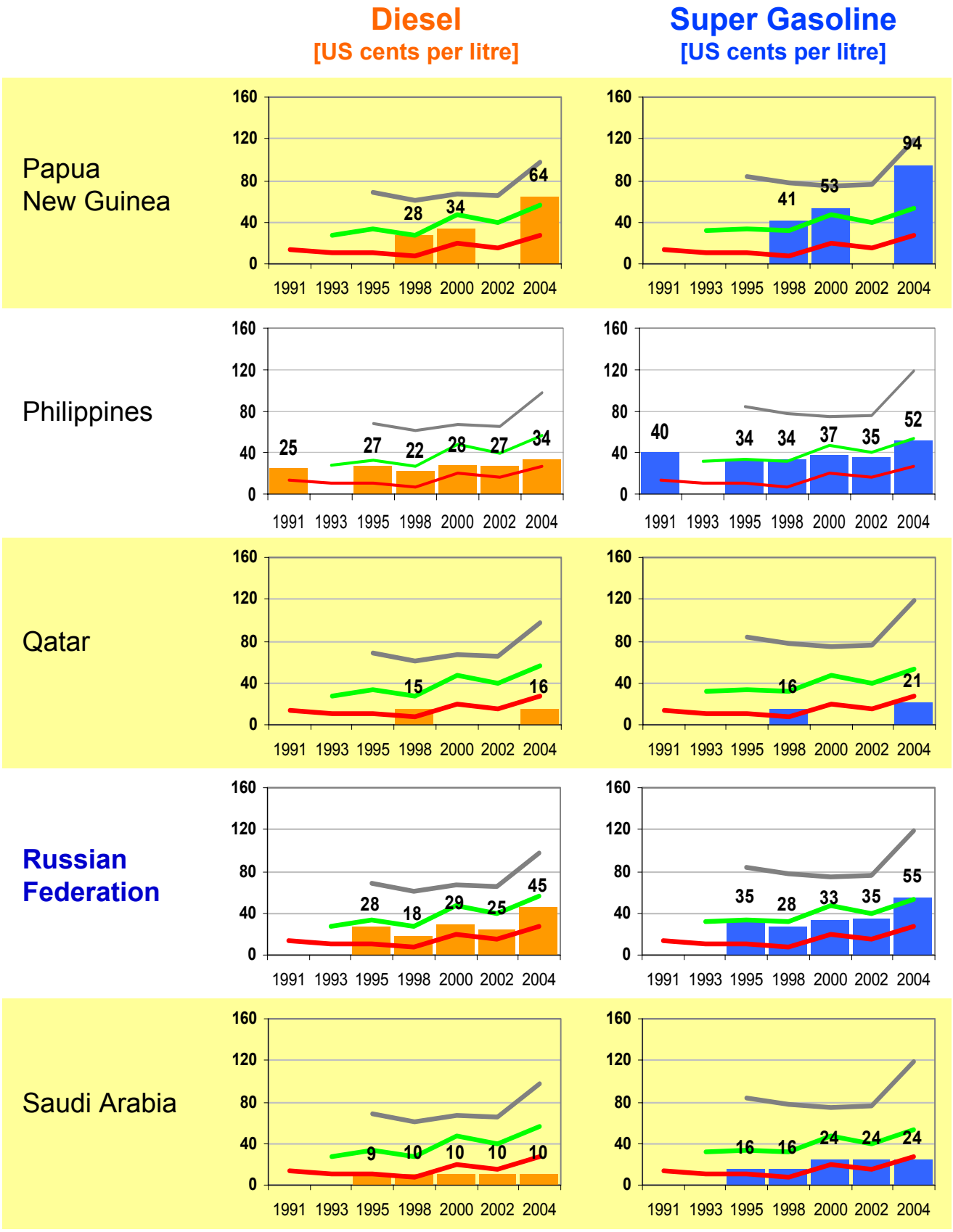
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Papua New Guinea to Saudi Arabia)



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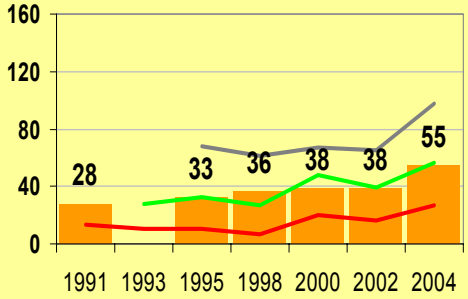
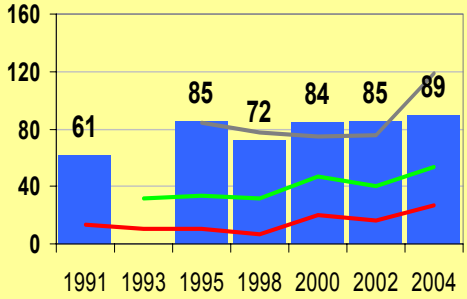
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Singapore to Tajikistan)

Diesel
[US cents per litre]

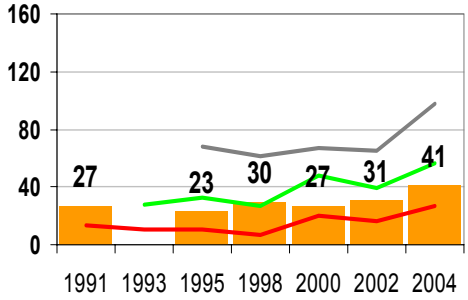
Super Gasoline
[US cents per litre]

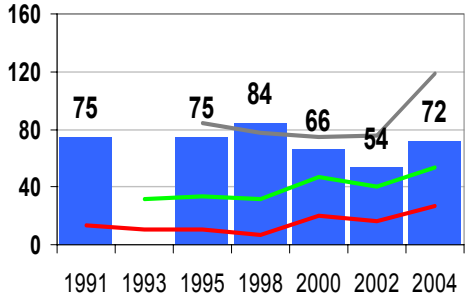
Singapore



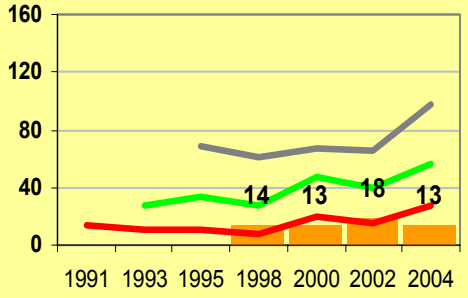


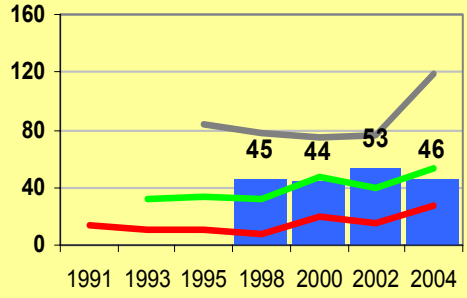
Sri Lanka



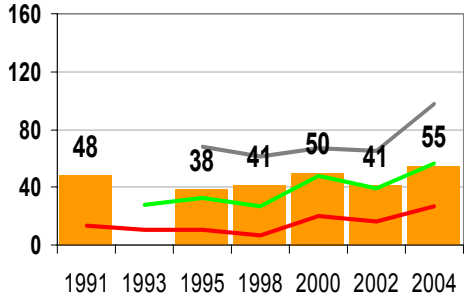


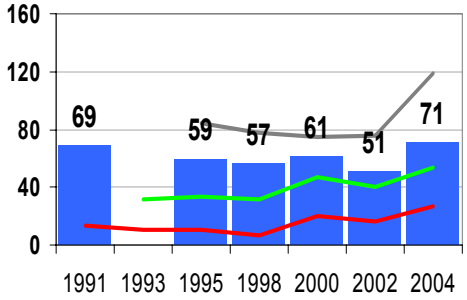
Syrian Arab Republic



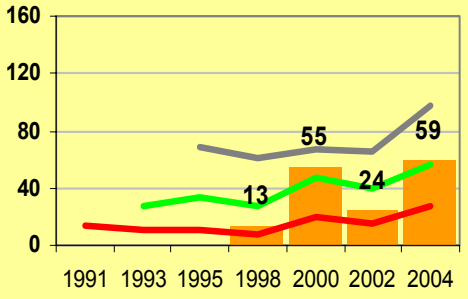


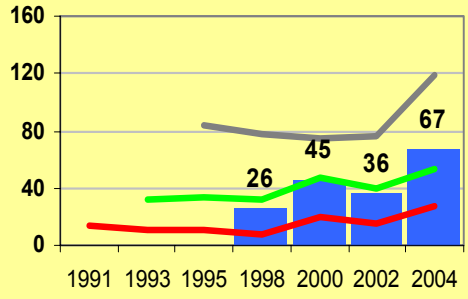
Taiwan (China)





Tajikistan





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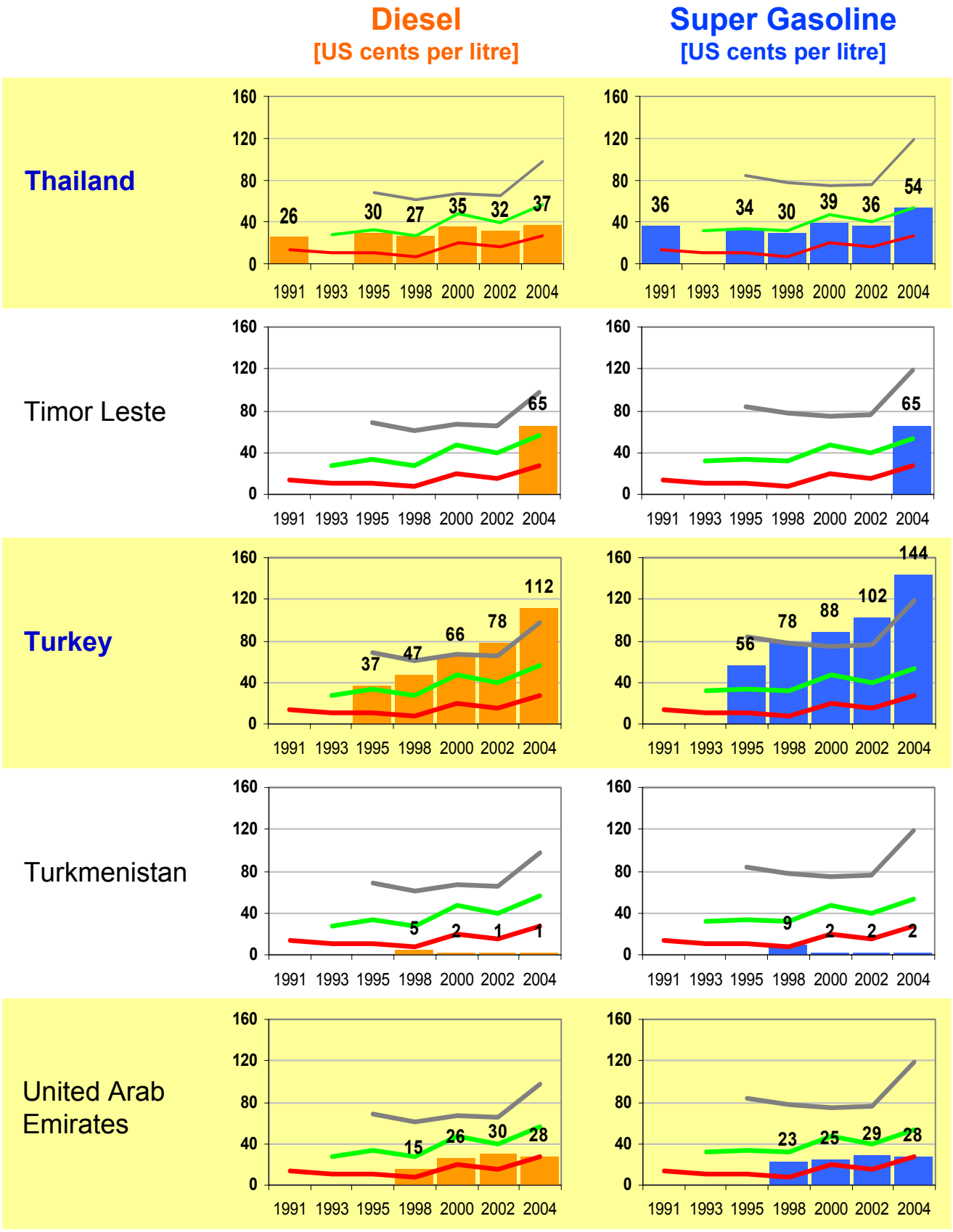
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Thailand to United Arab Emirates)



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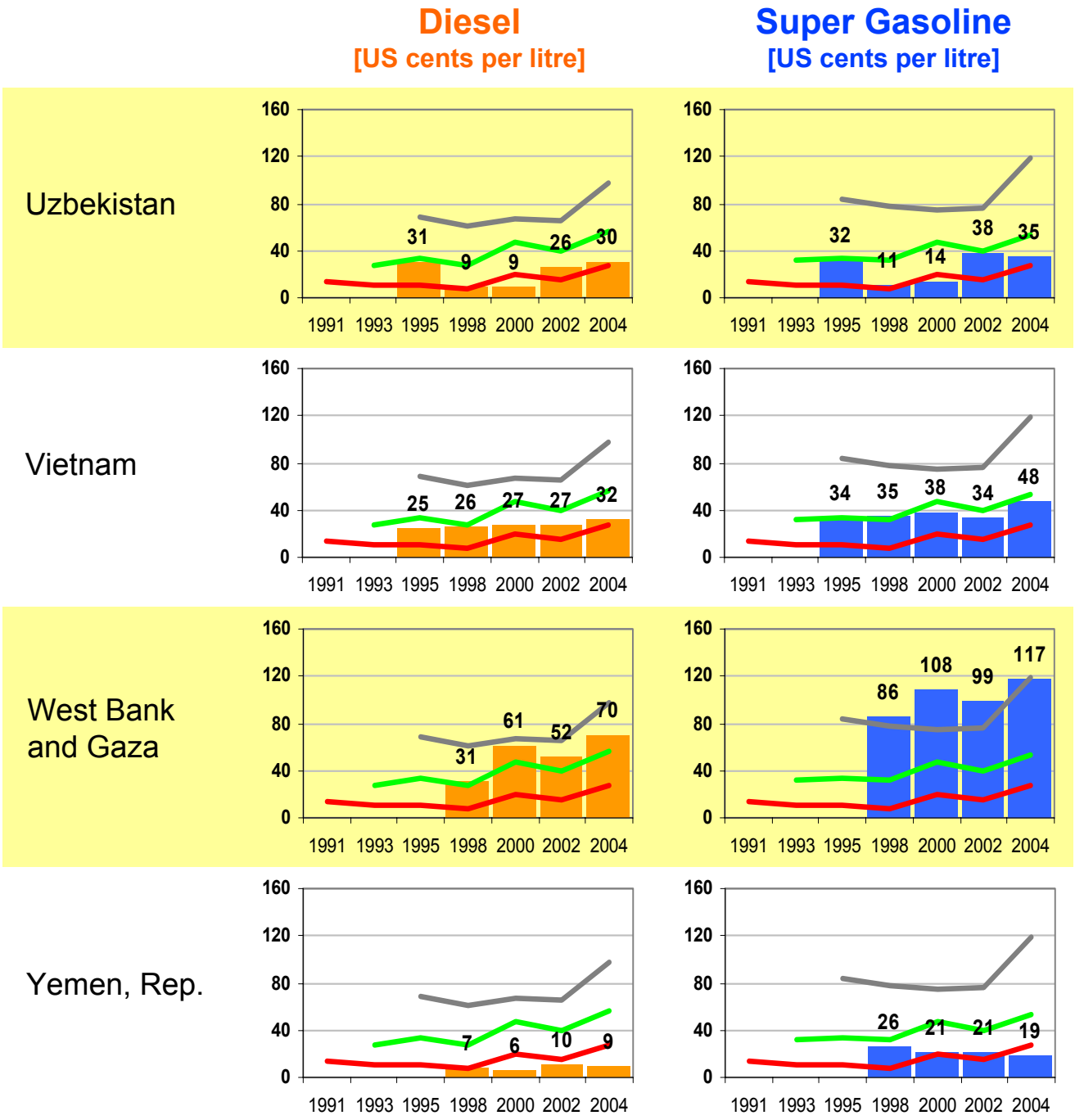
5.4 Time Series of Fuel Prices in Asia incl. Middle East
1991 – 2004 (from Uzbekistan to Yemen)



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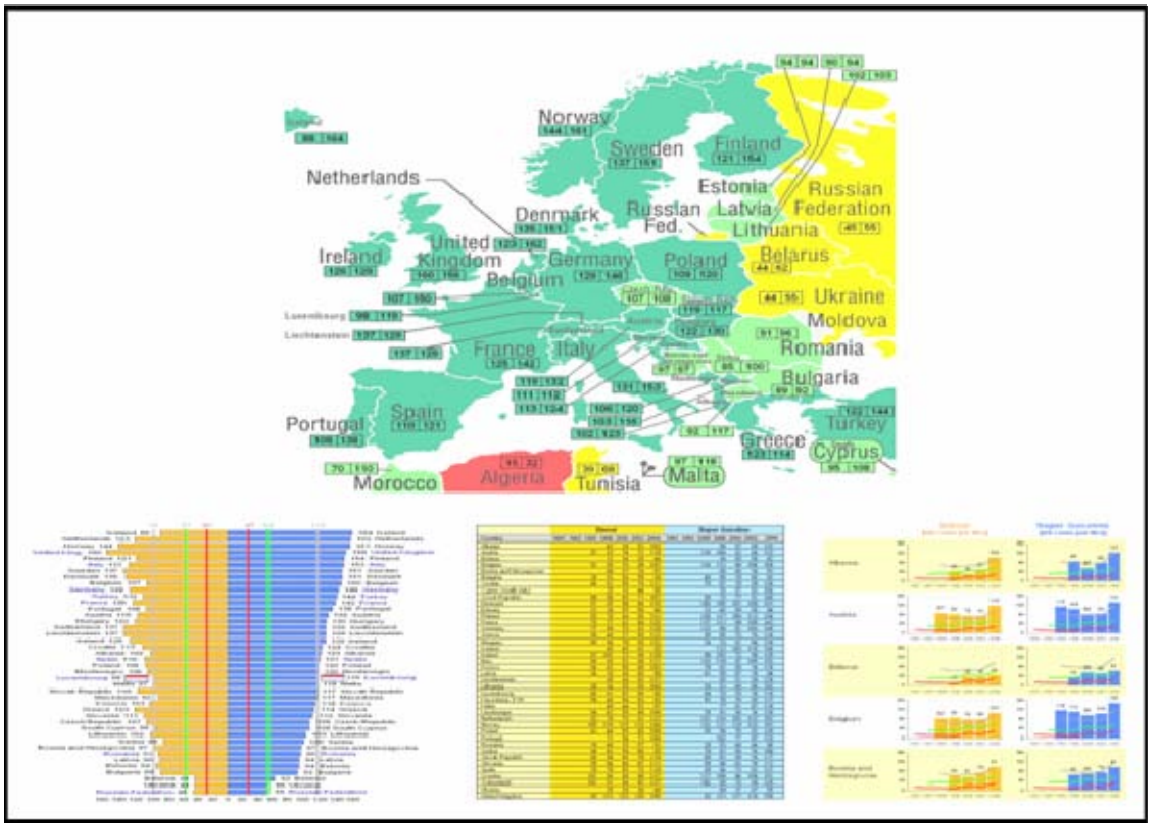
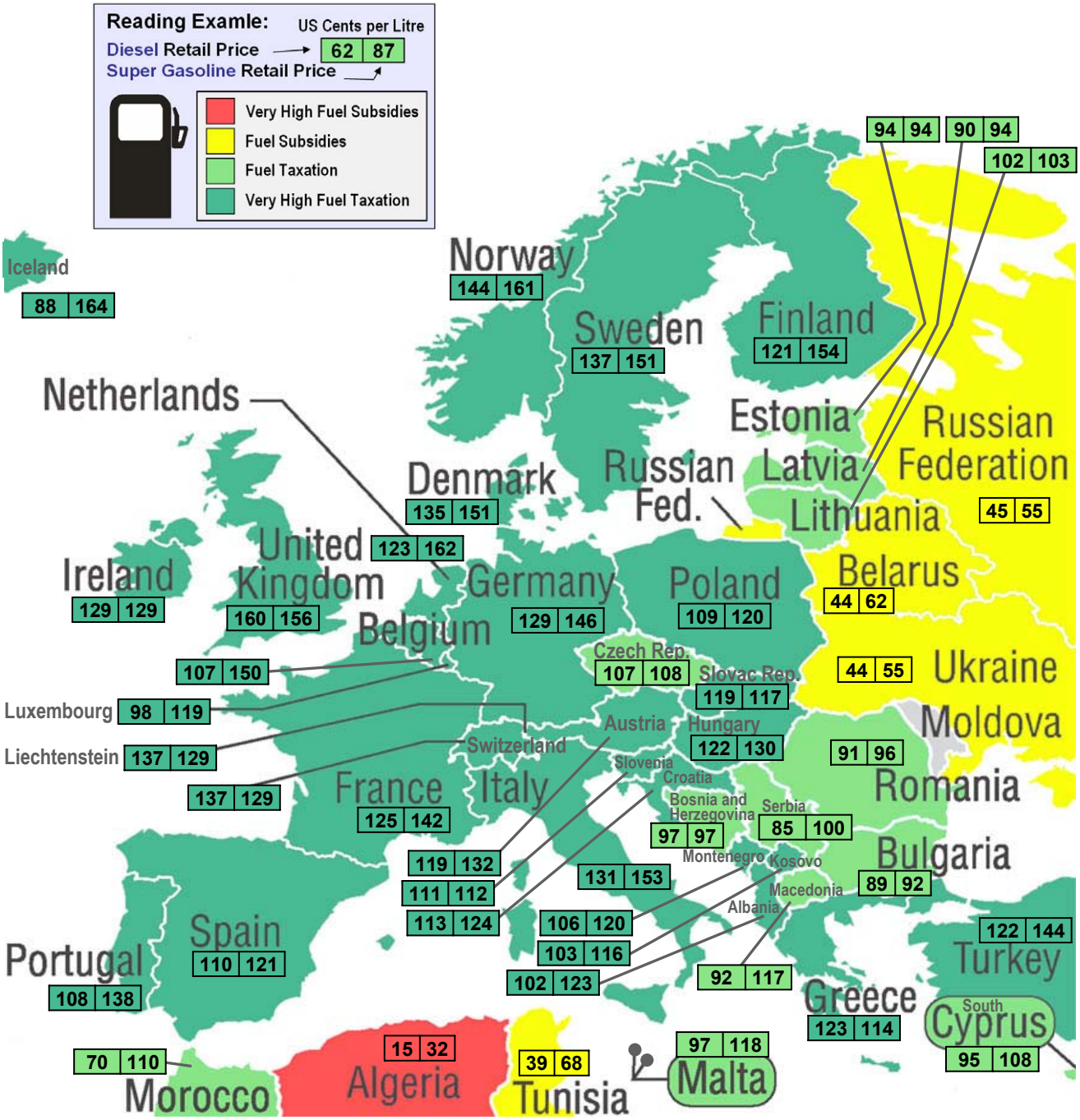
Fuel Prices in Europe

- Geographic Overview of Diesel and Gasoline Prices (Map)
- European Ranking of Gasoline Prices (Graph)
- Fuel Price Trend in Europe (Table)
- Fuel Price Trend in European Countries (Graphs)



6.1 Retail Fuel Prices in Europe
as of November 2004 in US Cents per Litre



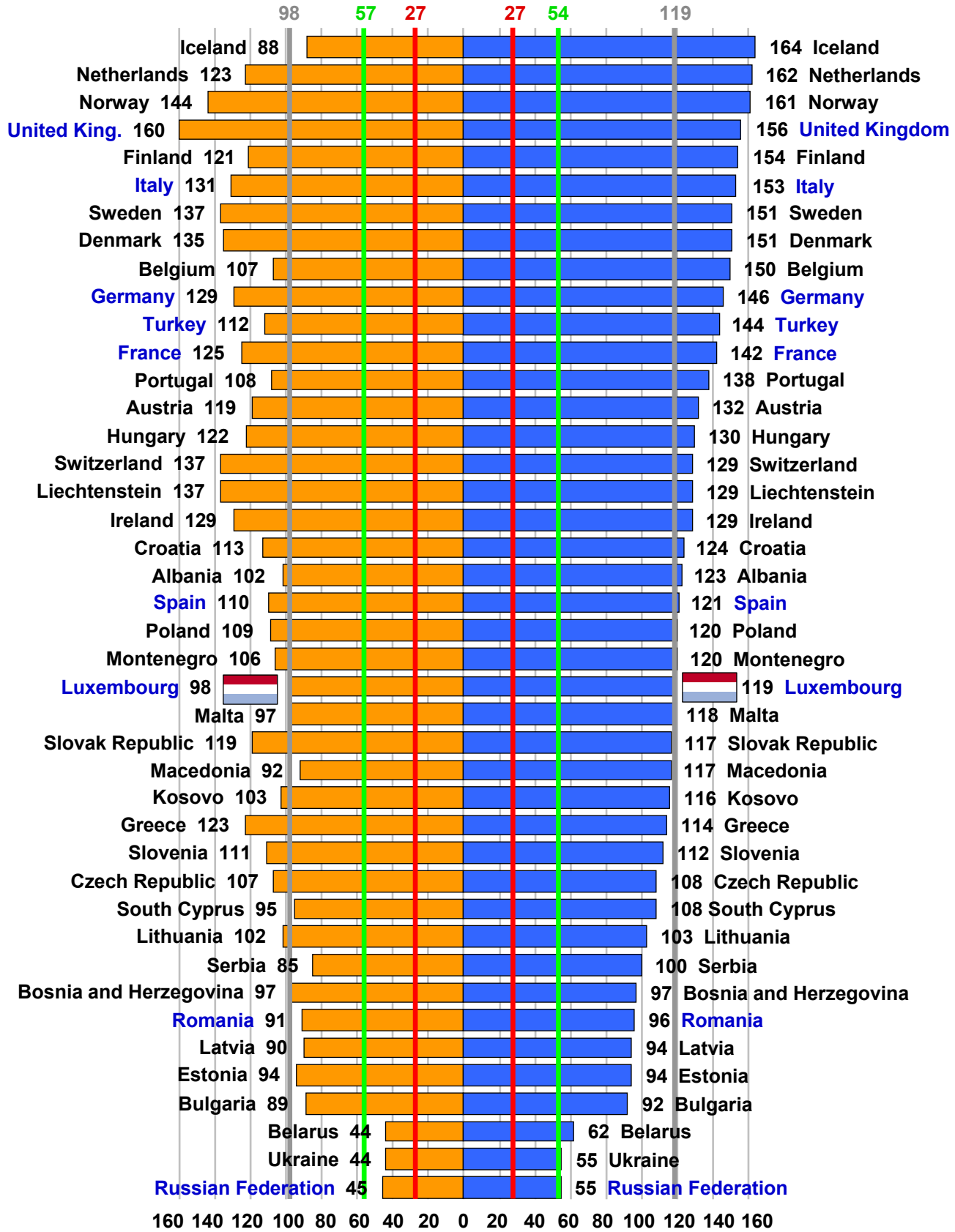
Fuel Taxation Category 1: Very high Fuel Subsidies
The retail price of fuel (average of Diesel and Super Gasoline) is below the price for crude oil on world market.

Fuel Taxation Category 2: Fuel Subsidies
The retail price of fuel is above the price for crude oil on world market and below the price level of the United States.
Note: The fuel prices of the United States are aver. cost-covering retail prices incl. industry margin, VAT and incl. approx. 10 US cents for the 2 road funds (federal and state). This fuel price being without other specific fuel taxes may be considered as the international minimum benchmark for a non-subsidised road transport policy.

Fuel Taxation Category 3: Fuel Taxation
The retail price of fuel is above the price level of the United States and below the price level of Luxembourg.
Note: The fuel prices of Luxembourg are the approx. minimum entrance level for new EU accession countries.

Fuel Taxation Category 4: Very high Fuel Taxation
The retail price of fuel is above the price level of Luxembourg.

6.2 Comparison of Retail Fuel Prices in Europe
as of November 2004 in US Cents per Litre



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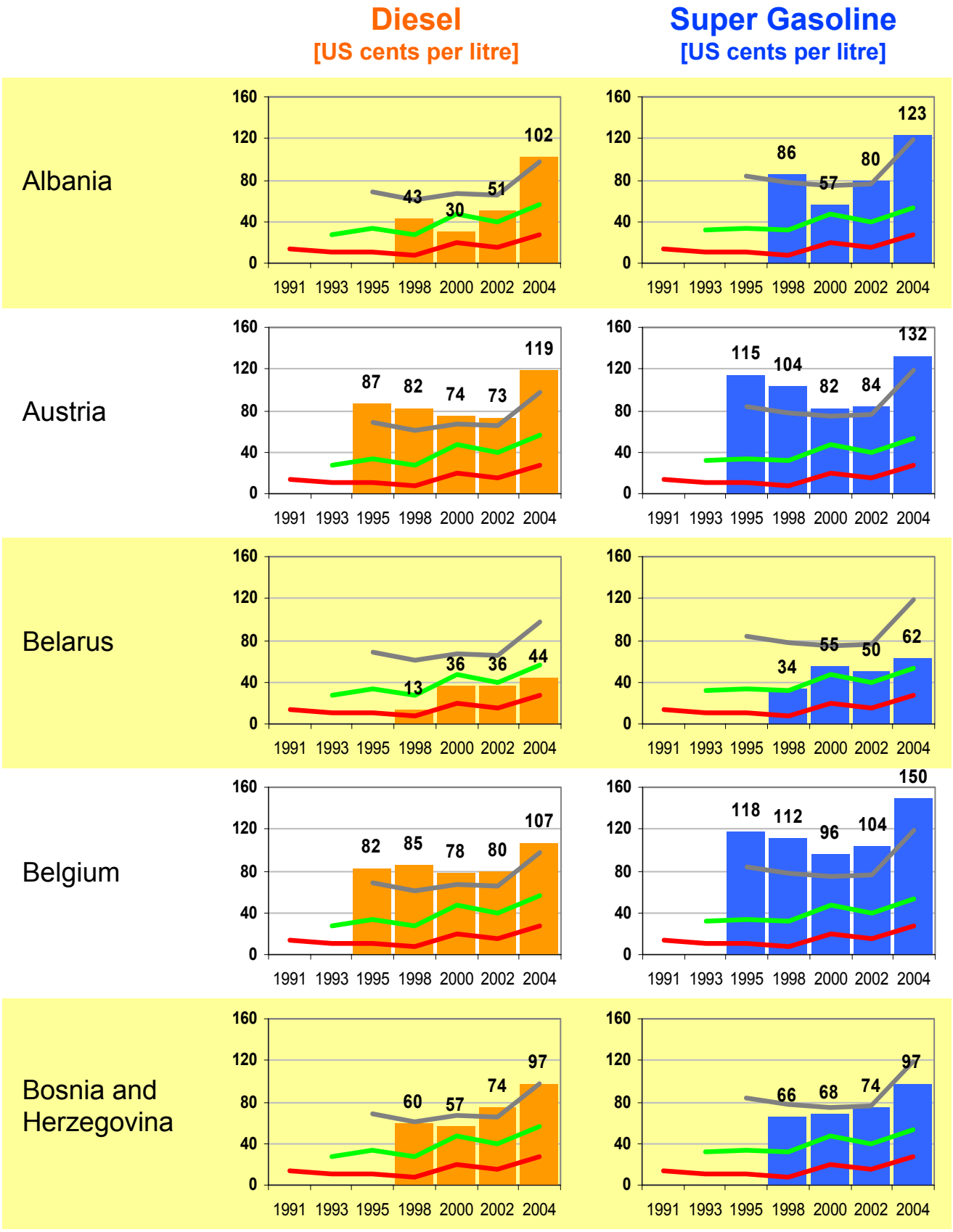
6.3 Time Series of Retail Fuel Prices in Europe
in US Cent per litre (last survey 17-20 Nov 2004)

	Diesel							Super Gasoline						
Country	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**	**1991**	**1993**	**1995**	**1998**	**2000**	**2002**	**2004**
Albania				43	30	51	102				86	57	80	123
Austria			87	82	74	73	119			115	104	82	84	132
Belarus				13	36	36	44				34	55	50	62
Belgium			82	85	78	80	107			118	112	96	104	150
Bosnia and Herzegovina				60	57	74	97				66	68	74	97
Bulgaria			26	52	58	59	89			46	66	70	68	92
Croatia			64	61	60	74	113			75	67	76	89	124
Cyprus (south only)				25	18	44	95				78	57	83	108
Czech Republic			60	60	68	71	107			85	72	77	81	108
Denmark			87	85	90	94	135			108	105	101	109	151
Estonia			33	36	55	56	94			33	45	60	58	94
Finland			85	79	84	80	121			120	117	106	112	154
France			78	77	82	80	125			117	111	99	105	142
Germany			77	69	78	82	129			112	96	91	103	146
Greece			59	40	71	68	123			88	65	72	78	114
Hungary			65	64	79	85	122			74	72	81	94	130
Iceland				40	45	62	88				112	105	116	164
Ireland			87	102	72	80	129			96	102	72	90	129
Italy			86	93	83	86	131			118	119	97	105	153
Kosovo			84	43	56	66	103			76	61	56	74	116
Latvia			34	35	58	65	90			41	55	67	70	94
Liechtenstein				89	84	93	137				85	81	89	129
Lithuania			30	34	55	59	102			35	51	66	69	103
Luxembourg			68	61	67	65	98			84	78	75	76	119
Macedonia, FYR			59	46	56	63	92			93	70	76	85	117
Malta				49	44	53	97				77	81	87	118
Montenegro			84	43	56	66	106			76	61	56	74	120
Netherlands			82	79	78	81	123			121	114	103	112	162
Norway			109	110	115	118	144			133	121	119	123	161
Poland			42	44	65	68	109			55	54	76	83	120
Portugal				71	54	71	108				102	77	97	138
Romania			19	40	35	57	91			29	53	46	64	96
Serbia			84	43	56	66	85			76	61	56	74	100
Slovak Republic			40	54	68	70	119			66	61	69	74	117
Slovenia			50	64	66	67	111			59	66	63	76	112
Spain			70	70	65	72	110			89	84	73	83	121
Sweden			101	84	80	96	137			117	109	94	106	151
Switzerland			101	91	84	93	137			102	86	78	89	129
Ukraine				25	30	34	44				49	37	47	55
United Kingdom			85	111	122	120	160			92	111	117	118	156

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

6.4 Detailed Time Series of Fuel Prices in Europe

1991 – 2004 (from Albania to Bosnia and Herzegovina)



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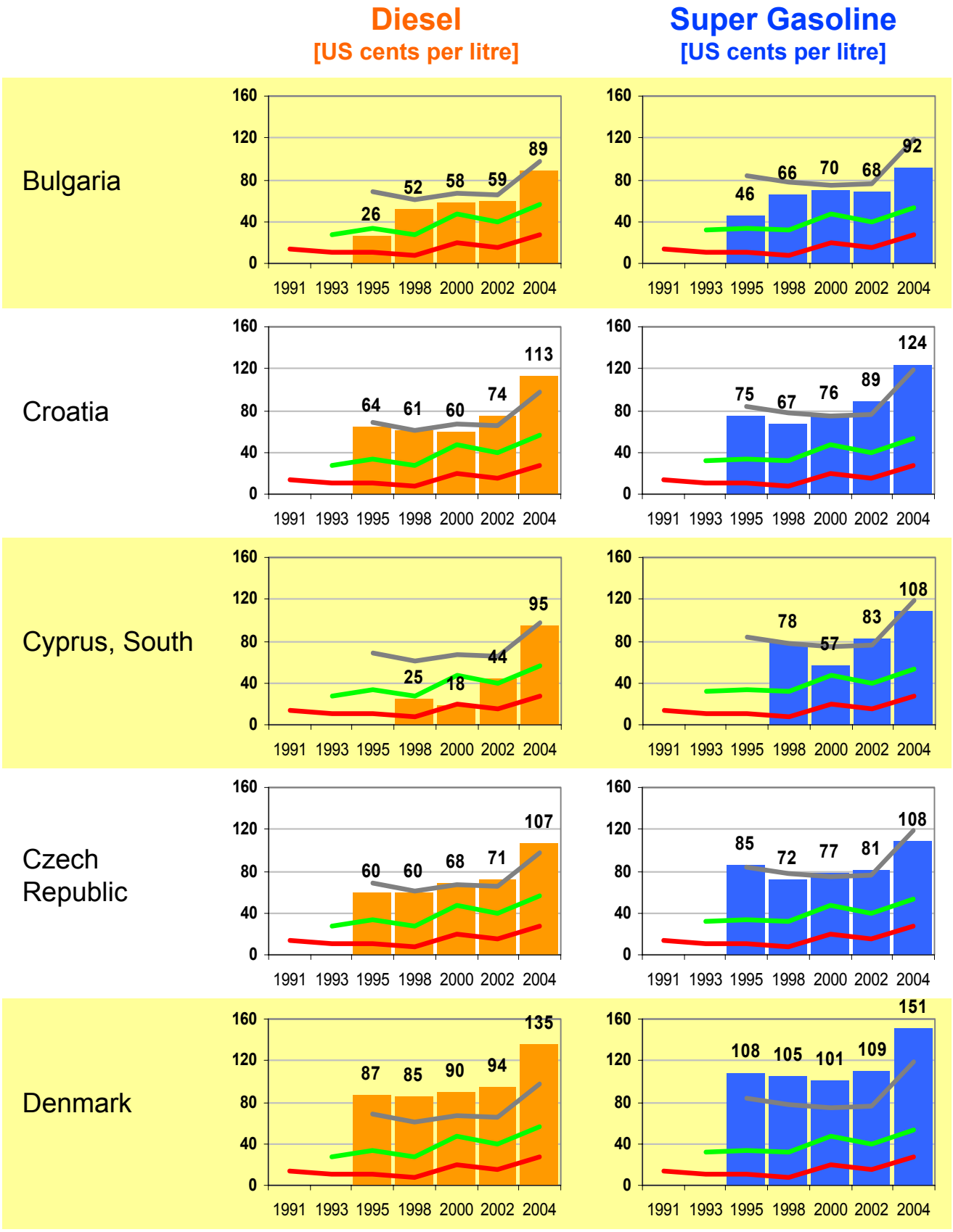
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Bulgaria to Denmark)



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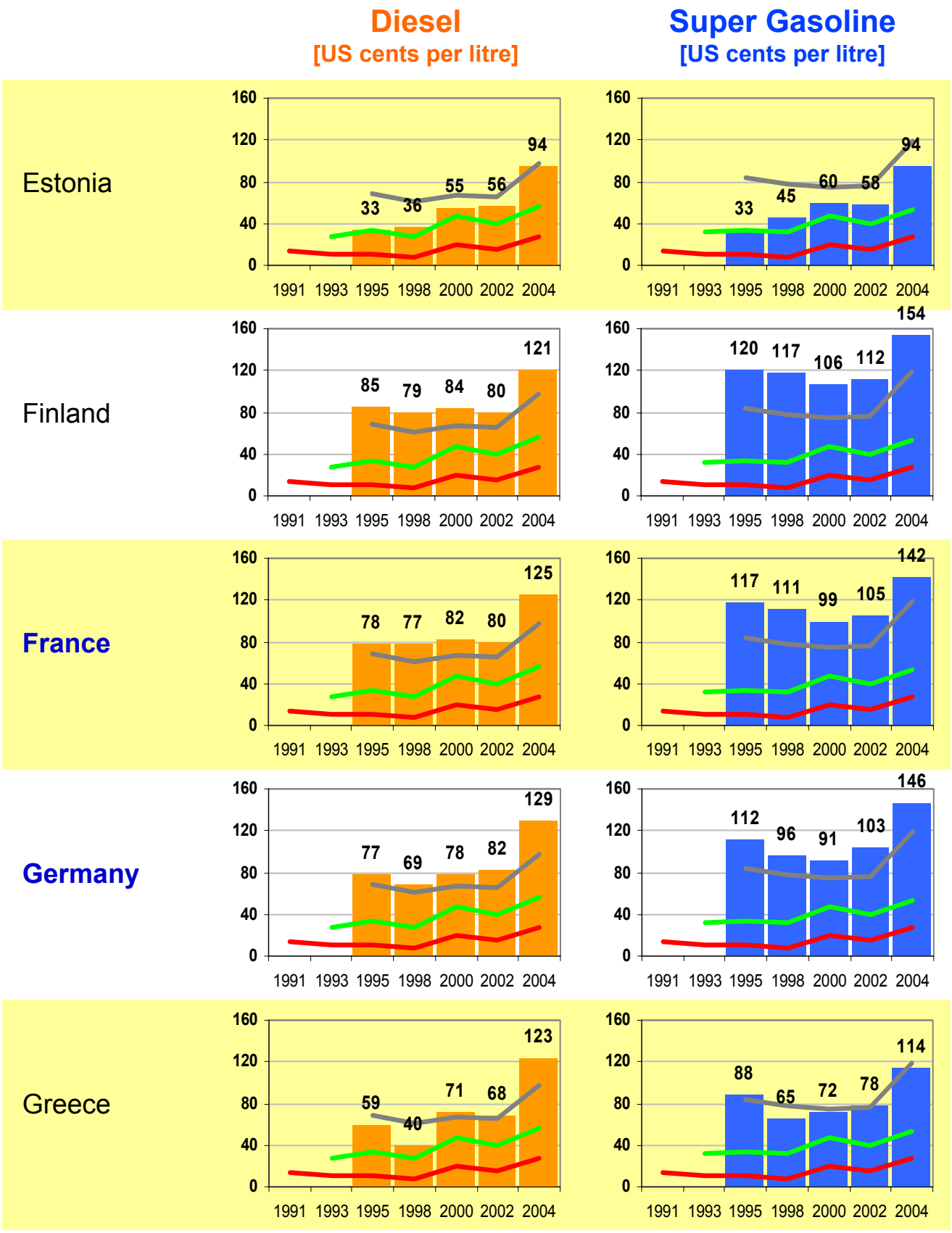
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Estonia to Greece)



Grey Benchmark Line = Retail Fuel Prices of LUXEMBOURG = approx. Minimum Entrance Level for new EU Accession Countries
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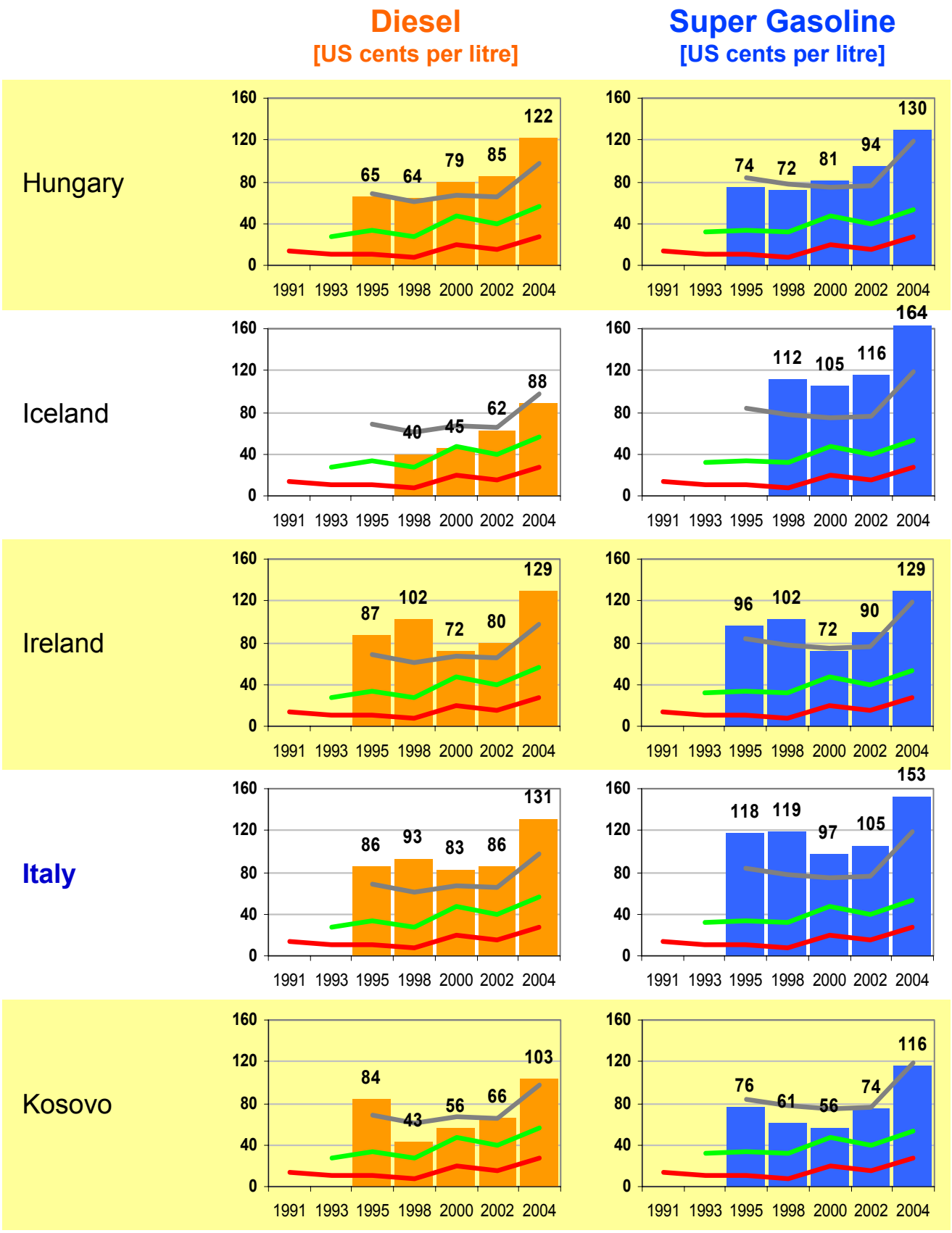
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Hungary to Kosovo)



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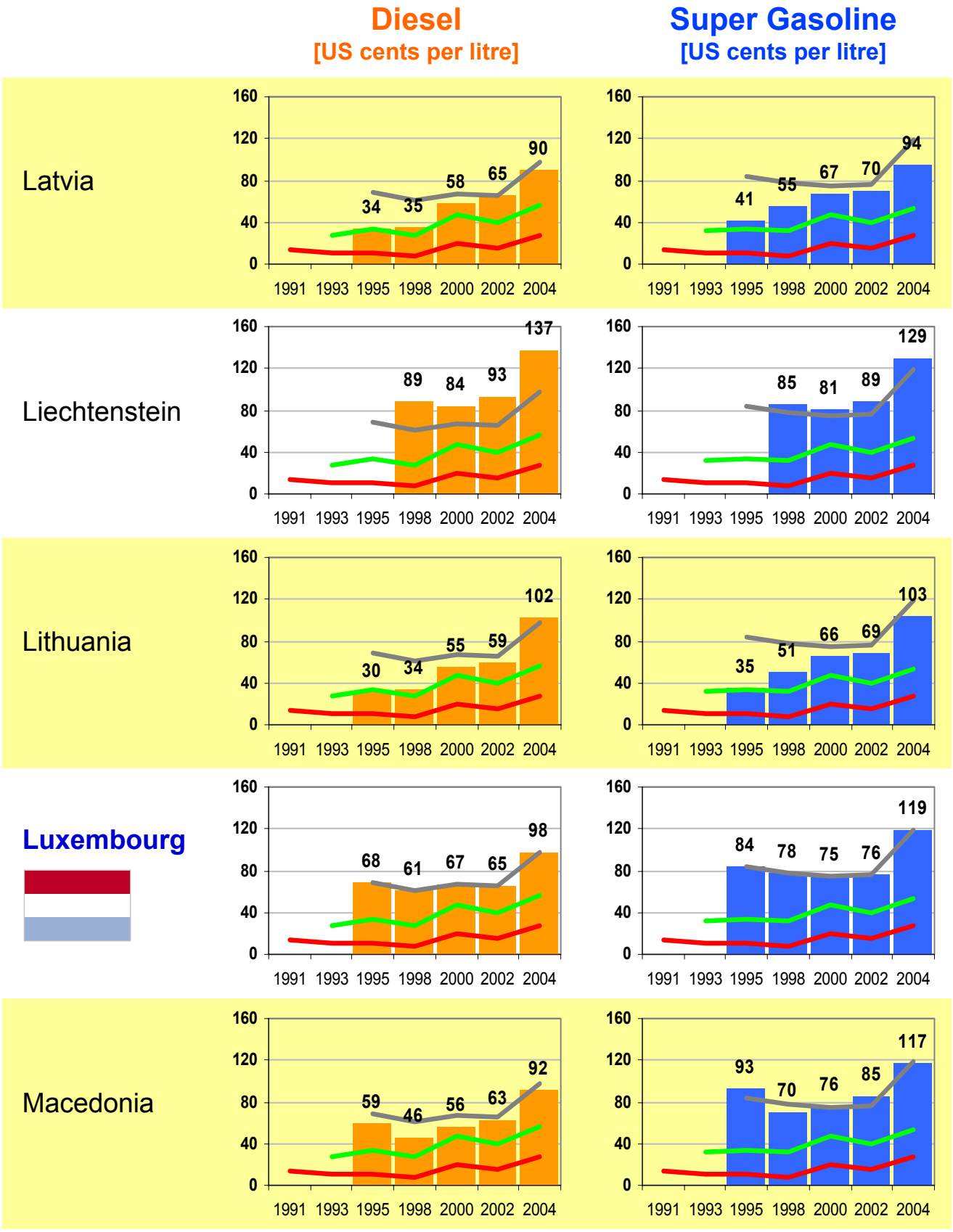
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Latvia to Macedonia)



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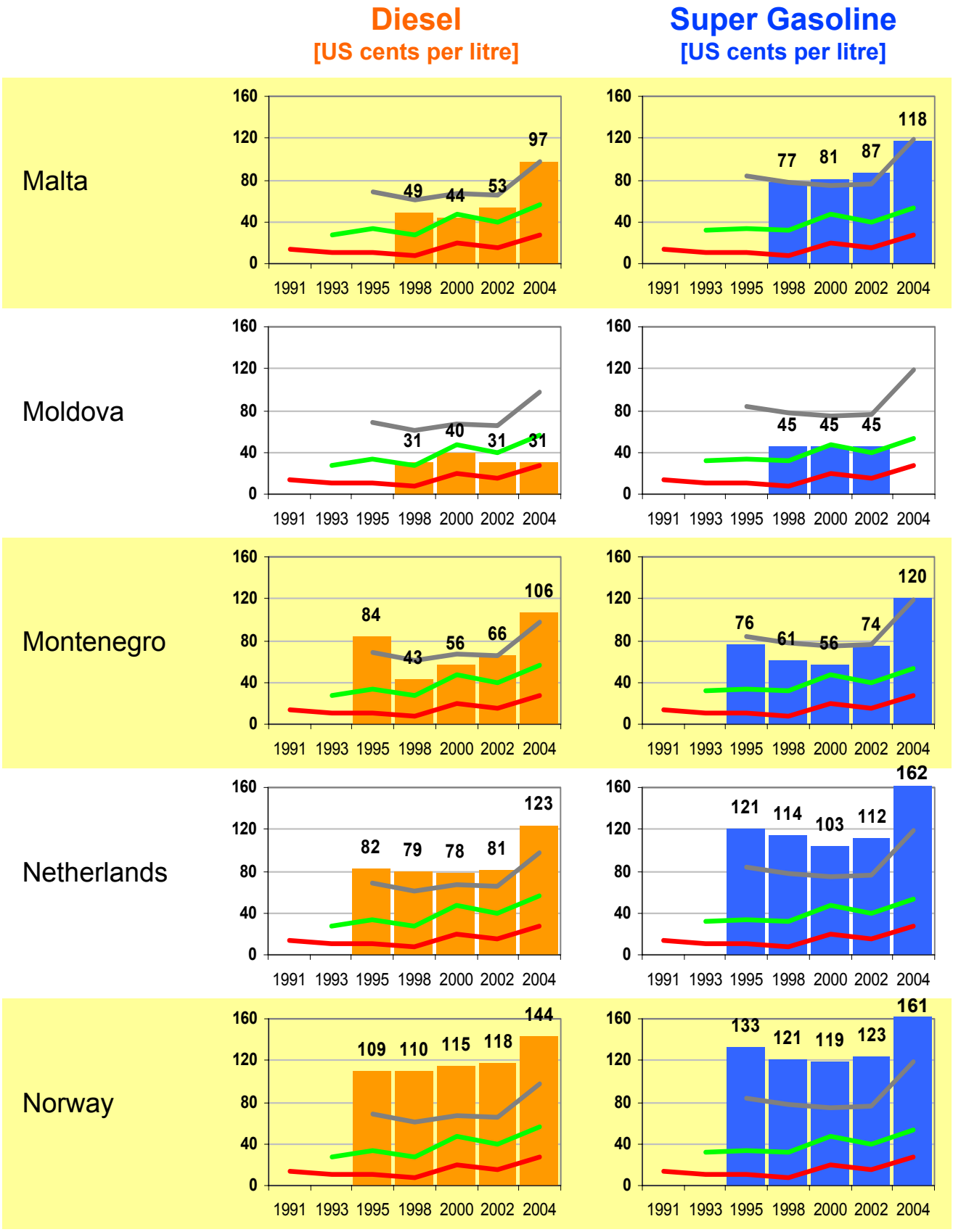
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Malta to Norway)



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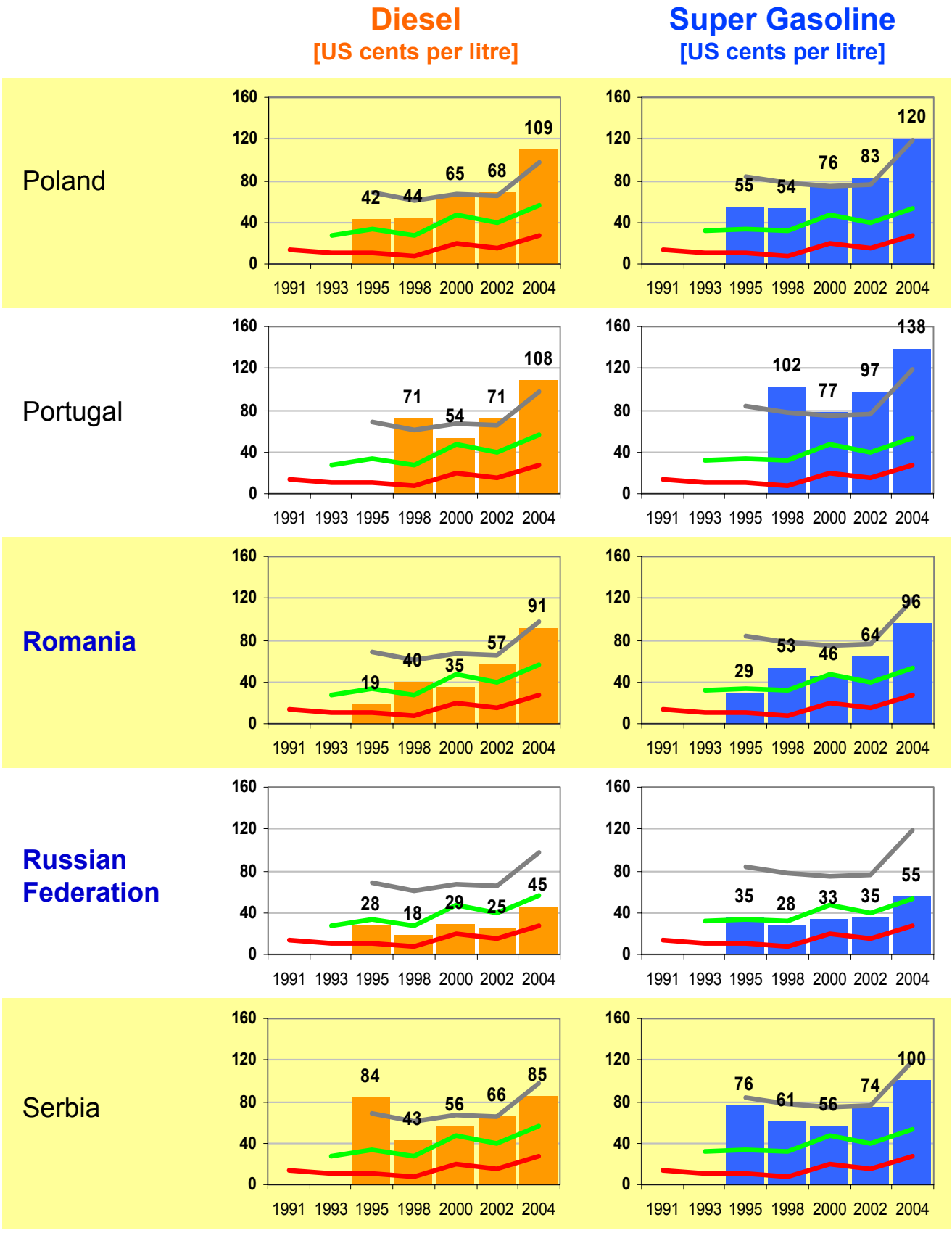
Red Benchmark Line = CRUDE OIL Prices on World Market ("Brent" at Rotterdam)

6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Poland to Serbia)



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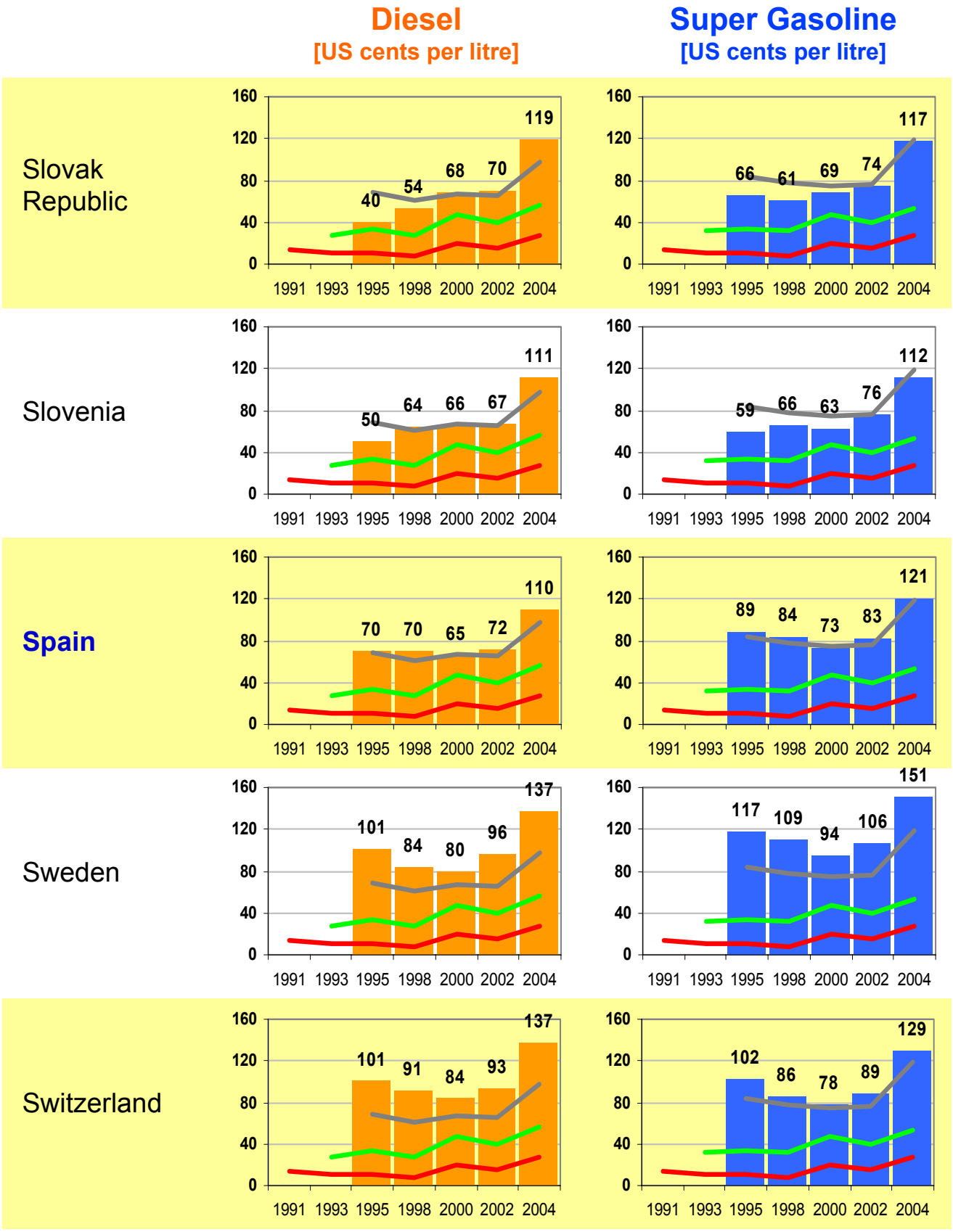
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Slovak Republic to Switzerland)



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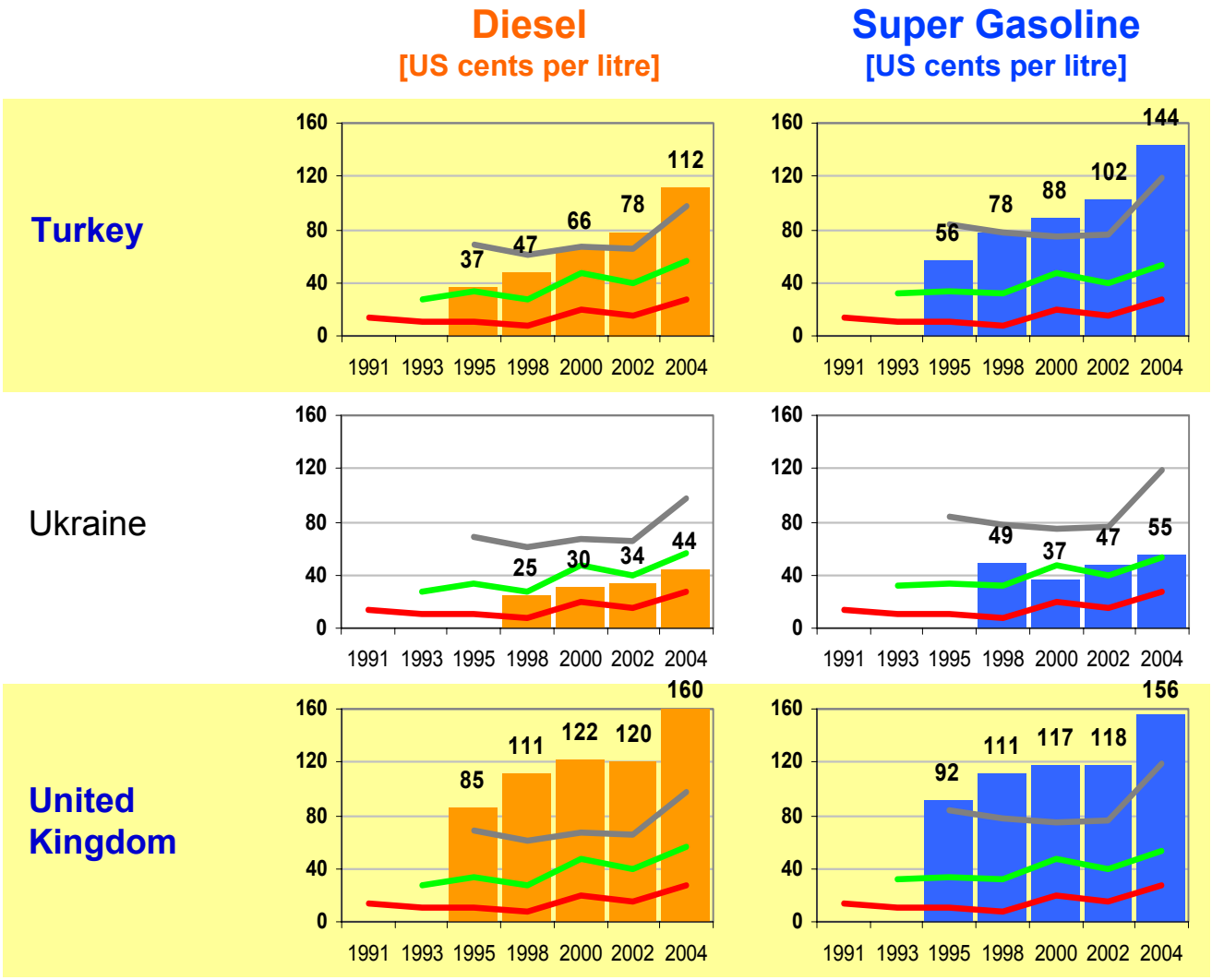
6.4 Detailed Time Series of Fuel Prices in Europe
1991 – 2004 (from Turkey to United Kingdom)



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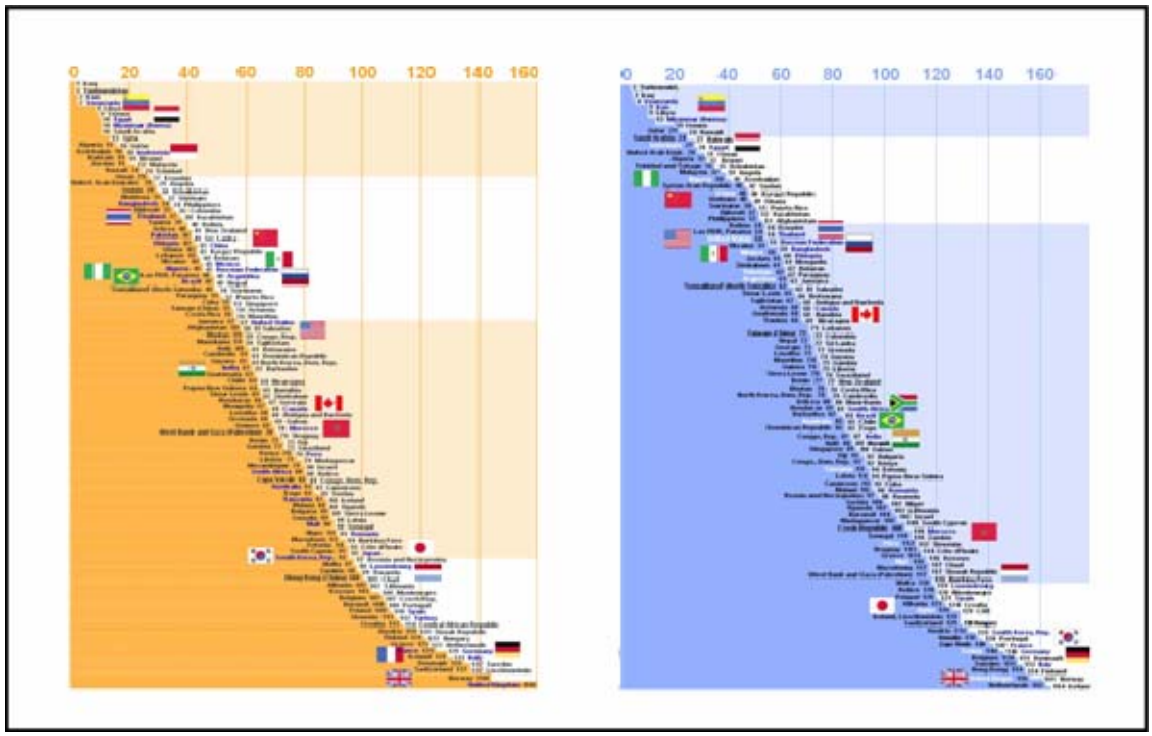
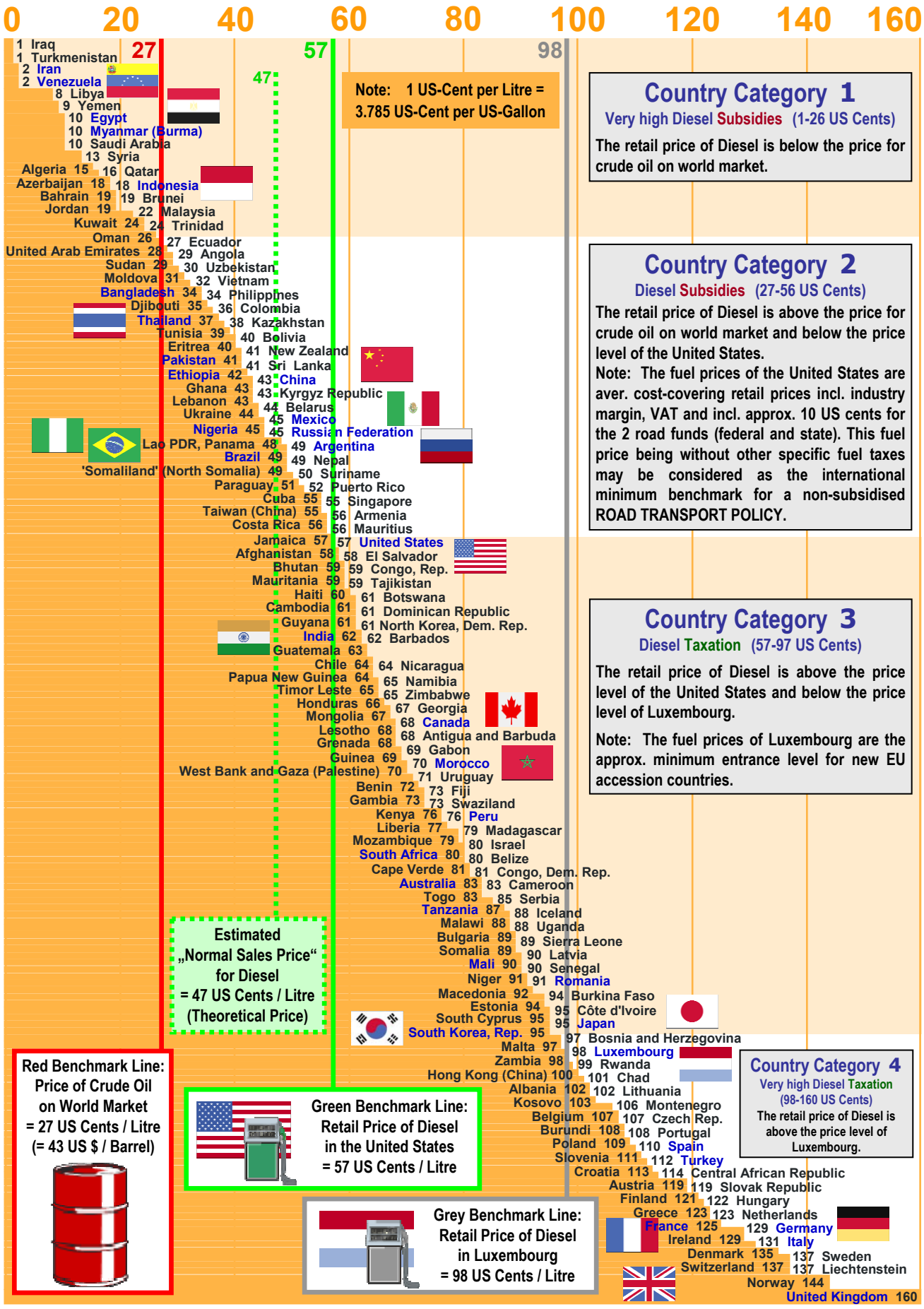
Retail Fuel Prices of 172 Countries

- World Ranking of Diesel Prices (Graph)
- World Ranking of Gasoline Prices (Graph)
- Global Benchmark Prices
- Global Price Categories

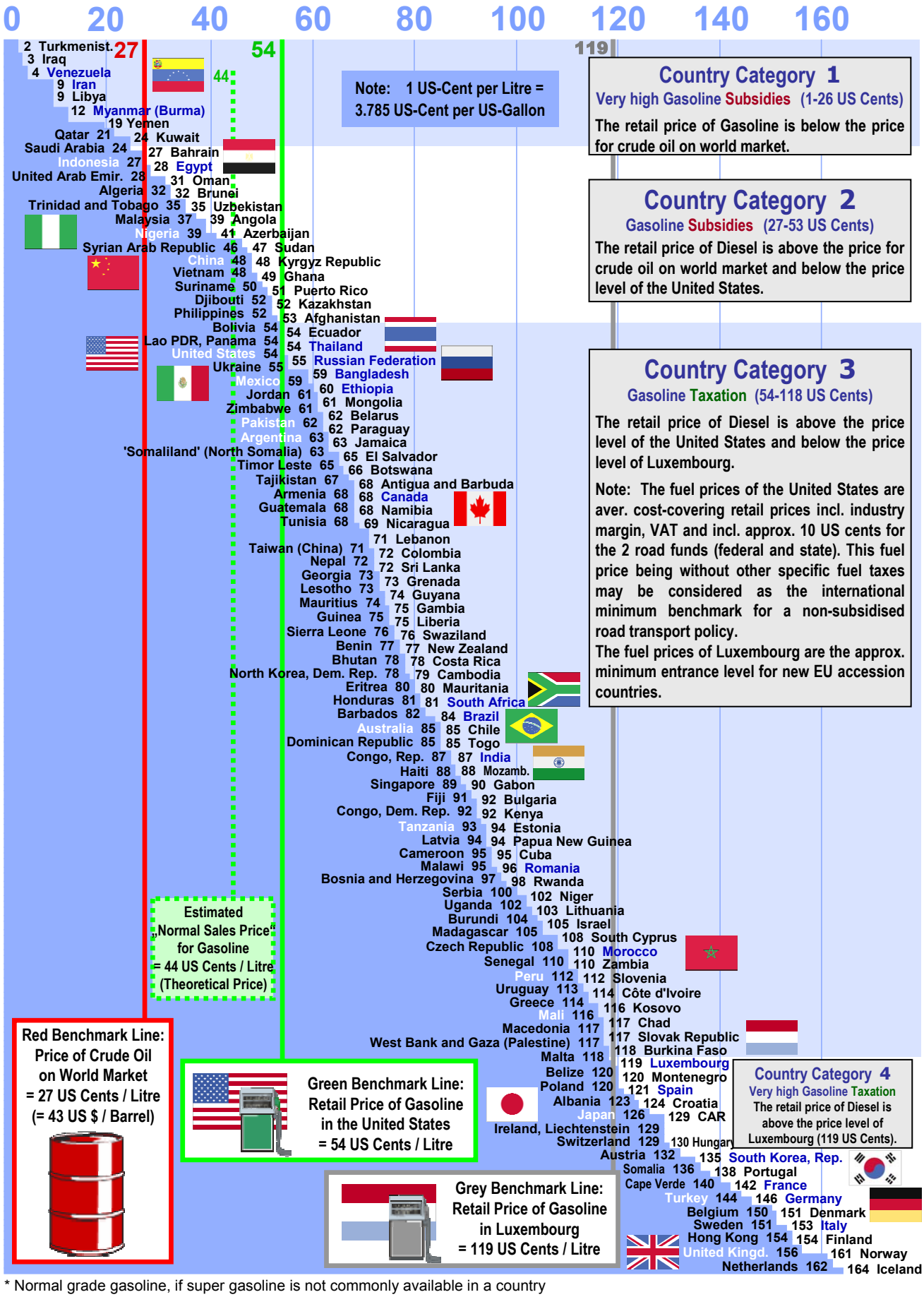


7.1 Retail Prices of Diesel in 172 Countries

as of November 2004 in US Cents per Litre



7.2 Retail Prices of Super Gasoline* in 172 Countries
as of November 2004 in US Cents per Litre



* Normal grade gasoline, if super gasoline is not commonly available in a country

7.3 Country Ranking and Global Benchmark Prices for Diesel and Gasoline

Country Ranking

The global country ranking of fuel prices for all the 172 major countries surveyed shows the real dimension of world-wide price differences:

Diesel prices range from 1 US cent (Turkmenistan and Iraq) to 160 US Cents per litre (United Kingdom)
Gasoline prices range from 2 US cents (Turkmenistan) to 164 US Cents per litre (Iceland)

Furthermore the ranking tables for diesel respectively gasoline tries to give an approximate orientation of how the present price level of a country may be classified. This orientation can only be a rough and approximate, as local prices for fuel transport, refining, sale etc. vary from country to country and may require a detailed study for each case.

Global Benchmark Prices

But nevertheless GLOBAL BENCHMARK PRICES can be defined, and following these benchmarks a general classification of the countries proved to be possible and necessary. The benchmark prices are marked by the following 4 different benchmark lines (see vertical lines in the two tables):

Crude Oil Price (Red Benchmark Line)

The red line marks the World Market Price for crude oil of 27 US cents per Litre (= 43 US$ per barrel at date of survey).

"Normal Sales Price" (Dotted Green Benchmark Line)

The dotted green line (47 US cents for diesel, 44 US cents for gasoline) marks the approximate „Normal Sales Price" of unsubsidized fuel (which means „mineral fuel" is sold under normal market conditions comparable to „mineral water", including VAT etc., but without special import taxes and specific fuel taxes). To avoid more detailed and divergent definitions this „Normal" (non-subsidised) sales price per litre is set 10 US cents below the average US sales price* (using the very competitive US market prices as average general guideline by deducting the combined average contributions of 10 US Cents for the two US Federal and State Highway Trust Funds). This price level may constitute an internationally acceptable approximate minimum guideline for a non-subsidized **ENERGY POLICY**.

US Retail Price (Green Benchmark Line)

The green line (57 US cents for diesel, 54 US cents for gasoline) defines the average US retail price per litre. This price may be considered as a minimum guideline for a non-subsidized **ROAD TRANSPORT POLICY** as it additionally comprises the average long-term contributions to road funds for national and provincial roads of 10 Cents per litre.

Luxembourg Retail Price (Grey Benchmark Line)

The grey line (98 US cents for diesel, 119 US cents for gasoline) is the benchmark of fuel retail prices in Luxembourg. This price in most cases served as an approximate entrance requirement for new EU accession countries. (As for the Central European fuel prices the conversion rate of the EURO was 1.30 US $ at date of survey.)

All retail prices basically depend on the fluctuations of the Crude Oil Price. Therefore, the change of the RED line due to possible future changes of crude oil prices is given below (Note: 1 barrel = 159 litre).

Crude Oil Price per Barrel	43 US$ (study)	50 US$	55 US$	60 US$	65 US$	70 US$	75 US$
Crude Oil Price per Litre	27 Ct. (study)	31 Ct.	35 Ct.	38 Ct.	41 Ct.	44 Ct.	47 Ct.
Net Increase per Litre	**0 Ct. (study)**	**4 Ct.**	**8 Ct.**	**11 Ct.**	**14 Ct.**	**17 Ct.**	**20 Ct.**

* This is a change of definition compared to previous editions of this study.

7.4 Global Price Categories
High Subsidies, Subsidies, Taxation, High Taxation

Global Price Categories for Fuel

The worldwide overview of fuel prices from 172 countries indicates four main categories:

Category 1

Category 1 contains countries with very low fuel prices where diesel and gasoline are sold at prices even below the international crude oil price. Prices start at 1 US cent per litre for diesel fuel. In the case of oil producing countries in this category, prices – even if nominally taxed – are indirectly subsidised at the expense of the oil sector of that country. Gasoline prices in Turkmenistan (2 US cents per litre) and Venezuela (4 US cents per litre) are the lowest in the world.

Category 2

Category 2 contains countries which pursue a low-price policy below the US price level for motor fuels (i.e. gasoline selling below 54 US cents per litre and diesel selling below 57 US Cents per litre). This often implies subsidies from the government. Furthermore an average levy of approximately 10 US cents per litre diesel and gasoline, as applied in the US to cover the expenditures of the transport sector (Federal and State Road Funds).

Category 3

Category 3 contains countries in the intermediate zone between the US level and the EU-Luxembourg level (used as EU accession limit), i.e. high-price policies for diesel between 57 and 98 US cents per litre.

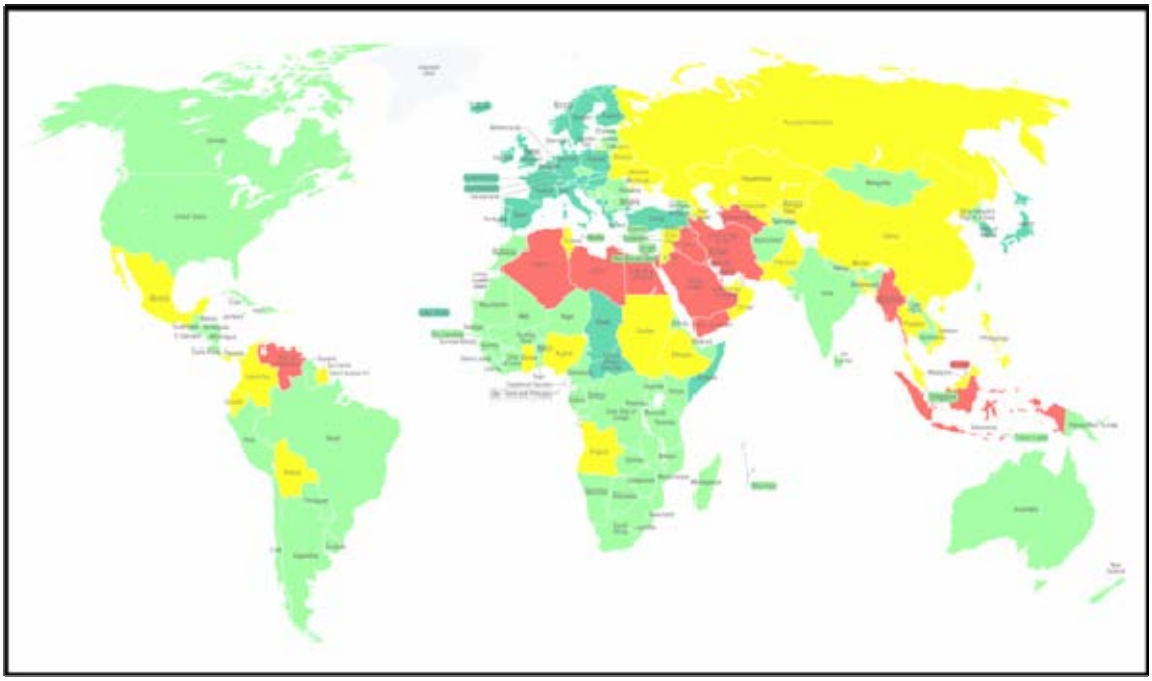
Category 4

Category 4 contains the high-price countries – as Japan and the EU – where the total taxes on gasoline and diesel may even reach more than 1 US $ per litre.

Conclusion: A given country's assignment to one of the above 4 categories is not dependent on its economic situation. Indeed, the impression is more or less one of arbitrariness, since the high-tax gasoline category includes countries like URUGUAY, TURKEY AND KOREA, while comparable countries such as GHANA, the PHILIPPINES and RUSSIA belong to the no-tax price group. The most remarkable advances to high energy taxation have been made by INDIA, where Super Gasoline costs nearly 100% and Diesel nearly 50% more than in CHINA.

Fuel Price Policies

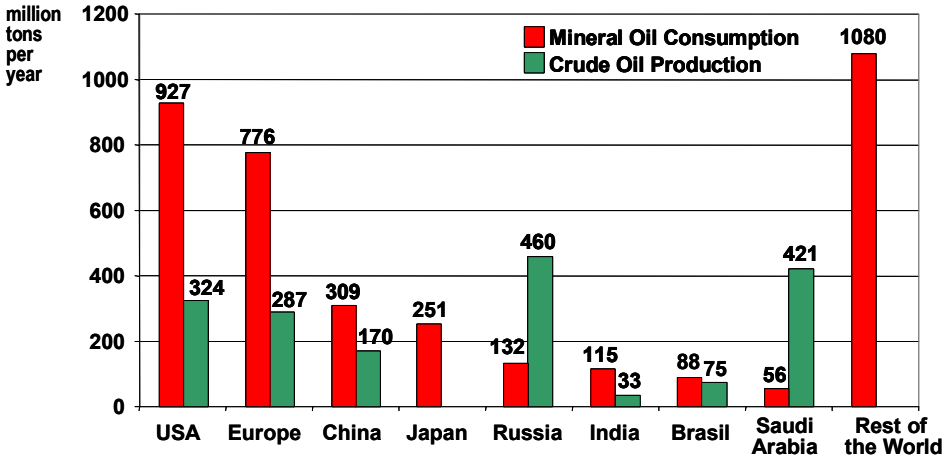
- Globalisation of the Fuel Market
- Oil Consumer and Oil Producer Countries
- National Fuel Policies between Subsidy and Taxation
- World Overview of Fuel Subsidies (Map)



8.1 Globalisation of the Fuel Market
Oil Consumption, Production and Transport

Oil Consumption and Oil Production

A. Mayor Oil Consumers and their Crude Oil Production in 2003/2004



B. Other Oil Exporting Countries

Country	Oil Production [million tons p.a.]	Oil Consumption [million tons p.a.]	Oil Export [million tons p.a.]
Iran	187	59	128
Venezuela	132	19	113
UAE	112	8	104
Nigeria	109	11	98
Kuwait	106	12	94
Mexico	169	101	68
Libya	72	9	63
Algeria	47	10	37
UK	103	82	21
Argentine	37	20	17
Colombia	27	12	15
Ecuador	21	6	15
Egypt	31	25	6
Indonesia	57	55	2

Source: MWV 3/2005. Unit Conversion: 1 ton = 7.3 bbl

Oil Transport Costs

Shipping costs of oil are of minor influence for the fuel retail price. As may be seen from the table below, transport costs for oil are practically independent from the distance of transport. Transport costs for crude oil supply contribute a small part to the final retail price (appr. 1 US cent per litre). Therefore, despite different fuel commodity markets (Rotterdam / WTI-Texas / Dubai / Singapore) there is only one Global Market.

Sea Freight Costs for Crude Oil Transport*
(Average of 2000 to 2003)

Mayor Transport Routes	aver. Distance [km]	Sea Transport Costs [US $ / Barrel]	[US $ / Litre]
Caribbean - US Atlantic Coast	3,600	1.27	0.8
Mediterranean - Rotterdam	4,800	1.46	0.9
Arab / Iran Gulf - Japan	13,300	1.28	0.8
West Africa - US Gulf Coast	10,400	1.66	1.1

* acc. to OPEC statistics 2003

8.2 Different Taxation of Petroleum Products
Transport Fuels, Industrial fuels, Cooking Energy

Different Taxation of Petroleum Products

If the general economic policy is to avoid subsidisation of fuels and to consider oil products as commercial commodities, the positive aspects of revenue and expenditure management by the state will require more detailed investigation.

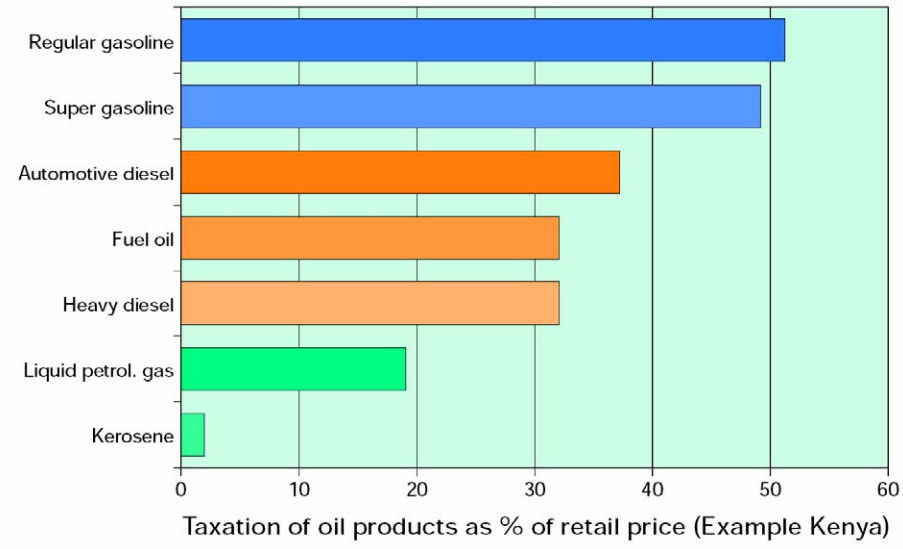
The taxation of petroleum products affects 3 major sectors:

- the **transport sector** (mainly road, rail and air transport),
- the **industrial sector** (mainly electricity production) and
- the **household sector** (in developing countries mainly cooking with kerosene and gas)

The size of the fuel-consuming sectors may vary from country to country, but OLADE has calculated the following average shares for Latin America as a whole: 31.6 % for transportation, 33.4 % for industry, 35.0 % for residential and other purposes.

Taxation Ranking of Petroleum Products

It is general practice to tax petroleum products by variable percentages depending on their end use, as in the example of Kenya [1] below:



The main purpose of the above diagram is to establish the ranking of taxation on petroleum products, i.e.:

- **transport fuels** carry the highest taxation of all fuels,
- **industrial fuels** are taxed less,
- **cooking energy** may be tax-exempt or even subsidised.

As a rule of thumb, the taxation of transport fuels – such as regular and super gasoline in the case of Kenya above – also smoothes the way for the taxation of fuels and energy in other sectors, while the transport sector itself – as in Malaysia with 41% - may constitute nearly half of the national energy consumption.
In the case of a general subsidisation policy it can be assumed that the percentage of subsidies in the prices for cooking gas (LPG) and for the power sector are higher than in the transport sector [see table for MALAYSIA on p. 71].

That means that generally the fuel prices of the transport sector are to be considered the lead prices for the energy sector: If they not change, other energy prices may not move either.

1 Source: Bereket Kebede: "Petroleum Pricing and Taxation: The Case of Ethiopia, Kenya and Malawi", in: Afrepren: African Energy Policy Research Network, Newsletter No.21, September 1997, pp. 1-3

8.3 Subsidies
Direct Subsidies, Indirect Subsidies, Taxation

Subsidies and Taxation

While the principle of fuel taxation is taken for granted in industrialised countries, there are still a number of countries – primarily developing countries and former Eastern Bloc states – that pursue just the opposite policy, that is to subsidise fuel prices.

World Bank Statement concerning Energy Subsidies

"Let us not overlook the fact that developing countries are subsidising energy at the rate of US$ 230 billion per year. That is more than five times the current total of development assistance payments from North to South." said the vice-president of World Bank, Mr Serageldin, in charge of sustainable development [1].

[1] Source: "Public Transport International", UITP – Brussels 2/1993, special issue, p. 30

Such a – misguided – political decision in favour of general subsidisation of fuels applies not only to the transportation sector (including the relevant fuels) but also to the energy sector per se (including power generation based mainly on diesel generators), and often pervades a country's infrastructure, including agriculture (fuel for pumps, tractors, fishing boats, etc.).
Consequently, any change in such a country's policy of fuel subsidisation has to be regarded as only one, albeit crucial, component of an overall shift in economic policy, or at least in the respective infrastructure sector policy. Among developing countries, this often yields what is referred to as structural adjustment or, in former Eastern Bloc countries, a transition policy.

Direct and Indirect Subsidies

In the present context, the term "fuel subsidies" is understood as the sum total of all official measures, which

- in the case of **direct subsidisation**, make the retail price of fuel cheaper compared to normal industrial commodities, or
- in the case of **indirect subsidisation,** such as exemption from sales tax / VAT ("tax forgone") or via lower-cost domestic fuel production, make the retail price of the fuel cheaper than in countries which depend on the world market.

This may be seen from the MALAYSIAN example as of 1 August 2005 on the next page.

8.4 Example MALAYSIA
Fuel and Gas Subsidies for "The Poor"

Fuel and Gas Subsidies in MALAYSIA on 1 Aug. 2005

Energy Pricing Policy	Diesel		Gasoline		Cooking Gas		Power Sector Gas	
	[US Cents per Litre]	[%]	[US Cents per Litre]	[%]	[US Cents per kg]	[%]	[US % per mmbtu]	[%]
Cost Covering Price	54	100 %	64	100 %	63	100 %	6.76	100 %
Direct Subsidy	15	28 %	6	10 %	25	40 %	5.08	75 %
Indirect Subsidy	5	9 %	15	23 %				
Subsidised Consumer Price	34	**63 %**	43	**67 %**	38	**60 %**	1.68	**25 %**

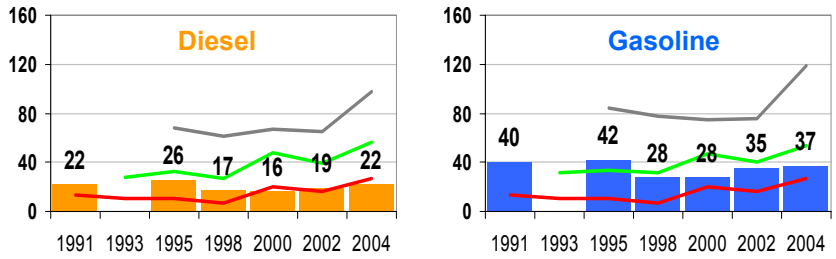
Data provided by Prime Ministers Office / BERNAMA Press (Exchange rate 1 US$ = 3.8 RM on 1 Aug. 2005)

On 31 July 2005 Malaysia decided to raise gasoline prices by 10 Sen (2.6 US cents/litre), diesel prices by 20 Sen (5.3 US cents/litre) and LPG by 5 Sen (1.3 US cents/kg).
Hence, total petroleum subsidies of the government budget are reduced from expected 2.0 billion to 1.74 billion US $ for the year 2005, which is still higher than in 2004 (1.26 billion US$).
At the same time SMUGGLING out of Malaysia is considered 10% of the total consumption, i.e. the government pays subsidies for fuel used abroad at a rate of 174 million US $ this year.

But "**savings from cut–down subsidies could be used to build more schools, hospitals and public facilities** which would provide long-lasting benefits for our future generations", Malaysian Minister Mustapa Mohamed explained.

Furthermore Malaysia's oil reserves could be finished within 19 years, meaning an end to further subsidisation policies anyway, so that the Government of Malaysia tries to follow a constant policy of subsidy reductions. But at the moment Government still has funds to continue to fulfilling short-term policies aimed at reducing prices for the "The Poor" (Source: Bernama Press, 1 Aug. 2005).

Time Series of Fuel Prices in Malaysia in US Cents per Litre



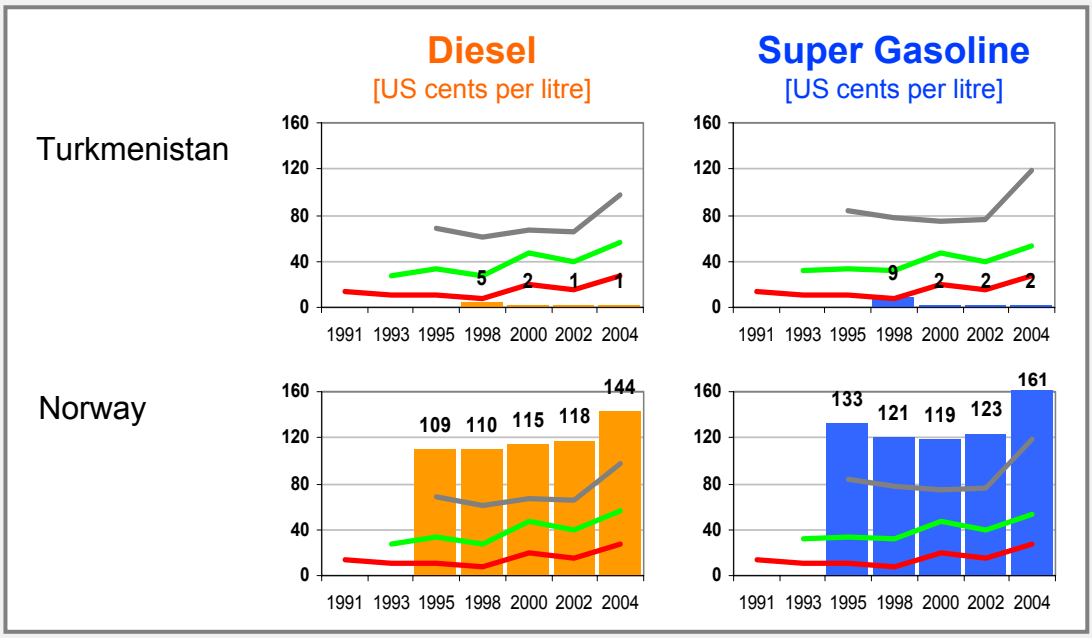
8.5 Example NORWAY and TURKMENISTAN
Different Fuel Price Policies of Oil Producers

Different Fuel Price Policies of Oil Producers – NORWAY and TURKMENISTAN

It is often said that oil producing countries should execute their sovereign power to guaranty low fuel prices for their own population. This is done in some countries, mostly in the Middle East, in Venezuela and Indonesia. However many other oil producers follow a world market policy.
The extremes are shown in the following table:

	Inhabitants	Surface Area	Gasoline Price	Diesel Price
Turkmenistan	4.5 million	488 000 sq km	2 US cents/litre	1 US cent/litre
Norway	4.8 million	324 000 sq km	161 US cents/litre	144 US cents/litre

Middle East countries like Saudi Arabia, Kuwait, Bahrain, UAE and Oman, as well as Brunei are slowly following the trend of increasing their formerly low local fuel prices.
American oil producers like Trinidad and Colombia more or less follow the US price level whereby gasoline prices must at least pay for the roads.
European oil producers like Norway and Britain realise that high fuel taxes and all the "windfall" profits are urgently needed to finance the social requirements of government expenditures.



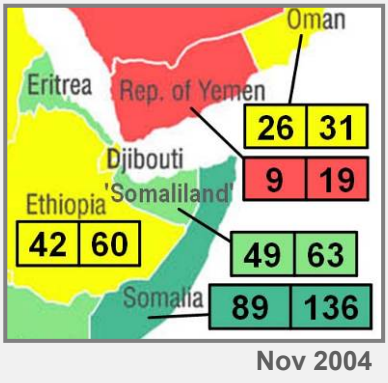
8.6 Example YEMEN
Implementation of Fuel Price Increases

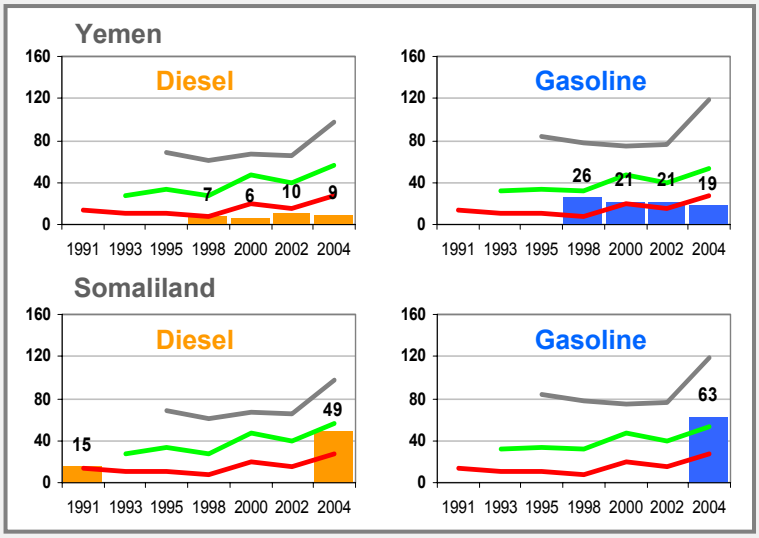
The YEMEN Case - "Petrol Riots leave 12 dead"

Public protests against a rise of fuel prices left at least 12 Yemeni dead, when on 20 July 2005 the police exchanged fire with armed men in the capital and several provincial towns. Road blocks and barricades were erected and stones have been thrown against government buildings. Slogans against the Prime Minister have been heard also (Source: AP report).
At the previous day Deputy Prime Minister and Minister of Planning had declared via state satellite channel that the prices of diesel and gas are still subsidised und that the decision to rise them was inevitable, because otherwise the government would not be able to pay the salaries of its employees any more. He warned against emotional reactions. The local Daily Mail newspaper mentioned World Bank and IMF helping at economic reforms since 1995.
However, on 26 July the Yemen Cabinet had to react. First it cut the price hikes for fuel and approved a law concerning wages and salaries to improve the living standards of civic and military employees (at a rate from 33% to 96% in different phases).
The price moves in the Yemen may be summarized as follows:

Country	Date	Diesel	Gasoline	Kerosene	Cooking Gas
Yemen	2004 to 17 July 2005	9	19	8	107
	on 19 July 2005	24	34	24	210
	since 26 July 2005	18	31	18	n.a.
Somaliland	20 Nov.2004	49	63	n. a.	n.a.

As may be seen from the table above, in the year 2004 and up to 17 July 2005 fuel prices were heavily subsidized (and among the lowest in the world) [see p. 63/64].
As prices in the 8 months between Nov. 2004 and July 2005 steadily rose at world markets from 43 to 59 US$ per barrel (= rise of 10 US cents per litre), the Government's pricing policy didn't react until the state bankruptcy was imminent. At least the increase of 10 US cents per litre had to be done at one stroke. This meant a doubling of local diesel and kerosene prices.
The result of a week of political turmoil did not lower the fuel subsidy amount of the Yemen government (compared to levels of 2004). It only included the world market increases of the last months.
At last in the Yemen a decade of time had been lost for getting a population used to higher prices gradually, as may be seen from the Time Series below.
In Somaliland, on the opposite shore of the Red Sea, other price policies were applied.

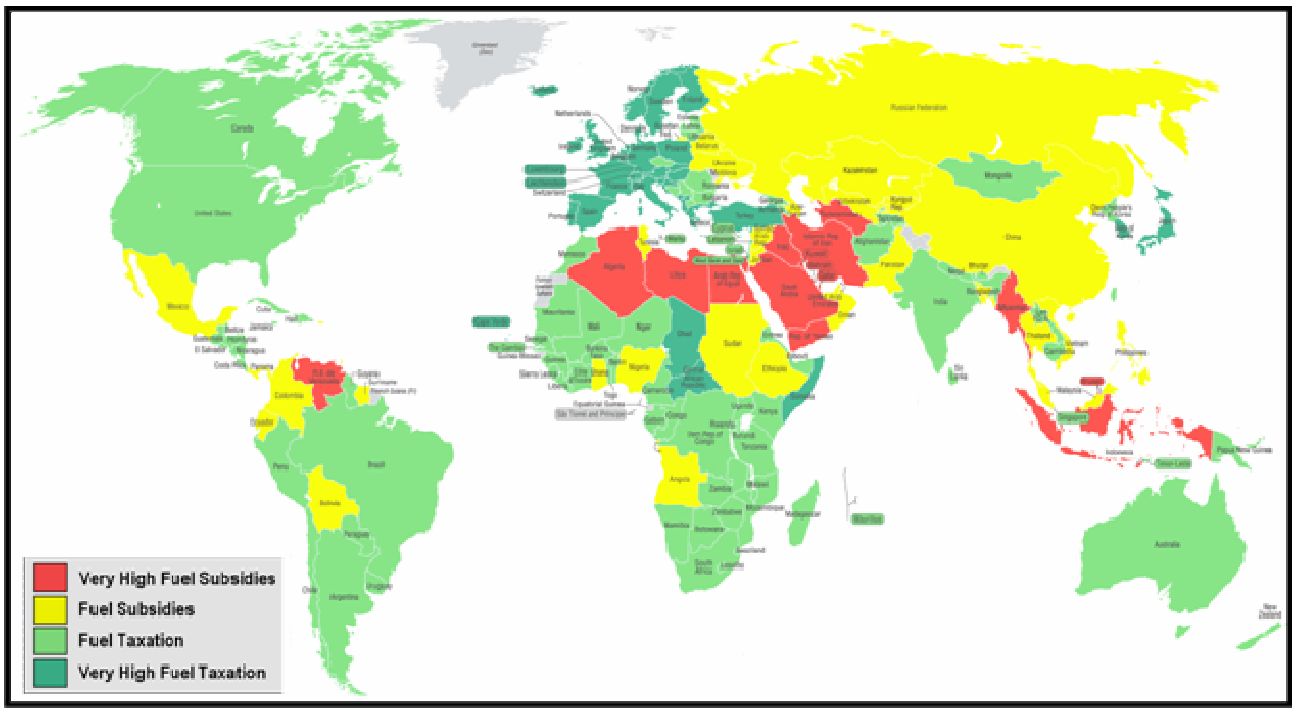




8.7 World Overview of Fuel Price Policies
World Map of Fuel Subsidies

World Overview of Fuel Subsidising Countries

The survey on fuel prices made a general overview possible revealing the degree of subsidisation and taxation of fuels in the world.
The following map indicates countries with a very high fuel subsidisation in **RED**. Countries with more or less subsidisation (sometimes of diesel fuel only) are shown in **YELLOW**.
By contrast in the countries marked in **GREEN** increases in the price of oil are passed directly on to the consumers - without affecting the national budget. Countries in **DARK GREEN** have fuels taxed highly, so that - as in Europe - the extra expense of rising crude oil prices came to a manageable 5 or 10% of the sales price (and even the social budgets are not impacted more than the other sectors of the economy).



Consequences of the Oil Price Explosion

Consequences of different fuel price policies became evident, when oil prices on the World market exploded (doubling of crude oil prices from US$ 25 to US$ 50 per barrel and more).
Most subsidizing countries continued their former policy. But the loss of governmental social budgets (for schools, health, etc.) was a result of higher oil price subsidies (primarily for the RED group). As in the case of Indonesia, this situation can pose the threat of national bankruptcy and hence the complete stoppage of all public-sector payments, including government budgets for the Poor.
Conclusion: The oil price explosion hit those countries hardest, which failed to implement a "structural adjustment" in due time by failing to reduce their inherited subsidization of their energy sector.

8.8 Transition to higher Fuel Taxation
The Long-Term Experience

The oil price explosion is impacting countries in different ways:

Oil-subsidizing countries (RED in the above diagrams)

The de facto result of the momentary oil-price shock is tantamount a blow to any social concept of the energy sector, i.e. for government-set prices and exorbitantly high subsidies (especially in Indonesia and Yemen, but also in Bangladesh, Nigeria and Ghana). Such countries have reason to fear the emergency of chaotic conditions and political upheaval – like general strikes, hyper-inflation, national bankruptcy, etc.
But a few oil-producing countries (Iran, Saudi Arabia, Venezuela and Russia) are enjoying sufficiently high windfall profits to keep their subsidization policies going for a while to come. Among them is Saudi Arabia as it may produce crude oil at a cost of $ 2 per barrel only.

Low-tax countries (YELLOW in the diagrams)

If long-term supply agreements are concluded with foresight, energy prices can be frozen to protect consumers and gain time for price adjustments, as has been the case in Thailand and China.
Conversely, when a government refuses on principle to adjust consumer prices, an unsecured national budget, inflation and public debt and/or subsequent devaluation are bound to result.
All countries in this group have to pass the high world market prices on to the consumer, and that is what they are doing. This can mean a 70 % - 100 % rise in fuel prices for private consumers, and the consequences for the industry can be expected to include stunted economic growth (especially in Vietnam, the USA, Brazil and, Pakistan.

High-tax countries (GREEN in the diagrams)

The progressively or purely market-oriented countries that have always taxed fuel heavily (e.g., Europe, the whole of French West Africa, Mexico, Morocco, Uganda and Brazil) have the least to fear from rising crude-oil prices, because that price has only been accounting for 20 % - 40 % of the ultimate selling price, anyway. These countries have done their fiscal-policy homework (structural adjustment) and now they can reap the benefits in the form of a survivable economy and national budget, including the social sector.

Main Issue: Transition to higher fuel taxation

The need for higher fuel taxation, however, is not limited to the above mentioned (RED) "problem countries". CHINA may face a special challenge in the future, if the successful economic model of SOUTH KOREA is followed, where oil consumption increased 6-fold in the 25 years between 1973 and 1998 [acc. to IEA, Oil Information 2002]. But it should be kept in mind that SOUTH KOREA followed European Tax policies. Therefore the fuel taxation history of GERMANY over the last 40 years should be mentioned below (without considering the fuel prices themselves).

Fuel Taxation History of GERMANY from 1964 to 2004

Year	Applied Gasoline Tax in Euro cents*/ litre	Value Added Tax on Gasoline Tax in Euro cents*/ litre	Applied Diesel Tax in Euro cents*/ litre	Value Added Tax on Diesel Tax in Euro cents*/ litre
1964	16	0 (1% VAT)	18	0 (1% VAT)
1974	22	3 (11% VAT)	25	2 (11% VAT)
1984	26	4 (14% VAT)	27	3 (14% VAT)
1994	49 (unleaded)	8 (15% VAT)	31	5 (15% VAT)
2002	62 (unleaded)	10 (16% VAT)	44	7 (16% VAT)
2004	65 (unleaded)	10 (16% VAT)	47	8 (16% VAT)

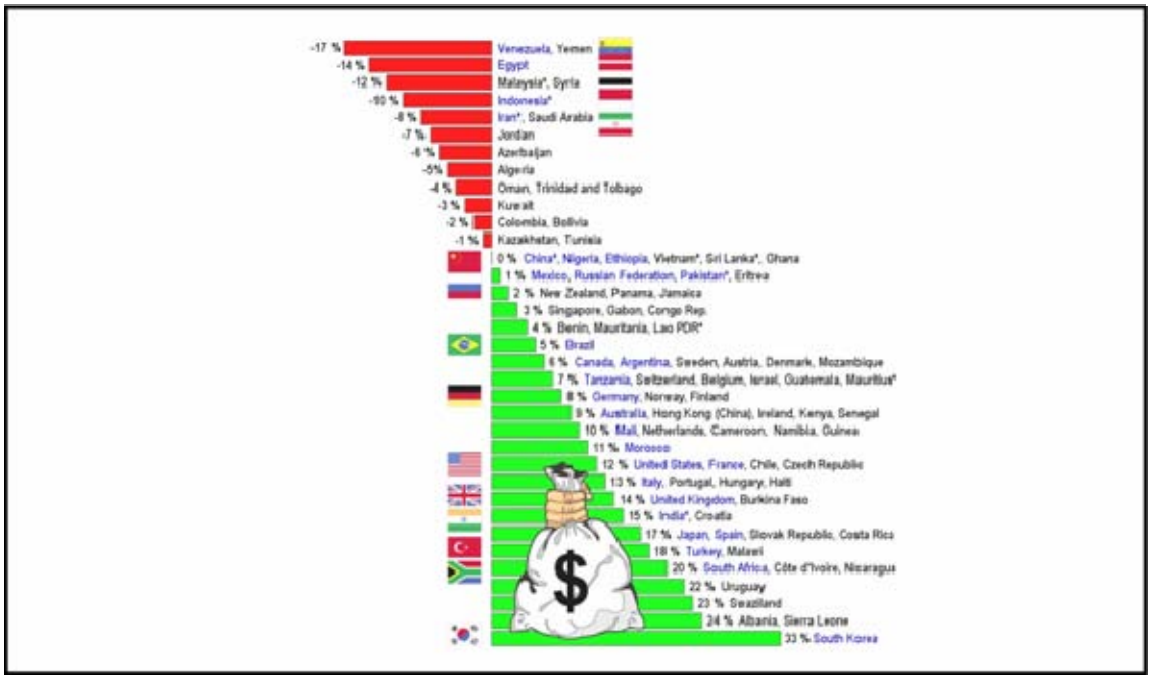
*Source: Aral Verkehrstaschenbuch, 2004/2005

German taxes on fuel totalled US$ 44 billion in 2002 (using the average annual exchange rate). This enormous amount – which is higher than the fuel tax revenues of the US – is the result of a systematic policy of fuel tax increases over the past 4 decades (1964 - 2004), as shown above.

Fuel Tax Revenues

Fuel Tax Contribution to Total State Revenues

- in 90 Countries (World Graph)
- in different Continents (Graphs)



9.1 Fuel Tax Revenues

The fuel sector may represent a heavy burden for the state budget, if it is subsidised, or one of the biggest sources of revenue and a mainstay of state finance, if it is taxed.

As reliable data are scarce, transport fuel consumption of individual countries has been estimated on the basis of the known figures of the size of the vehicle fleet. Thus an estimation of the cash contribution was possible using the difference between the actual sales price and the hypothetical "Normal Sales Price", as defined previously. Therefore, VAT on fuel excise duties is included in the cash contribution. The contribution of non-transport fuels (such as heavy diesel for power plants etc.) has not been taken into consideration. Motorcycle consumption has also been left out as reliable data on motorcycles were not available on a worldwide scale.

The figures for each country's total tax revenues have been taken from the most recent IMF Finance Statistics Yearbook.

The results (transport fuel taxation as a percentage of total state revenues in 90 countries) are presented graphically in chapter 9.2, which may serve as a general orientation.

The "normal" case: A European example

Within the highly sophisticated tax systems of industrialised countries, fuel taxes play an increasingly important role, and the present high taxation levels were built up step-by-step over decades.
In developing countries, the collection of income taxes and sales taxes as the main sources of state revenue is problematic. Therefore, a fuel tax – which can easily be collected at a few refineries or wholesalers – is an important financial option for governments. In some cases, the tax on fuel may even be the single most important tax. This may be demonstrated by the German example.

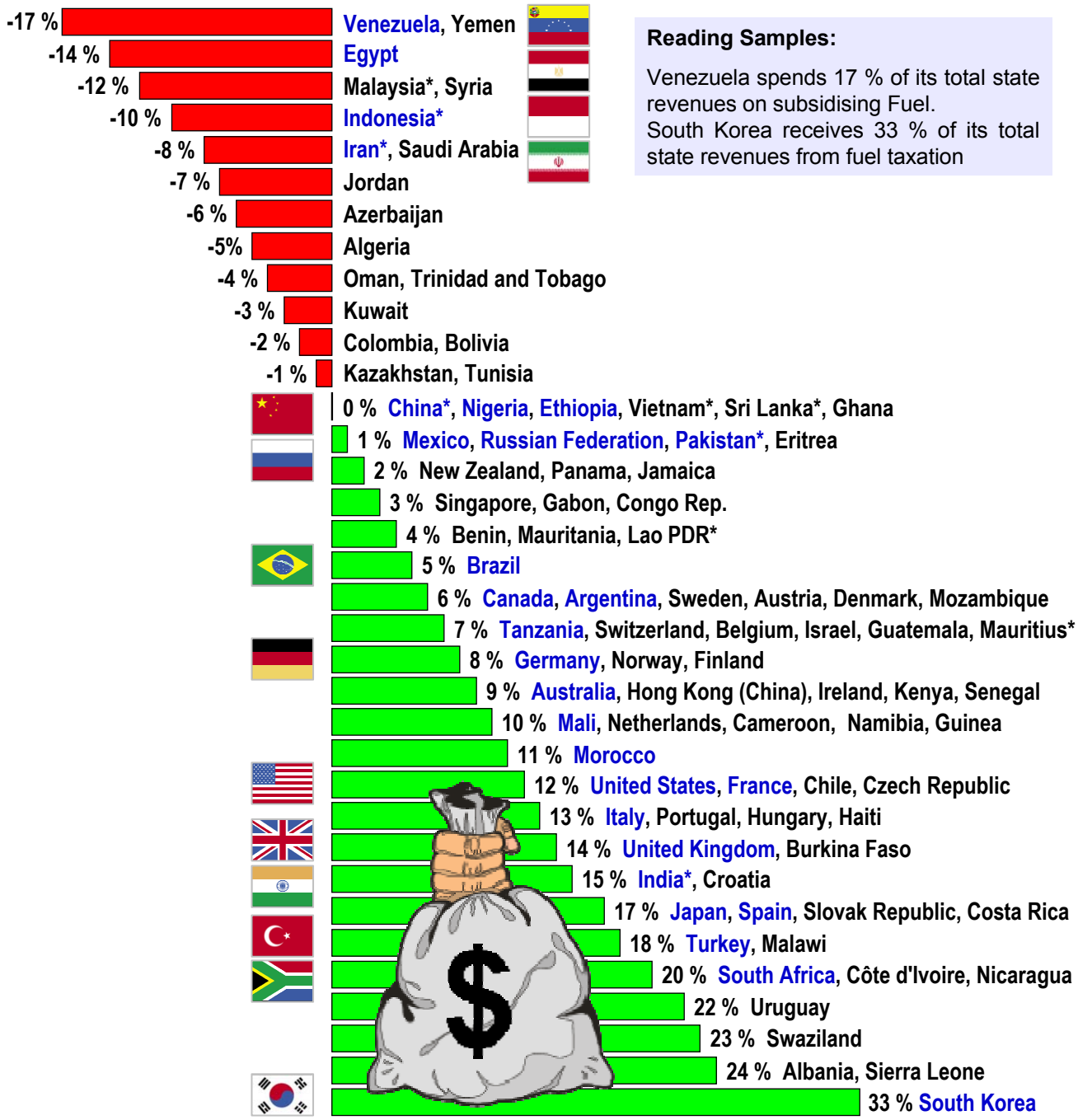
Most Important Tax Revenues	% of Total Tax Revenues Germany 2002
1. Income Tax	36.0 %
2. Sales Tax (VAT)	31.0 %
3. Petroleum Tax	9.2 %
of which from Fuel Tax	**8.7 %**
4. Business Tax	5.5 %
5. Tobacco Tax	2.7 %
6. Corporate Tax	2.5 %
7. Solidarity Tax	2.5 %
8. Real Estate Tax	2.0 %
9. Vehicle Tax	1.8 %
10. Insurance Tax	1.6 %

Source: German Ministry of Finance, 2002

Thus in a European country like Germany the fuel tax is the third most important tax, accounting for 8.7% of all government tax revenues in 2002. By the "Vehicle Consumption Method" German fuel taxes are calculated to be 8% of the total state revenues in 2004 [see p. 78].

9.2 Fuel Tax Contribution to Total State Revenues in 90 Countries

Calculated Fuel Tax Revenues as % of Total State Revenues



Reading Samples:

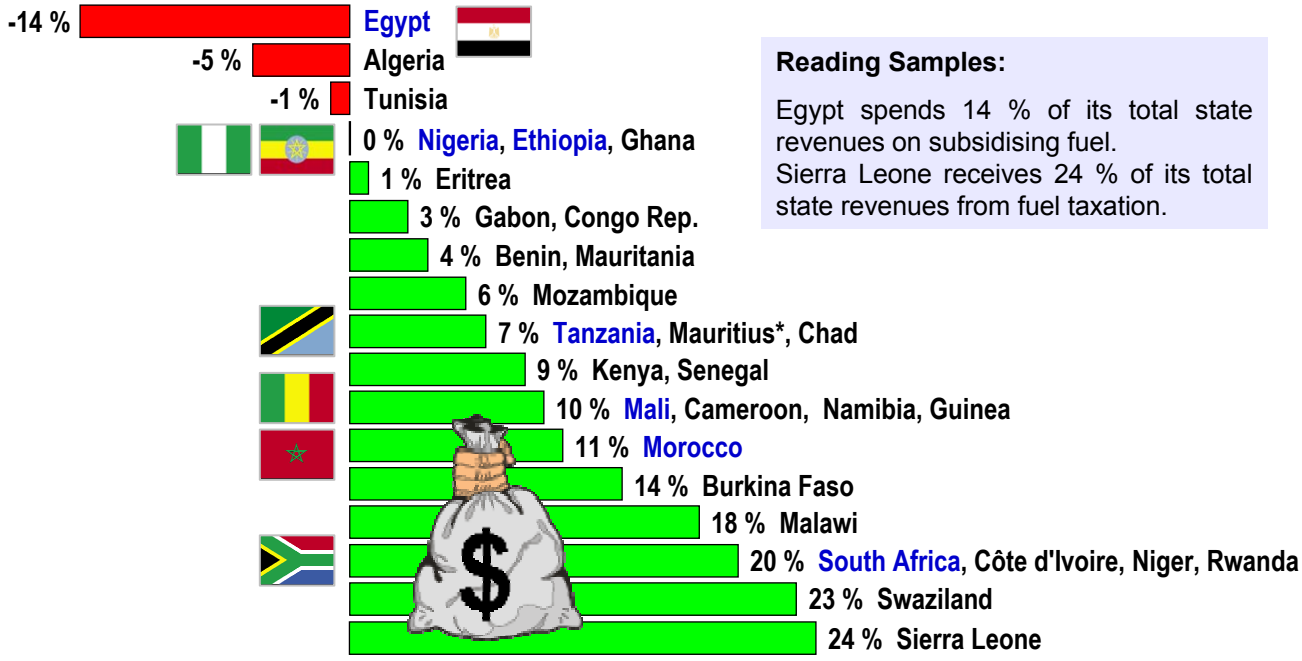
Venezuela spends 17 % of its total state revenues on subsidising Fuel.
South Korea receives 33 % of its total state revenues from fuel taxation

The calculation "Fuel Tax Contribution to Total State Revenues" is based on:
- the fuel prices of November 2004 from the GTZ price survey
- the number of vehicles in use from statistics of IRF, VDA and Aral
- the estimation of average vehicle kilometres per vehicle type and year
- the state revenues (including grants) from the "CIA Fact Book" / "World Bank WDI" [see p. 103]

* Including motor cycles

9.2 Fuel Tax Contribution to Total State Revenues in Africa and South America

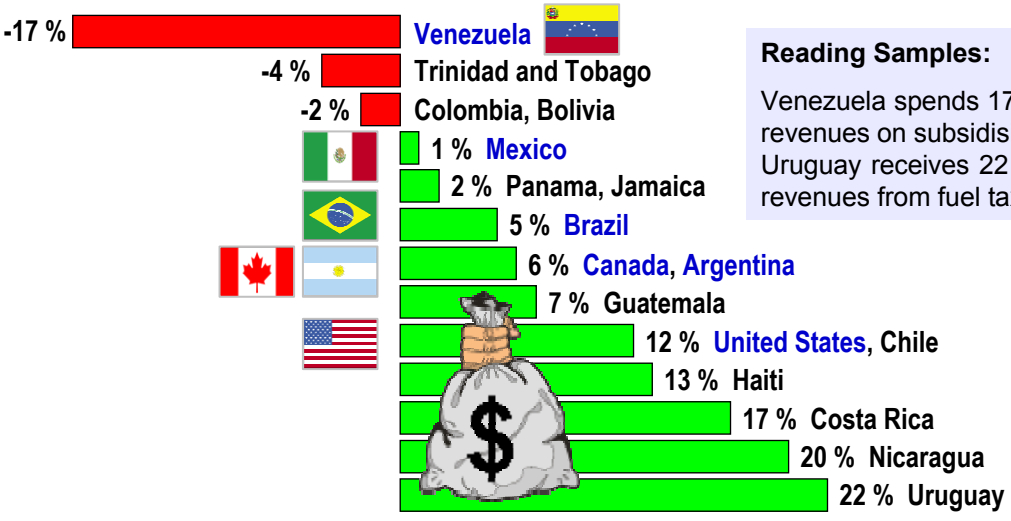
Calculated Fuel Tax Revenues as % of Total State Revenues* in Africa



Reading Samples:

Egypt spends 14 % of its total state revenues on subsidising fuel.
Sierra Leone receives 24 % of its total state revenues from fuel taxation.

Calculated Fuel Tax Revenues as % of Total State Revenues* in South America



Reading Samples:

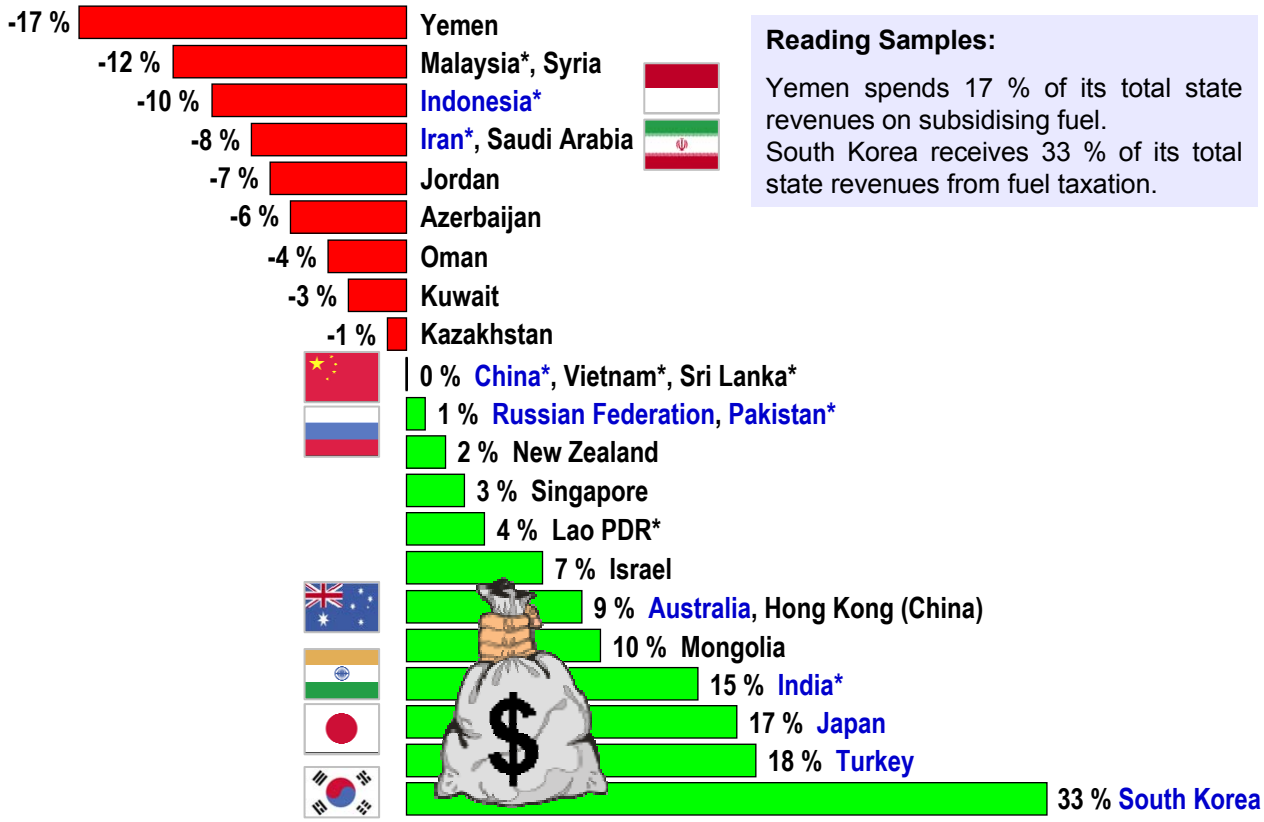
Venezuela spends 17 % of its total state revenues on subsidising fuel.
Uruguay receives 22 % of its total state revenues from fuel taxation.

The calculation "Fuel Tax Contribution to Total State Revenues" is based on:
- the fuel prices of November 2004 from the GTZ price survey
- the number of vehicles in use from statistics of IRF, VDA and Aral
- the estimation of average vehicle kilometres per vehicle type and year
- the state revenues (including grants) from the "CIA Fact Book" / "World Bank WDI" [see p. 103]

* Including motor cycles

9.2 Fuel Tax Contribution to Total State Revenues in Asia and East Europe

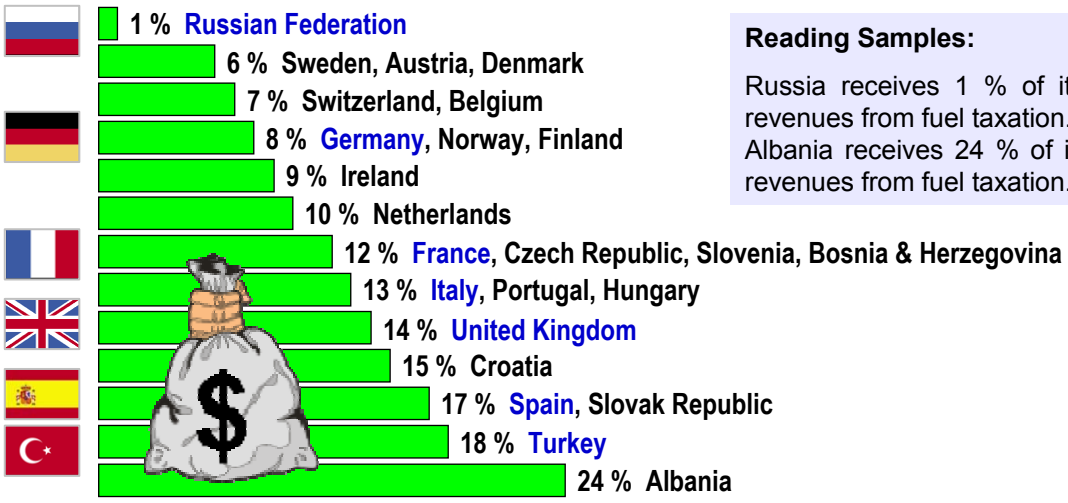
Calculated Fuel Tax Revenues as % of Total State Revenues* in Asia



Reading Samples:

Yemen spends 17 % of its total state revenues on subsidising fuel.
South Korea receives 33 % of its total state revenues from fuel taxation.

Calculated Fuel Tax Revenues as % of Total State Revenues* in East Europe



Reading Samples:

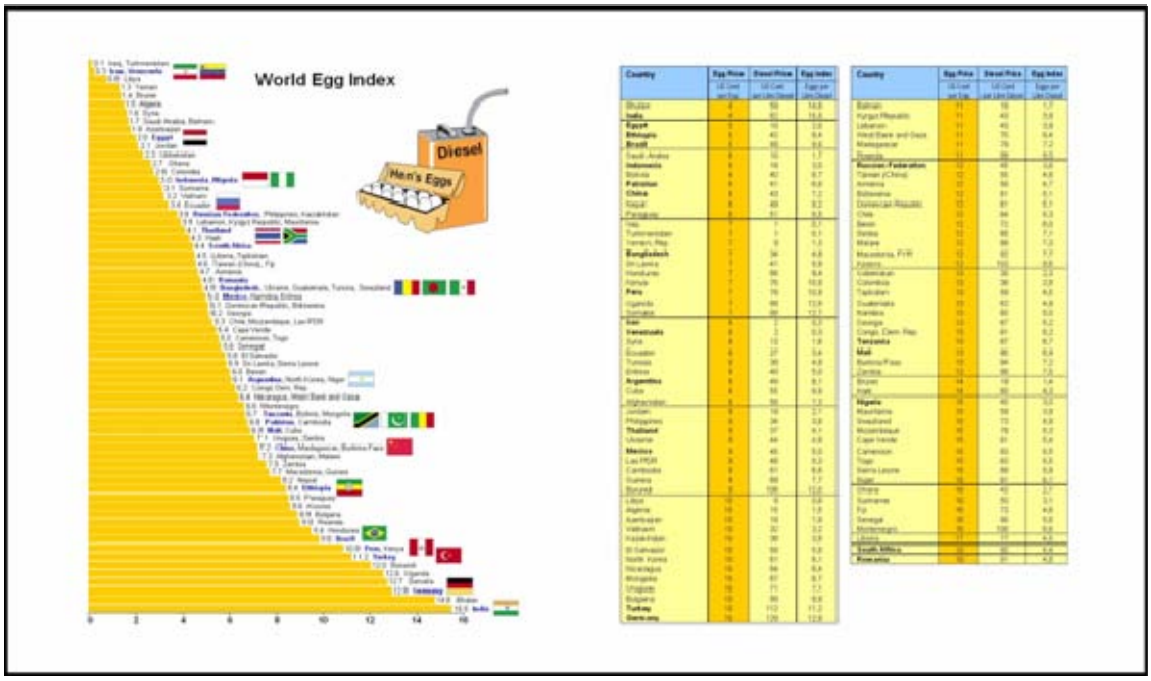
Russia receives 1 % of its total state revenues from fuel taxation.
Albania receives 24 % of its total state revenues from fuel taxation.

The "Total State Revenues" include grants also.
The calculation does not include the necessary expenditures of 10 US cents per litre for road maintenance.

* Including motor cycles

Price Increases of Fuel

- Fuel Price Increase and the General Public
- Fuel Prices and Purchasing Power
- Diesel Prices in Egg-Equivalents (World Graph, Table)
- Diesel Prices in Egg-Equivalents (Continent Graphs, Tables)



10.1 Fuel Price Increases and the General Public

Fuel policies that are rational in the long run (such as adjusting fuel prices) may meet emotional opposition when they are implemented at short notice. The main arguments that are often used by opponents of higher fuel taxation are “social implications and the inability to afford the higher prices”. Therefore careful strategic planning is needed. The reaction of target groups must be considered and financial and economic arguments have to be prepared as part of public awareness campaigns in the mass media.

In general, fuel prices must be increased from time to time for the following two reasons:

- To compensate for the gradual "relative adjustment" to what are often quite considerable national inflation levels and/or as a direct result of local currency devaluation.
- To effect "structural price increases", e.g. in the new EU applicant countries, because higher prices are targeted in the long run.

In developing countries, however, such price rises are frequently implemented in an unprofessional manner. After months or years of official passivity, all the incremental price hikes that should have been instituted in the past are suddenly lumped together and imposed on an unprepared population all at once. Even if the subsidised fuel prices are amongst the lowest in the world, this is not an appropriate approach.
Numerous examples of the past document how such irresponsible behaviour on the part of governments can lead to riots and bloody conflicts – up to and including the government's own overthrow. In some cases, such as Indonesia and Zimbabwe in 1998, popular discontent forced the state to rescind such price hikes.

It is of particular interest to note that such revolts as a result of opposition to fuel-price rises are always triggered by the relative increase (often 30 % or more), while the absolute increase (frequently only a few cents being added to "dirt cheap" fuel prices) plays practically no role at all.
This applies especially in Nigeria where fuel-price increases have repeatedly led to rioting, even though fuel had already become – viewed objectively – cheaper than drinking water.

When Ghana discarded its traditional cheap-fuel policy in the 1980s, and fuel prices nearly tripled within a relatively short time, the country got into big trouble. The only way to remedy the situation was for the government to temporarily interrupt the country's supply of fuel. Immediately, black-market traders from neighbouring countries began selling fuel at four times the previous price level. After about four weeks, the government resumed its official imports, thus forcing the black-market price down by about one-half. This found the approval of the public at large, and the final result of the politically risky manoeuvre was that fuel then cost twice as much as before.

The following logical consequence can be drawn from the above: Whether for inflation-related or structural reasons, the dictates of mass psychology stipulate that **fuel price increases should never exceed 10 % of the pump price at any time in real terms** (calculated free of inflation).
Instead, long-term price strategies based on numerous regular but modest price increases are to be recommended.

One fuel price adjustment policy that has been politically quite successful was instituted in January 1996 by the 14 countries of the CFA Franc Zone in Western and Central Africa (extending from Senegal across Cote d'Ivoire to Cameroon and the Central African Republic). Although the regional currency was practically slashed in value by about 50 % overnight, fuel prices were adjusted to the new exchange rate in a step-by-step manner.

10.2 Fuel Prices and Purchasing Power

Undoubtedly, in the macroeconomic sense, imported goods such as motor vehicles and fuels should be calculated on a foreign-exchange basis like the US$, because that is how importers and governments render their payments.

For the country's political leaders, it is important to know that local consumers do not care about the world market; what they care about is their own purchasing power on the home market.
Therefore the public has to be prepared carefully for any increase of fuel prices, particularly in the case of structural price changes in the aforementioned subsidising countries.
Thus, governments should not only be aware of price levels in neighbouring countries, they should also have **arguments for a protesting population**, i.e. the popular "purchasing power argument".

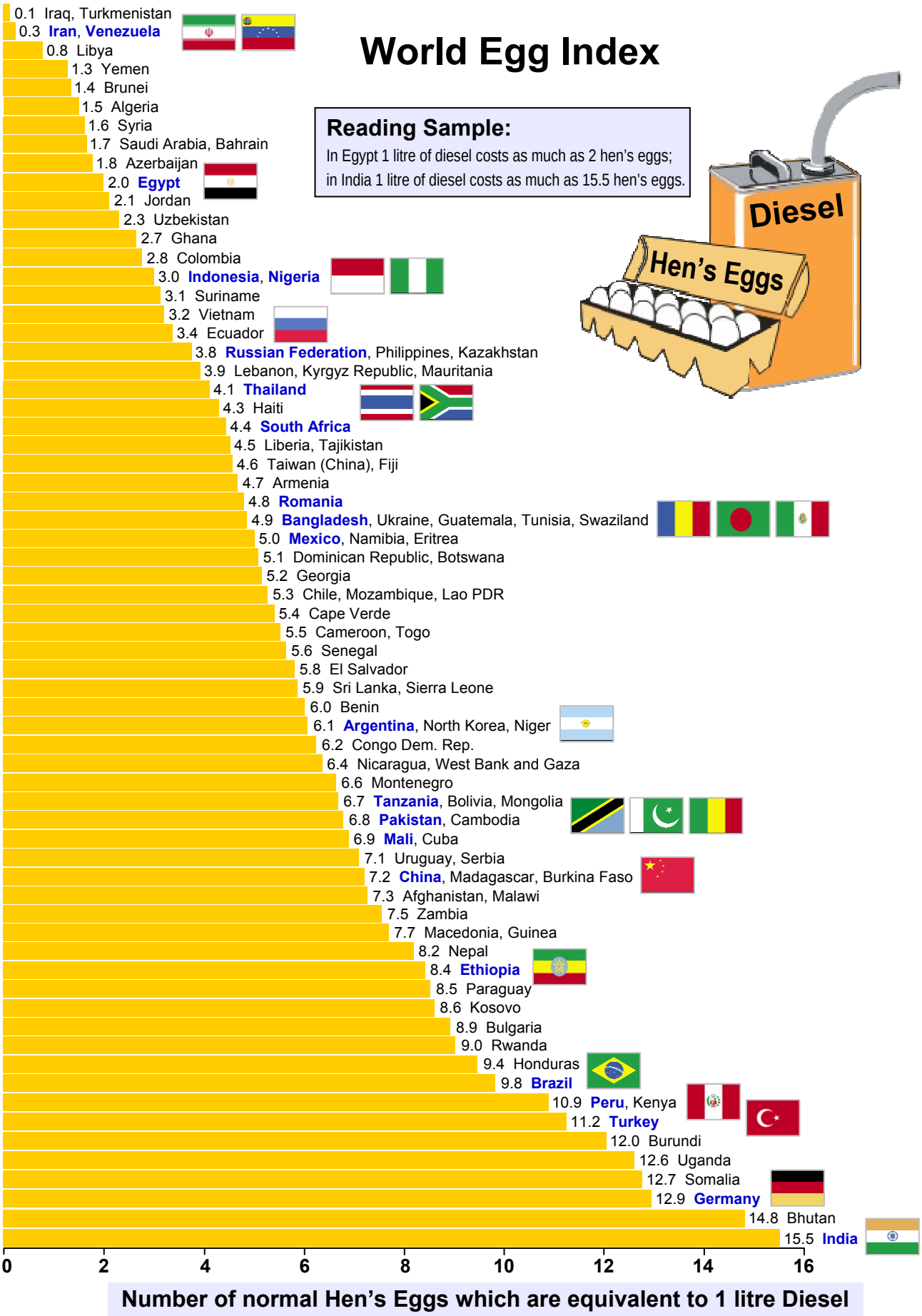
Transparency in the measurement of **Local Purchasing Power** is needed. But common purchasing-power indices are relative by nature.
Purchasing power statistics like those published by the United Nations are of little help, because they are not adaptable and their genesis is practically impossible to investigate.
Sometimes the "**Hamburger Index**" is recommended for locally produced food, but hamburgers are no common food outside the USA.
Therefore traditional hen's eggs have been chosen by the author for a worldwide comparable index, the "**Egg Index**". In this way a universally obtainable, non-subsidised, locally produced commodity is used as benchmark [1].

> Hen's eggs are universal food all over the world since centuries. Therefore the value of an egg is known everywhere, even in societies which are influenced by the money economy in parts only.
> In countries like Lao PDR there are 19 million hens for a population of 5 million people, but there is no single "Big Mac shop" available up to now [2].

The table "**Asian Egg Index**" [see p. 88] shows that the average egg price in Asia is approximately 10 US cents per egg (with the remarkable exception of India and China with half of this price). This table demonstrates that the "right" price of eggs is well known all over the Asian population. Contrary to this the price of diesel fluctuates considerably [3].
Many oil-importing countries like Yemen, Jordan, and Uzbekistan (with diesel price equivalents of 2 eggs) have undergone the change of the public opinion, as took place in Turkey and India, where the diesel price equivalent is bigger than 10 eggs.

1 The egg prices used are those of medium-sized eggs at local shops/supermarkets (incl. VAT/sales tax). In doubtful cases, the average prices of large and small eggs have been calculated. The specially priced "eco" eggs on offer in some countries have not been taken into account.
2 The GDP in Lao PDR is 340 US $ per capita only.
3 Oil-exporting countries like Iran, Iraq, Bahrain and Brunei are special cases.

10.3 Local Purchasing Power for Diesel in Egg Equivalents as of Nov 2004 in 100 Countries

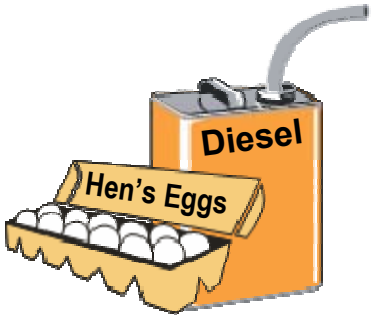


10.4 Local Purchasing Power for Diesel in Egg Equivalents as of Nov 2004 in Tables

Egg Prices Worldwide

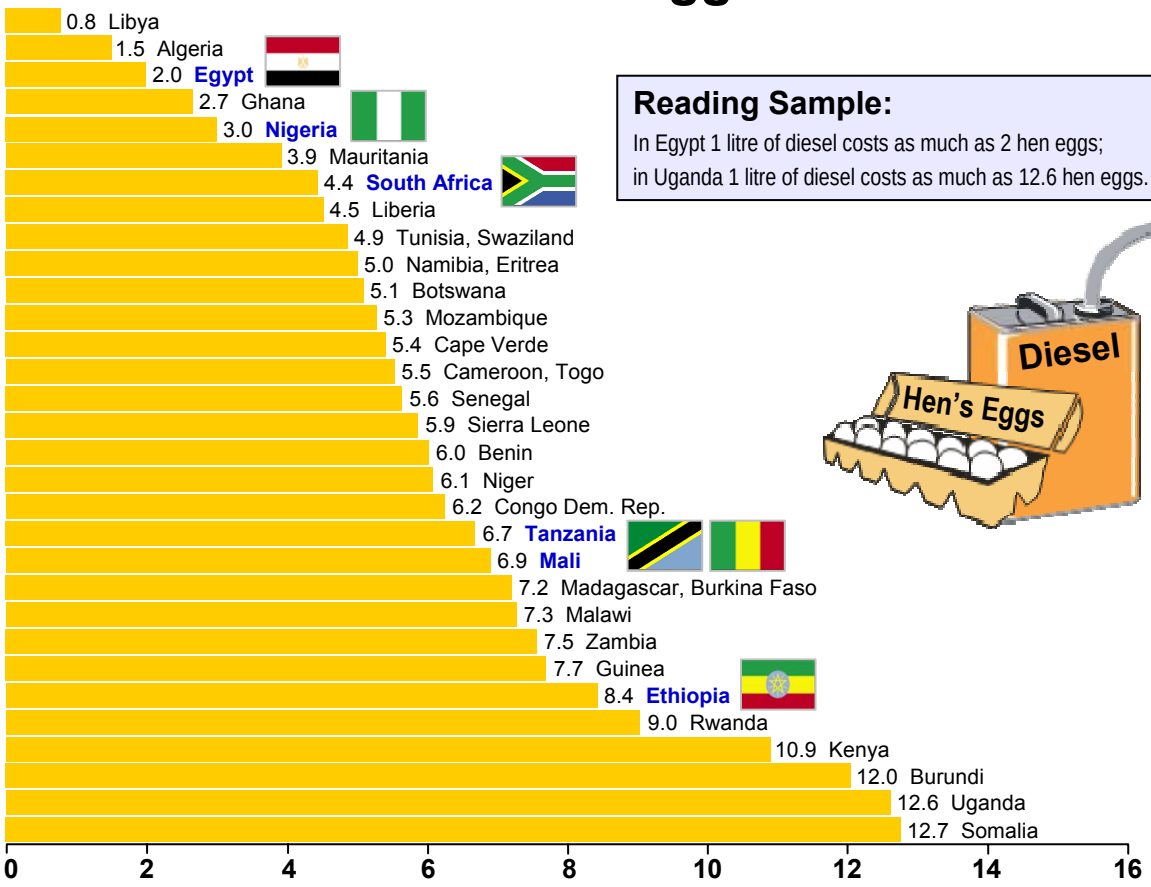
Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Bhutan	4	59	14,8
India	4	62	15,5
Egypt	5	10	2,0
Ethiopia	5	42	8,4
Brazil	5	49	9,8
Saudi Arabia	6	10	1,7
Indonesia	6	18	3,0
Bolivia	6	40	6,7
Pakistan	6	41	6,8
China	6	43	7,2
Nepal	6	49	8,2
Paraguay	6	51	8,5
Iraq	7	1	0,1
Turkmenistan	7	1	0,1
Yemen, Rep.	7	9	1,3
Bangladesh	7	34	4,9
Sri Lanka	7	41	5,9
Honduras	7	66	9,4
Kenya	7	76	10,9
Peru	7	76	10,9
Uganda	7	88	12,6
Somalia	7	89	12,7
Iran	8	2	0,3
Venezuela	8	2	0,3
Syria	8	13	1,6
Ecuador	8	27	3,4
Tunisia	8	39	4,9
Eritrea	8	40	5,0
Argentina	8	49	6,1
Cuba	8	55	6,9
Afghanistan	8	58	7,3
Jordan	9	19	2,1
Philippines	9	34	3,8
Thailand	9	37	4,1
Ukraine	9	44	4,9
Mexico	9	45	5,0
Lao PDR	9	48	5,3
Cambodia	9	61	6,8
Guinea	9	69	7,7
Burundi	9	108	12,0
Libya	10	8	0,8
Algeria	10	15	1,5
Azerbaijan	10	18	1,8
Vietnam	10	32	3,2
Kazakhstan	10	38	3,8
El Salvador	10	58	5,8
North Korea	10	61	6,1
Nicaragua	10	64	6,4
Mongolia	10	67	6,7
Uruguay	10	71	7,1
Bulgaria	10	89	8,9
Turkey	10	112	11,2
Germany	10	129	12,9

Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Bahrain	11	19	1,7
Kyrgyz Republic	11	43	3,9
Lebanon	11	43	3,9
West Bank and Gaza	11	70	6,4
Madagascar	11	79	7,2
Rwanda	11	99	9,0
Russian Federation	12	45	3,8
Taiwan (China)	12	55	4,6
Armenia	12	56	4,7
Botswana	12	61	5,1
Dominican Republic	12	61	5,1
Chile	12	64	5,3
Benin	12	72	6,0
Serbia	12	85	7,1
Malawi	12	88	7,3
Macedonia, FYR	12	92	7,7
Kosovo	12	103	8,6
Uzbekistan	13	30	2,3
Colombia	13	36	2,8
Tajikistan	13	59	4,5
Guatemala	13	63	4,9
Namibia	13	65	5,0
Georgia	13	67	5,2
Congo, Dem. Rep.	13	81	6,2
Tanzania	13	87	6,7
Mali	13	90	6,9
Burkina Faso	13	94	7,2
Zambia	13	98	7,5
Brunei	14	19	1,4
Haiti	14	60	4,3
Nigeria	15	45	3,0
Mauritania	15	59	3,9
Swaziland	15	73	4,9
Mozambique	15	79	5,3
Cape Verde	15	81	5,4
Cameroon	15	83	5,5
Togo	15	83	5,5
Sierra Leone	15	89	5,9
Niger	15	91	6,1
Ghana	16	43	2,7
Suriname	16	50	3,1
Fiji	16	73	4,6
Senegal	16	90	5,6
Montenegro	16	106	6,6
Liberia	17	77	4,5
South Africa	18	80	4,4
Romania	19	91	4,8



10.5 Local Purchasing Power for Diesel in Egg Equivalents as of Nov 2004 in Africa and South America

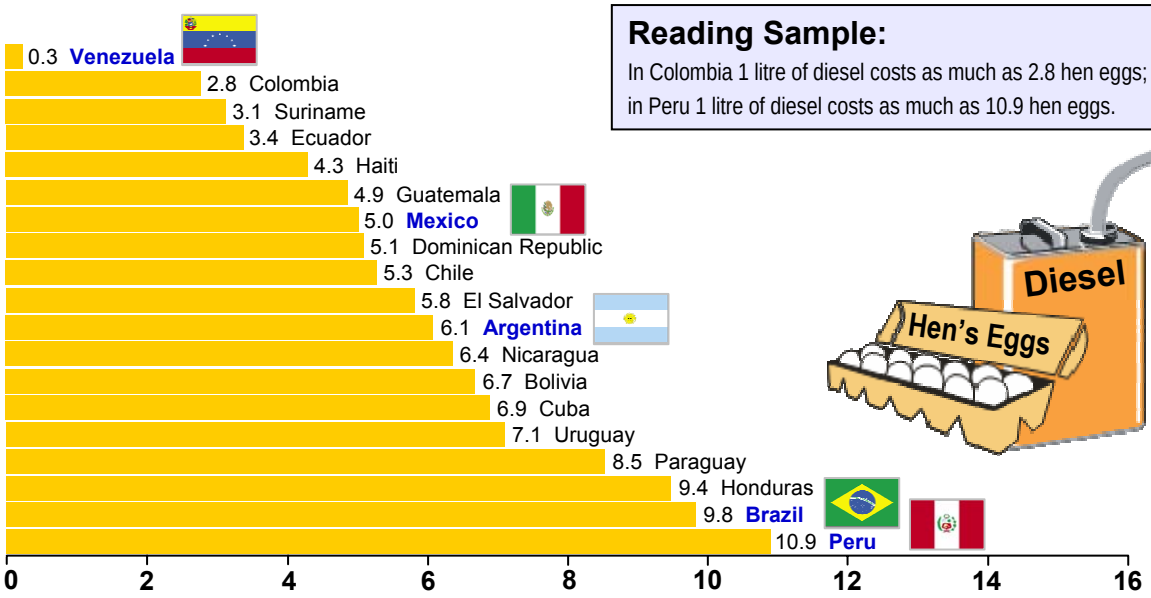
African Egg Index



Reading Sample:
In Egypt 1 litre of diesel costs as much as 2 hen eggs;
in Uganda 1 litre of diesel costs as much as 12.6 hen eggs.

Number of Normal Hen Eggs equivalent to 1 litre Diesel

South American Egg Index



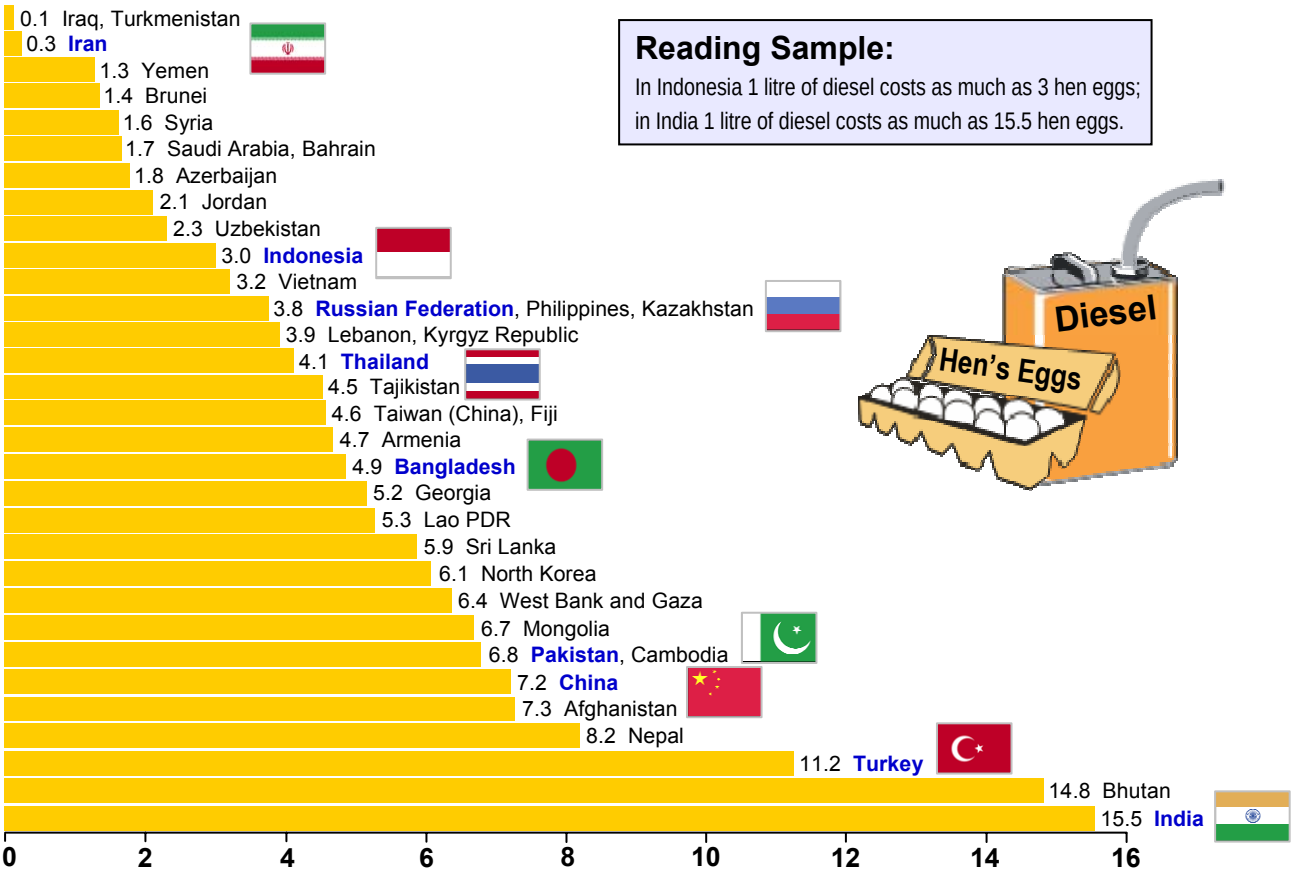
Reading Sample:
In Colombia 1 litre of diesel costs as much as 2.8 hen eggs;
in Peru 1 litre of diesel costs as much as 10.9 hen eggs.

Number of Normal Hen Eggs equivalent to 1 litre Diesel

10.5 Local Purchasing Power for Diesel in Egg Equivalents
as of Nov 2004 in Asia and East Europe

Asian Egg Index

(incl. Middle Eastern Countries)

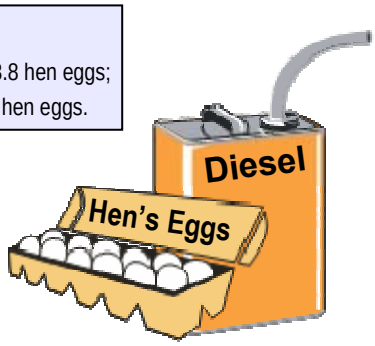


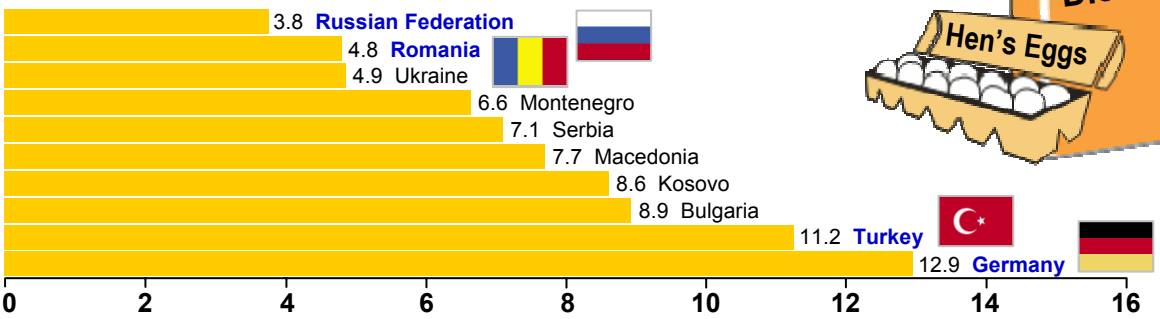
Reading Sample:
In Indonesia 1 litre of diesel costs as much as 3 hen eggs;
in India 1 litre of diesel costs as much as 15.5 hen eggs.

Number of Normal Hen Eggs equivalent to 1 litre Diesel

East European Egg Index

Reading Sample:
In the Russia 1 litre of diesel costs as much as 3.8 hen eggs;
in Turkey 1 litre of diesel costs as much as 11.2 hen eggs.





Number of Normal Hen Eggs equivalent to 1 litre Diesel

10.6 Local Purchasing Power for Diesel in Egg Equivalents
as of Nov 2004 in different Continents

Egg Prices in Africa

Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Egypt	5	10	2,0
Ethiopia	5	42	8,4
Kenya	7	76	10,9
Uganda	7	88	12,6
Somalia	7	89	12,7
Tunisia	8	39	4,9
Eritrea	8	40	5,0
Guinea	9	69	7,7
Burundi	9	108	12,0
Libya	10	8	0,8
Algeria	10	15	1,5
Madagascar	11	79	7,2
Rwanda	11	99	9,0
Botswana	12	61	5,1
Benin	12	72	6,0
Malawi	12	88	7,3
Namibia	13	65	5,0
Congo, Dem. Rep.	13	81	6,2
Tanzania	13	87	6,7
Mali	13	90	6,9
Burkina Faso	13	94	7,2
Zambia	13	98	7,5
Nigeria	15	45	3,0
Mauritania	15	59	3,9
Swaziland	15	73	4,9
Mozambique	15	79	5,3
Cape Verde	15	81	5,4
Cameroon	15	83	5,5
Togo	15	83	5,5
Sierra Leone	15	89	5,9
Niger	15	91	6,1
Ghana	16	43	2,7
Senegal	16	90	5,6
Liberia	17	77	4,5
South Africa	18	80	4,4

Egg Prices in Asia

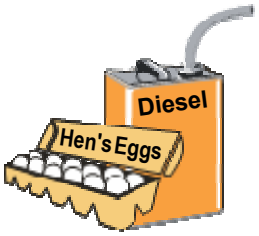
Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Bhutan	4	59	14,8
India	4	62	15,5
Saudi Arabia	6	10	1,7
Indonesia	6	18	3,0
Pakistan	6	41	6,8
China	6	43	7,2
Nepal	6	49	8,2
Iraq	7	1	0,1
Turkmenistan	7	1	0,1
Yemen, Rep.	7	9	1,3
Bangladesh	7	34	4,9
Sri Lanka	7	41	5,9
Iran	8	2	0,3
Syria	8	13	1,6
Afghanistan	8	58	7,3
Jordan	9	19	2,1
Philippines	9	34	3,8
Thailand	9	37	4,1
Lao PDR	9	48	5,3
Cambodia	9	61	6,8
Azerbaijan	10	18	1,8
Vietnam	10	32	3,2
Kazakhstan	10	38	3,8
North Korea	10	61	6,1
Mongolia	10	67	6,7
Turkey	10	112	11,2
Bahrain	11	19	1,7
Kyrgyz Republic	11	43	3,9
Lebanon	11	43	3,9
West Bank and Gaza	11	70	6,4
Russian Federation	12	45	3,8
Taiwan (China)	12	55	4,6
Armenia	12	56	4,7
Uzbekistan	13	30	2,3
Tajikistan	13	59	4,5
Georgia	13	67	5,2
Brunei	14	19	1,4
Fiji	16	73	4,6

Egg Prices in South America

Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Brazil	5	49	9,8
Bolivia	6	40	6,7
Paraguay	6	51	8,5
Honduras	7	66	9,4
Peru	7	76	10,9
Venezuela, RB	8	2	0,3
Ecuador	8	27	3,4
Argentina	8	49	6,1
Cuba	8	55	6,9
Mexico	9	45	5,0
El Salvador	10	58	5,8
Nicaragua	10	64	6,4
Uruguay	10	71	7,1
Dominican Republic	12	61	5,1
Chile	12	64	5,3
Colombia	13	36	2,8
Guatemala	13	63	4,9
Haiti	14	60	4,3
Suriname	16	50	3,1

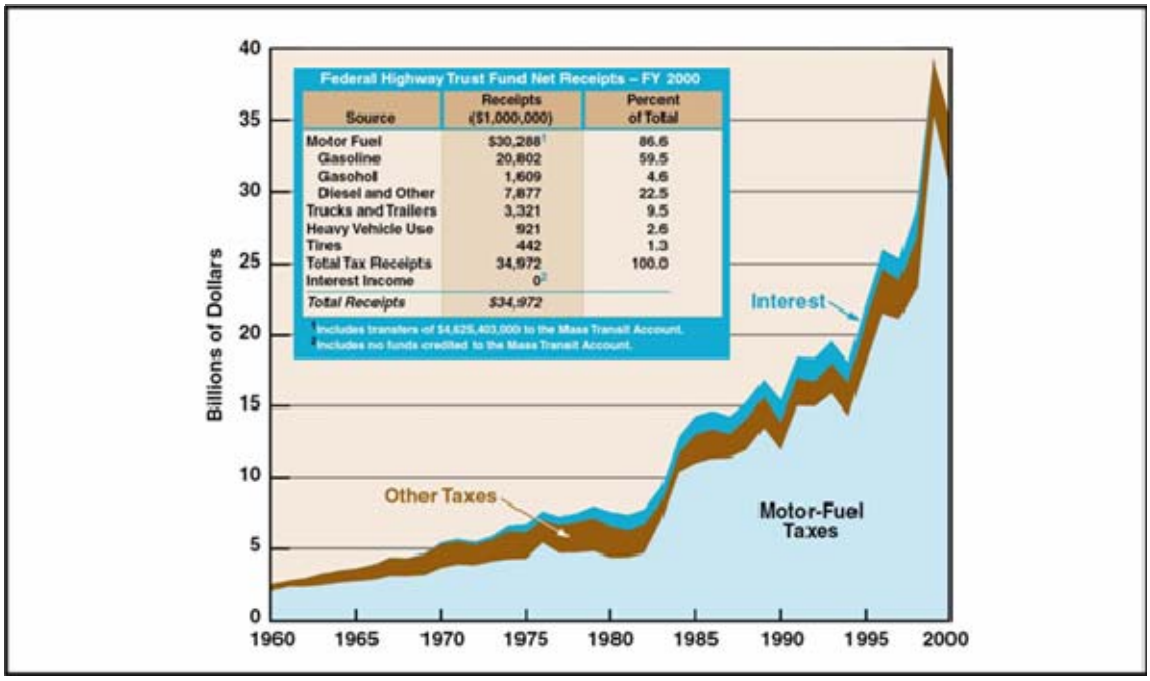
Egg Prices in East Europe

Country	Egg Price	Diesel Price	Egg Index
	US Cent per Egg	US Cent per Litre Diesel	Eggs per Litre Diesel
Ukraine	9	44	4,9
Bulgaria	10	89	8,9
Turkey	10	112	11,2
Germany	10	129	12,9
Russian Federation	12	45	3,8
Serbia	12	85	7,1
Macedonia, FYR	12	92	7,7
Kosovo	12	103	8,6
Montenegro	16	106	6,6
Romania	19	91	4,8



Fuel Taxation & Road Financing

- Fuel Taxation Principles
- Rules of Thumb for Road Financing
- US Federal Highway Trust Fund (Graph)



Federal Highway Trust Fund Net Receipts – FY 2000

Source	Receipts ($1,000,000)	Percent of Total
Motor Fuel	$30,288[1]	86.6
Gasoline	20,802	59.5
Gasohol	1,609	4.6
Diesel and Other	7,877	22.5
Trucks and Trailers	3,321	9.5
Heavy Vehicle Use	921	2.6
Tires	442	1.3
Total Tax Receipts	34,972	100.0
Interest Income	0[2]	
Total Receipts	*$34,972*	

[1] Includes transfers of $4,625,403,000 to the Mass Transit Account.
[2] Includes no funds credited to the Mass Transit Account.

Source: FHWA - Our Nation's Highways 2000

11.1 Fuel Taxation Principles based on the US Experience
Fuel Taxes as a "Road Fee", Limited Network Cross-subsidization

Contrary to the traditional belief that all taxes, from whatever source, always feed the general state budget, it is nowadays accepted that – pursuant to the general goal of economic growth – the allocation of taxes has to follow certain principles. In the case of transport **5 principles (concepts) for fuel taxes** have to be considered and applied in strict hierarchical order:

Principle 1: The user pays principle of fuel taxes as a "road fee"

This denotes that in general the fee for using and damaging the road is not levied by special toll stations but through a fuel surcharge. Thus, the financing of the roads & highways sector via fuel surcharges is the primary pricing-policy task in all countries. On global average, some 80 % to 90 % of all transport-sector revenues are raised via fuel taxes. The remaining 10 % to 20 % mainly stem from annual vehicles taxes, whereby small passenger vehicles naturally pay less than large trucks.

- According to experience so far, the general magnitude of road-financing via fuel taxes is about 10 US cents / litre of diesel and gasoline in industrialized countries such as the USA. In the USA, this is enough to cover all direct expenditure on the roads & highways sector (maintenance, refurbishment, new construction and capital recovery for the roads & highways departments)[1]. Thus, the average US federal tax rate amounts to 18 cents per gallon (= 5 cents per litre), and another average 18 cents per gallon is added as the state highway tax rate for the financing of state roads and highways. This is demonstrated by the US Highway Trust Funds (see box on next page).
- Due to the lower traffic density, i.e. the presence of fewer vehicles, in the developing countries of Africa and elsewhere, however, 10 US cents per litre covers only day-to-day and periodical road maintenance expenditures, but no new construction or capital recovery for the roads and highways network. This standard rate of 10 US cents per litre fuel (plus a vehicle tax of US$ 75 per annum for small passenger vehicles and US$ 500 for medium-size trucks) was adopted by the World Bank within the scope of the International Road Maintenance Initiative[2] for less developed countries.

Principle 2: The road network concept for limited cross-subsidization

Contrary to the traditional practice of justifying new road investments via cost-benefit analysis on a road-by-road project basis, the existing road system is generally regarded as a unified network (often called "core network") in which the more heavily frequented, "better-off" states are expected to help finance the less heavily frequented, "worse-off" roads in states such as Alaska and Hawaii.

In developing countries, cross-subsidization takes place between the national roads of the main network on the one hand and rural roads on the other. While most fuel revenues stem from the main roads in countries like Tanzania and Zambia, **20 % - 25% of the road fund is earmarked for rural roads.**

[1] 1 US Federal Highway Administration FHWA-PL-95-028, Our Nation's Highways, Washington, D.C., p. 6
[2] World Bank, Ian Heggie, Technical Working Paper No. 275, p. 75

Principle 3: The sector concept: "transport finances transport" for the balance of state transport budgets

Modern economic thinking – as outlined in the structural adjustment process for the so-called transition and developing countries – requires a balanced transport sector budget at a national level. This means that deficits for other transport undertakings, often including the railways, which cannot be eliminated in the short run, have to be covered by the profits/surplus achieved in other sub-sectors of the "transport family".
This primarily refers to fuel tax revenue from road transport. In Germany, for instance, this means that 7 US cents per litre is reserved for covering the deficits of regional railways, and 2 US cents per litre is invested in solutions for urban traffic problems. In the USA, the fuel-tax fed highway trust fund is tapped for "surface transportation program", "air quality improvement" and "highway safety program" expenditures.[2]

Principle 4: The concept of surplus "luxury" taxation of gasoline for non-commercial (private) passenger vehicles

The global fuel price tables illustrate that practically all over the world taxes on gasoline are higher than taxes on diesel. Notwithstanding the fact that heavy goods vehicles cause much more damage to roads than light passenger cars, politicians generally view the taxation of gasoline-driven passenger cars as more justified than the taxation of commercial diesel-driven vehicles.
Consequently, gasoline often costs 30% - 50% more than diesel at the pump. As such, the additional "luxury tax" on gasoline need not be earmarked for any particular use.

Principle 5: The commercial VAT concept of value added tax or sales tax for general state taxation purposes

The basic understanding of the transport sector as a commercial sector implies that all goods (including vehicles and fuels) are subject to value added tax. This tax is needed to help defray the cost of general state administration and is calculated on the basis of the sales value of the goods, including all other previous taxes.

[1] According to the "Gemeinde-Verkehrs-Finanzierungs-Gesetz GVFG“
[2] FHWA-PL-95-028, p.41

11.2 Rules of Thumb for Road Financing
10 US Cent per Litre for Road Maintenance

Rules of Thumb for Road Financing

The 5 principles for fuel taxes lead to the "Rules of Thumb for Road Financing":

Road Financing by Fuel Taxes based on the US Experience

- **10 US cents per litre fuel tax is generally considered to be sufficient to finance the maintenance of the entire road network,** out of which 1/3 (3 US cents) is used for current annual maintenance, nearly 1/3 (3 US cents) for periodic maintenance (general surface repair every 8-12 years) and nearly 1/3 for rehabilitation (every 30 years and even new construction, mainly in industrialised countries) as well as 10% (1 cent) for administration overheads.
  This amount of 10 US cents per litre of fuel would be better secured within a Road Fund outside the annual State Budget discussions, in order to preserve the value of this most precious state asset.
- **2 US cents per litre fuel tax is needed to maintain the rural roads of an average country[1] (according to the 20% proportion of the road fund).** 2 US cents per litre gasoline and diesel may "do the trick" of financing the neglected rural roads. This cross-subsidisation of rural roads within the "family of roads" has proved to be the best solution to the financing of these roads which are crucial for rural development. Yet in many countries, no ministry (Works, Local Government, Agriculture, Interior etc.) wishes to be responsible for these rural roads.

Such general rules of thumb have proved to be useful in political debates for the mass media and for general discussion at Cabinet level between the Ministries of Public Works and Finance.

- For the majority of developing countries situated to fuel price category III (between the Low US and the high EU fuel taxation levels, cf. chapter 3.5) the 2 rules above may even be summarized into one financing rule:

  "The primary Value Added Tax on gasoline and diesel is to be used for roads (as a so-called Value Preservation Tax), and only the secondary VAT may go into the state budget."[2] I.e. 15% of the net sales price of 70 US cents / litre gasoline and 55 cents for diesel may result in approximately 10 cents per litre for expenditure on roads.

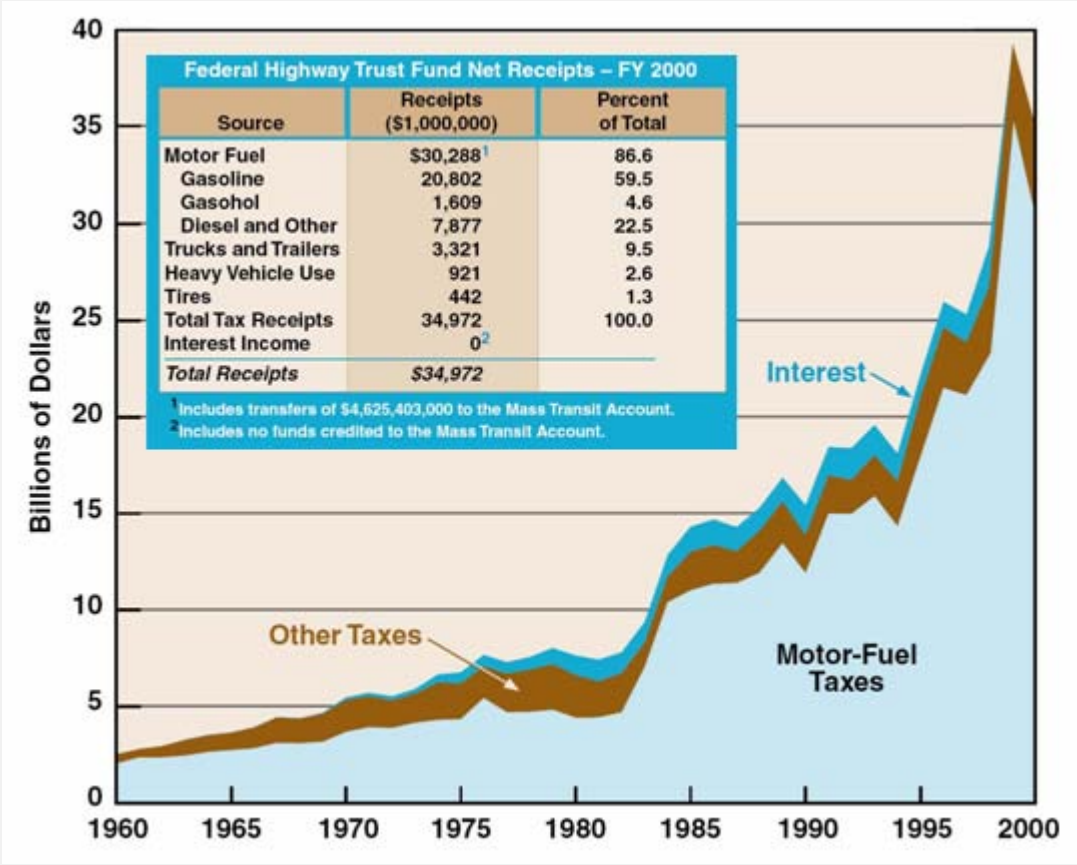
Note: The possible inaccuracy of these figures is counterbalanced by the fact that the unknown backlog of previously suspended maintenance is not taken into consideration. Furthermore urban roads and the annual vehicle tax are not included, these are often approximately 10-15 % of the road fund volume.

[1] PIARC-C3/20 Committee, Metschies "Finance, Organisation and Participation for rural roads", Siem Rap/Cambodia 2002
[2] Metschies/Rausch "Financing Road Maintenance in West Africa", GTZ, Eschborn 2000

11.3 Example UNITED STATES
Financing of National Roads by Fuel Taxes

Financing of National Roads by Fuel Taxes

USA Federal Highway Trust Fund (HTF)
(Receipts [million US $] over 34 years: 1960 - 2000,
incl. Interstate Highway System starting 1983)



Federal Highway Trust Fund Net Receipts – FY 2000

Source	Receipts ($1,000,000)	Percent of Total
Motor Fuel	$30,288[1]	86.6
Gasoline	20,802	59.5
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Diesel and Other	7,877	22.5
Trucks and Trailers	3,321	9.5
Heavy Vehicle Use	921	2.6
Tires	442	1.3
Total Tax Receipts	34,972	100.0
Interest Income	0[2]	
Total Receipts	*$34,972*	

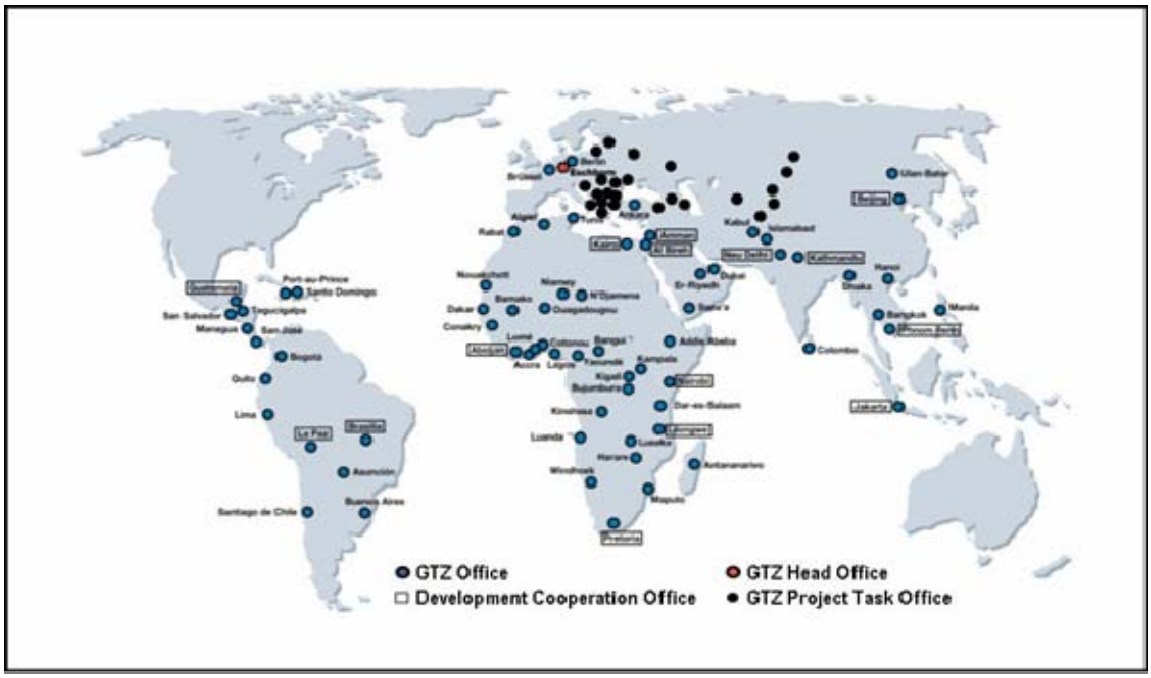
[1] Includes transfers of $4,625,403,000 to the Mass Transit Account.
[2] Includes no funds credited to the Mass Transit Account.

Source: FHWA: Our Nation's Highways 2000 (www.fhwa.dot.gov/ohim/onh00)

Most receipts from the Federal taxation of motor fuel, along with a number of other Highway-related taxes, are deposited in the Federal Highway Trust Fund. The Trust Fund is made up of two accounts – highway and mass transit – and is dedicated for the funding of Federal surface transportation programs. In this way, taxes on highway users are used to fund highway facilities. The Trust Fund has provided a stable funding source for highway programs since it has been established.

Annex 1

- Data Sources and Unit Conversion
- Fuel Prices in Local Currencies (Tables)
- Country-related Consumption of Motor Fuels (Tables)
- Fuel Tax Contribution to Total State Revenues (Tables)
- Bibliography

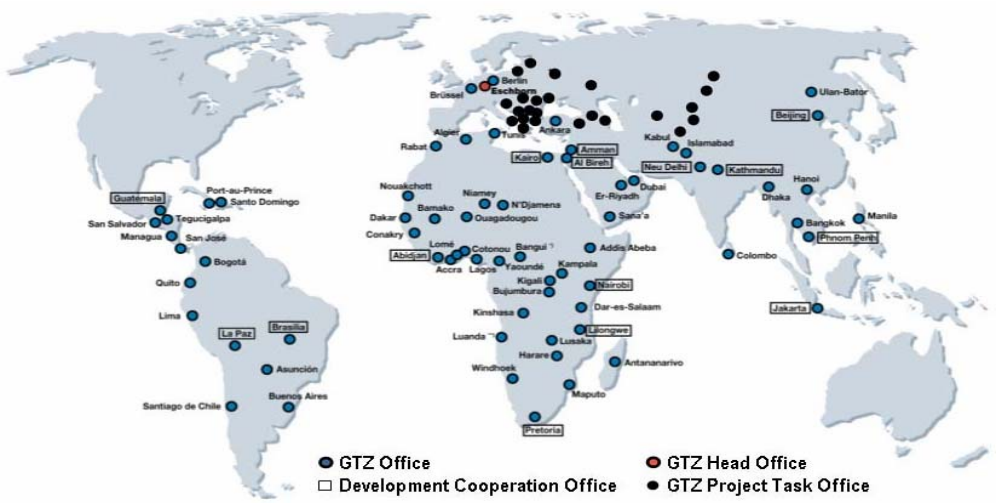


12.1 Data Sources
GTZ Offices, ADAC, German Embassies / Consulates

Data Sources

The data pertaining to the industrialised countries stem from various sources, primarily from the German automobile club "Allgemeiner Deutscher Automobil Club" (ADAC) in Munich for the countries of Europe. Most of the data for developing countries, especially those in Africa and Asia, are based on local price surveys conducted by the GTZ's local offices. In some cases, e.g., Cuba, Myanmar, Sudan, Turkmenistan, North Korea and several Persian Gulf Countries, the German embassies/consulates worldwide kindly assisted us in our efforts to collect the relevant data.

GTZ Offices Worldwide



Over 10,000 employees worldwide work for GTZ in over 131 countries.

Method of Collection

Around the world, fuel prices vary not only from country to country as a function of global oil prices or due to individual countries' legal provisions, but also within individual countries. Countrywide average filling-station fuel price statistics (pump prices) were utilised in this survey for Europe and South America, whereas for all other developing countries fuel prices as posted at filling stations in the respective capital cities were collected. The latter was done by way of a questionnaire circulated to GTZ local offices worldwide. When several fuel prices for major cities were available the un-weighted average has been used (see below).

Cities of India	**Diesel Price** **Indian Rupee** / litre	**Super Gasoline Price** **Indian Rupee** / litre
Delhi	18.06	30.20
Mumbai	22.50	34.30
Chennai	19.78	35.00
Calcutta	19.43	30.42
Average Fuel Price India	**20**	**32**

12.2 Conversion Units
US Gallon, Imperial Gallon, Barrel, Litre

Unit Conversion for Non-Litre Countries

All fuel prices are converted into the metric litre as unit of measurement.

Region	Country	Fuel Unit
Africa	Liberia	US Gallon
	Sierra Leone	US Gallon
America	Antigua and Barbuda	Imperial Gallon
	Belize	US Gallon
	Colombia	US Gallon
	Dominican Republic	US Gallon
	Ecuador	US Gallon
	El Salvador	US Gallon
	Grenada	US Gallon
	Guatemala	US Gallon
	Guyana	Imperial Gallon
	Haiti	US Gallon
	Honduras	US Gallon
	Nicaragua	US Gallon
	Panama	US Gallon
	Peru	US Gallon
	Puerto Rico	US Gallon
	United States	US Gallon
Asia	Myanmar (Burma)	US Gallon
	United Arab Emirates	Imperial Gallon

Unit Conversions		
1 US Gallon	=	3.785 Litres
1 Imperial Gallon	=	4.546 Litres
1 Barrel	=	159.000 Litres

Conversion of US$ per Barrel to US Cents per Litre

Crude Oil Price per Barrel	43 US$ (study)	50 US$	55 US$	60 US$	65 US$	70 US$	75 US$
Crude Oil Price per Litre	27 Ct. (study)	31 Ct.	35 Ct.	38 Ct.	41 Ct.	44 Ct.	47 Ct.

Currency Conversion

The objective was to compare the fuel-price situation in various countries around the world. The US dollar was chosen as the reference currency again, as all crude oil prices and the most countries import statistics are quoted in US dollars. The conversion rates for the individual countries were also pegged to that of the US dollar, as listed in the international monetary table published in the “Financial Times” of 22 November 2004. In countries with different or double exchange rates, the "market rate / parallel rate / black market rate" was given preference over the official exchange rate, not only as it is the rate consumers mostly rely on, but also as experience shows that sooner or later the official exchange rate tends to be replaced by the parallel exchange rate (c.f. Zimbabwe, Uzbekistan, Myanmar).

Crude oil price at world market

Prices for Crude oil increased dramatically during the year 2004. In November 2004 Crude oil prices for BRENT were 42.84 US$, for the OPEC basket 38.96 US$ per barrel. Prices for unleaded Super Gasoline at Rotterdam were 433 US $ and for Diesel 491 US$ per metric ton (Gas oil 435 $ per ton) in November, as recorded by Mineralöl-Wirtschafts-Verband MWV (see “MWV aktuell 5/05”). This corresponds to 32.9 US cents per litre for unleaded super and 40.9 US cents per litre for Diesel at Rotterdam.

12.3 Exchange Rates and Fuel Prices in Local Currency
as of 17-20 Nov. 2004 per Litre

Country	Currency	Local Currency Prices per Litre		Exchange Rate
		Diesel	Super Gasoline	1 US $ =
Afghanistan	Afghani	24.94	22.79 **	43.00
Albania	Lek	99.30	119.74	97.35
Algeria	Dinar (Algeria)	10.92	23.30	72.82
Angola	Readj Kwanza	25.20	33.89 *	86.89
Antigua and Barbuda	E Carib $	1.84	1.84	2.70
Argentina	Peso	1.44	1.85	2.94
Armenia	Dram	281.68	342.04	503.00
Australia	A $	1.06	1.08	1.28
Austria	Euro	0.91	1.01	0.77
Azerbaijan	Manat	883.08	2,011.46	4,906.00
Bahrain	Dinar (Bahrain)	0.07	0.10	0.38
Bangladesh	Taka	20.22	35.09 **	59.47
Barbados	Barb $	1.24	1.64 *	2.00
Belarus	Rouble	959.20	1,351.60	2,180.00
Belgium	Euro	0.82	1.15	0.77
Belize	B $	1.58	2.38	1.98
Benin	CFA Fr	361.67	386.79	502.32
Bhutan	Ngultrum	26.55	35.10 *	45.01
Bolivia	Bollviano	3.21	4.33	8.02
Bosnia and Herzegovina	Marka	1.45	1.45	1.50
Botswana	Pula	2.73	2.95	4.48
Brazil	Real	1.36	2.34	2.78
Brunei	Brunei $	0.31	0.53 ***	1.65
Bulgaria	Lev	1.33	1.38	1.50
Burkina Faso	CFA Fr	472.18	592.74	502.32
Burundi	Burundi Fr	1,144.80	1,102.40 *	1,060.00
Cambodia	Riel	2,348.50	3,041.50	3,850.00
Cameroon	CFA Fr	416.93	477.20 *	502.32
Canada	Canadian $	0.82	0.82	1.20
Cape Verde	CV Escudo	69.21	119.63 *	85.45
Central African Republic	CFA Fr	572.64	647.99	502.32
Chad	CFA Fr	507.34	587.71	502.32
Chile	Chilean Peso	377.12	500.86	589.25
China	Renminbi	3.56	3.97	8.28
China, Hong Kong	HK $	7.77	11.97	7.77
China, Macao	Pataca			8.01
Colombia	Col Peso	906.59	1,813.18	2,518.30
Congo, Dem. Rep.	Congo Fr	350.73	398.36 **	433.00
Congo, Rep.	CFA Fr	296.37	437.02 *	502.32
Costa Rica	Colon	254.31	354.21	454.12
Côte d'Ivoire	CFA Fr	477.20	572.64 ***	502.32
Croatia	Kuna	6.53	7.16	5.78
Cuba	CUC Cu.Peso Convert.	0.55	0.95	1.00
Cyprus (south only)	Cyprus £	0.42	0.48	0.44
Czech Republic	Koruna	25.47	25.71	23.81
Denmark	Danish Krone	7.68	8.59	5.69
Dominican Republic	D Peso	17.08	23.80 ***	28.00
Ecuador	US $	0.27	0.54 *	1.00
Egypt, Arab Rep.	Egyptian £	0.62	1.74	6.22
El Salvador	USD NLC	0.58	0.65	1.00
Eritrea	Nakfa	10.00	20.00	25.00 PER
Estonia	Kroon	11.26	11.26	11.98
Ethiopia	Ethiopian Birr	3.61	5.16 *	8.60
Fiji	Fiji $	1.21	1.51 **	1.66

NLC: in these countries fuel is sold in **non-local currency**

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

PER: **parallel exchange rate** instead of the official exchange rate

12.3 Exchange Rates and Fuel Prices in Local Currency
as of 17-20 Nov. 2004 per Litre

Country	Currency	Local Currency Prices per Litre		Exchange Rate
		Diesel	Super Gasoline	1 US $ =
Finland	Euro	0,93	1,18	0,77
France	Euro	0,96	1,09	0,77
Gabon	CFA Fr	346,60	452,09 *	502,32
Gambia	Dalasi	21,54	22,13 *	29,50
Georgia	Lari	1,19	1,30	1,78
Germany	Euro	0,99	1,12	0,77
Ghana	Cedi	3.874,30	4.414,90	9.010,00
Greece	Euro	0,94	0,87	0,77
Grenada	E Carib $	1,84	1,97 *	2,70
Guatemala	Quetzal	4,90	5,29	7,78
Guinea	Fr (Guinea)	2.311,50	2.512,50 *	3.350,00 PER
Guinea-Bissau	CFA Fr			502,32
Guyana	Guyanese $	109,19	132,46	179,00
Haiti	Gourde	21,00	30,80	35,00
Honduras	Lempira	12,23	15,01	18,53
Hungary	Forint	231,50	246,69	189,76
Iceland	Icelandic Krona	58,56	109,13	66,54
India	Indian Rupee	27,90	39,15	45,01
Indonesia	Rupiah	1.620,27	2.430,41	9.001,50
Iran, Islamic Rep.	Rial	175,76	790,92 *	8.788,00
Iraq	New Iraqi Dinar	14,63	43,88	1.462,50
Ireland	Euro	0,99	0,99	0,77
Israel	Shekel	3,49	4,59	4,37
Italy	Euro	1,00	1,17	0,77
Jamaica	Jamaican $	34,95	38,63	61,32
Japan	Yen	97,80	129,71 ***	102,94
Jordan	Jordanian Dinar	0,13	0,43	0,71
Kazakhstan	Tenge	49,40	67,59	129,99
Kenya	Kenja Shilling	61,75	74,75	81,25
Korea, Dem. Rep. (North)	EURO NLC	0,47	0,60	0,77
Korea, Rep. (South)	Won (Korea South)	1.015,08	1.442,48 *	1.068,50
Kosovo	EURO NLC	0,79	0,89	0,77
Kuwait	Kuwaiti Dinar	0,07	0,07	0,29
Kyrgyz Republic	Som	17,64	19,69	41,02
Lao PDR	New Kip	4.920,00	5.560,00 *	10.325,00
Latvia	Lats	0,47	0,49	0,52
Lebanon	USD NLC	0,43	0,71	1,00
Lesotho	Maloti	4,09	4,39	6,02
Liberia	USD NLC	0,77	0,75 *	1,00
Libya	Libyan Dinar	0,10	0,11 *	1,27
Liechtenstein	Swiss Fr	1,59	1,50	1,16
Lithuania	Litas	2,70	2,72	2,64
Luxembourg	Euro	0,75	0,91	0,77
Macedonia, FYR	Denar	44,46	56,54	48,33
Madagascar	Franc	7.706,45	10.242,75	9.755,00
Malawi	Kwacha	95,26	102,84	108,25
Malaysia	Ringgit	0,84	1,41 ***	3,80
Mali	CFA Fr	452,09	582,69	502,32
Malta	Maltese Lira	0,32	0,39	0,33
Mauritania	Ouguiya	156,06	211,61 *	264,51
Mauritius	Maur Rupee	15,93	21,05	28,45
Mexico	Mexican Peso	5,11	6,70 ***	11,36
Moldova	Leu	3,85		12,41
Mongolia	Tugrik	811,37	738,71	1.211,00

NLC: in these countries fuel is sold in **non-local currency**

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

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as of 17-20 Nov. 2004 per Litre

Country	Currency	Local Currency Prices per Litre		Exchange Rate
		Diesel	Super Gasoline	1 US $ =
Montenegro	EURO NLC	0.81	0.92	0.77
Morocco	Dirham	5.97	9.38	8.52
Mozambique	Metical	15,674.63	17,460.34	19,841.30
Myanmar (Burma)	Kyat	40.74	48.89 *	407.41 PER
Namibia	Dollar (Namibia)	3.91	4.09	6.02
Nepal	Nepalese Rupee	35.28	51.85 *	72.01
Netherlands	Euro	0.94	1.24	0.77
New Zealand	NZ $	0.58	1.08	1.41
Nicaragua	Gold Cordoba	10.33	11.14	16.14
Niger	CFA Fr	457.11	512.37 *	502.32
Nigeria	Naira	59.83	51.85	132.95
Norway	Norw. Kone	8.98	10.04	6.24
Oman	Rial Omani	0.10	0.12	0.38
Pakistan	Pak. Rupee	24.48	37.02	59.71
Panama	USD NLC	0.48	0.54 *	1.00
Papua New Guinea	Kina	1.97	2.90 *	3.09
Paraguay	Guarani	3,113.55	3,785.10	6,105.00
Peru	New Sol	2.52	3.71	3.31
Philippines	Peso (Philippines)	19.14	29.28	56.31
Poland	Zloty	3.53	3.89	3.24
Portugal	Euro	0.83	1.06	0.77
Puerto Rico	US $	0.52	0.51 ***	1.00
Qatar	Riyal	0.58	0.76	3.64
Romania	Leu (Romania)	27,770.02	29,295.84	30,516.50
Russian Federation	Rouble (Russia)	12.84	15.69	28.53
Rwanda	Fr (Rwanda)	549.95	544.39	555.50
Sao Tomé and Principe	Dobra			9,007.00
Saudi Arabia	Riyal (Saudi Arabia)	0.38	0.90	3.75
Senegal	CFA Fr	452.09	552.55 *	502.32
Serbia	Dinar (Serbia)	50.49	59.40	59.40
Sierra Leone	Leone	2,536.50	2,166.00	2,850.00 PER
Singapore	$ (Singapore)	0.91	1.47	1.65
Slovak Republic	Koruna (Slovakia)	35.78	35.18	30.07
Slovenia	Tolar	203.90	205.73	183.69
Somalia	Shilling	12,460.00	19,040.00 *	14,000.00 PER
Somaliland (N.Somalia)	nicht FT: abwarten !		*	
South Africa	Rand	4.81	4.87	6.02
Spain	Euro	0.84	0.93	0.77
Sri Lanka	Rupee (Sri Lanka)	42.98	75.47	104.82
Sudan	USD NLC	0.29	0.47 *	1.00
Suriname	Dollar (Surinam)	1.37	1.37	2.73
Swaziland	Lilangeni	4.39	4.57	6.02
Sweden	Krona	9.39	10.35	6.86
Switzerland	Fr (Switzerland)	1.59	1.50	1.16
Syrian Arab Republic	£	6.77	23.95 *	52.08
Taiwan	$ Taiwan	17.85	23.04	32.45
Tajikistan	Somoni	1.64	1.87	2.79
Tanzania	Shilling (Tanzania)	920.90	984.41	1,058.50
Thailand	Bath	14.78	21.57	39.95
Timor Leste	USD NLC	0.65	0.65 *	1.00
Togo	CFA Fr	416.93	426.97	502.32
Trinidad and Tobago	$ (Trinidad&Tobago)	1.49	2.18	6.22
Tunisia	Dinar (Tunisia)	0.48	0.83	1.22
Turkey	Lira	1,615,600.00	2,077,200.00	1,442,500.00

NLC: in these countries fuel is sold in **non-local currency**

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

PER: **parallel exchange rate** instead of the official exchange rate

12.3 Exchange Rates and Fuel Prices in Local Currency
as of 17-20 Nov. 2004 per Litre

Country	Currency	Local Currency Prices per Litre		Exchange Rate
		Diesel	Super Gasoline	1 US $ =
Turkmenistan	TMM	255.00	510.00	25,500.00 PER
Uganda	New Shilling	1,518.00	1,759.50	1,725.00
Ukraine	Hryvna	2.34	2.92	5.32
United Arab Emirates	Dirham (UAE)	1.03	1.03	3.67
United Kingdom	£	0.86	0.84	0.54
United States	US $	0.57	0.54	1.00
Uruguay	Peso Uruguay	18.58	29.58	26.17
Uzbekistan	Sum	314.06	366.40	1,046.86
Venezuela, RB	Bolivar	50.97	101.93	2,548.31
Vietnam	Dong	5,044.16	7,566.24 *	15,763.00
West Bank and Gaza	Shekel	3.06	5.11	4.37
Yemen, Rep.	Rial (Yemen)	16.67	35.19	185.21
Zambia	Kwacha (Zambia)	4,674.60	5,247.00	4,770.00
Zimbabwe	$ (Simbabwe)	4,131.57	3,877.32 *	6,356.26 PER

NLC: in these countries fuel is sold in **non-local currency**

Super Gasoline (95 octan/A95/Premium) is not available everywhere. * = Gasoline (92 octan/A92); ** = Premium Plus (98 octan/A98); *** = Average of Gasoline (92 octan/A92) and Premium Plus (98 octan/A98).

PER: **parallel exchange rate** instead of the official exchange rate

12.4 National Fuel Consumption

calculated by the Number of Registered Vehicles and Mileage

	Country	Vehicle Number (based on IRF, ARAL and VDA Figures*)			Vehicle km (Estimation**)		Fuel Consumption (Calculation***)	
		Commercial Vehicles	Passenger Cars	Data Source	Commercial Vehicles	Passenger Cars	Commercial Vehicles	Passenger Cars
		[1000 vehicles]		[-]	[km per year]		[1000 Litre]	
							Diesel	**Gasoline**
A	Albania	72,986	148,531	IRF 2002	40,000	8,500	700,666	113,626
	Algeria	512,698	970,492	Aral 2003	40,000	8,500	4,921,901	742,426
	Argentina	1,496,567	5,047,630	IRF 1998	60,000	8,750	21,550,565	3,975,009
	Australia	2,177,300	9,560,600	IRF 1998	75,000	15,000	39,191,400	12,906,810
	Austria	329,160	3,987,093	IRF 2002	75,000	15,000	5,924,880	5,382,576
	Azerbaijan	94,350	350,559	IRF 2002	25,000	8,000	566,100	252,402
B	Belgium	555,406	4,787,359	IRF 2002	75,000	15,000	9,997,308	6,462,935
	Benin	13,850	44,324	Aral 2003	25,000	8,000	83,100	31,913
	Bolivia	156,309	254,601	Aral 2003	40,000	8,500	1,500,566	194,770
	Bosnia and H.	75,861	129,439	Aral 2003	40,000	8,500	728,266	99,021
	Brazil	4,335,714	16,925,961	Aral 2003	40,000	8,500	41,622,854	12,948,360
	Burkina Faso	25,749	44,805	Aral 2003	25,000	8,000	154,494	32,260
C	Cameroon	80,178	149,934	Aral 2003	25,000	8,000	481,068	107,952
	Canada	723,665	17,543,659	IRF 2002	75,000	15,000	13,025,970	23,683,940
	Chad	21,082	13,050	Aral 2003	25,000	8,000	126,492	9,396
	Chile	730,762	1,373,121	IRF 2002	60,000	8,750	10,522,973	1,081,333
	China	7,163,201	8,537,333	IRF 2000	40,000	8,500	68,766,730	15,818,973 ****
	China, HK	183,954	429,226	Aral 2003	75,000	15,000	3,311,172	579,455
	Colombia	830,226	1,876,698	Aral 2003	40,000	8,500	7,970,170	1,435,674
	Congo, Rep.	17,278	39,807	Aral 2003	25,000	8,000	103,668	28,661
	Costa Rica	204,206	367,832	IRF 2002	60,000	8,750	2,940,566	289,668
	Côte d'Ivoire	92,826	415,013	Aral 2003	25,000	8,000	556,956	298,809
	Croatia	136,626	1,244,252	IRF 2002	60,000	8,750	1,967,414	979,848
	Czech Republic	344,774	3,647,067	IRF 2002	60,000	8,750	4,964,746	2,872,065
D	Denmark	345,611	1,933,234	IRF 2002	75,000	15,000	6,220,998	2,609,866
E	**Egypt**	581,413	2,126,514	Aral 2003	40,000	8,500	5,581,565	1,626,783
	Eritrea	385	6,774	Aral 2003	25,000	8,000	2,310	4,877
	Ethiopia	52,169	67,614	IRF 2002	25,000	8,000	313,014	48,682
F	Finland	326,284	2,180,025	IRF 2002	75,000	15,000	5,873,112	2,943,034
	France	5,984,000	29,160,000	IRF 2002	75,000	15,000	107,712,000	39,366,000
G	Gabon	18,170	28,005	Aral 2003	60,000	8,750	261,648	22,054
	Germany	2,550,222	42,323,672	IRF 1999	75,000	15,000	45,903,996	57,136,957
	Ghana	48,158	102,494	Aral 2003	25,000	8,000	288,948	73,796
	Guatemala	53,236	578,733	IRF 1999	40,000	8,500	511,066	442,731
	Guinea	24,080	16,520	Aral 2003	25,000	8,000	144,480	11,894
H	Haiti	33,647	33,959	Aral 2003	25,000	8,000	201,882	24,450
	Hungary	387,168	2,629,526	IRF 2002	60,000	8,750	5,575,219	2,070,752
I	**India**	3,534,454	6,944,522	Aral 2003	25,000	8,000	21,206,724	14,937,256 ****
	Indonesia	2,520,556	3,236,801	Aral 2003	25,000	8,000	15,123,336	5,873,004 ****
	Iran	653,449	2,395,978	Aral 2003	40,000	8,500	6,273,110	2,551,287 ****
	Ireland	256,382	1,443,333	Aral 2003	75,000	15,000	4,614,876	1,948,500
	Israel	354,864	1,522,112	IRF 2002	75,000	15,000	6,387,552	2,054,851
	Italy	3,726,142	31,416,686	IRF 1999	75,000	15,000	67,070,556	42,412,526
J	Jamaica	28,853	112,966	Aral 2003	40,000	8,500	276,989	86,419
	Japan	19,452,441	54,540,512	IRF 2002	75,000	15,000	350,143,938	73,629,691
	Jordan	106,909	296,149	Aral 2003	40,000	8,500	1,026,326	226,554

* The most recent available and the most reliable figures have been chosen.
** The km estimations are depending on the income of the countries (LIC, LMIC, UMIC, HIC).
*** Commercial vehicles are calculated with 24 litre diesel per 100 km.
Passenger cars are calculated with 9 litre gasoline per 100 km.
**** Gasoline consumption includes the consumption of motor cycles.

12.4 National Fuel Consumption

calculated by the Number of Registered Vehicles and Mileage

	Country	Vehicle Number (based on IRF, ARAL and VDA Figures*)			Vehicle km (Estimation**)		Fuel Consumption (Calculation***)	
		Commercial Vehicles	Passenger Cars	Data Source	Commercial Vehicles	Passenger Cars	Commercial Vehicles	Passenger Cars
		[1000 vehicles]		[-]	[km per year]		[1000 Litre]	
							Diesel	**Gasoline**
K	Kazakhstan	265,558	1,062,554	IRF 2002	40,000	8,500	2,549,357	812,854
	Kenya	96,726	244,836	IRF 2000	25,000	8,000	580,356	176,282
	Korea, South	4,179,959	9,750,238	IRF 2002	75,000	15,000	75,239,262	13,162,821
	Kuwait	196,346	756,296	Aral 2003	75,000	15,000	3,534,228	1,021,000
L	Lao PDR	22,948	16,749	Aral 2003	25,000	8,000	137,688	76,739 ****
M	Malawi	33,045	31,152	Aral 2003	25,000	8,000	198,270	22,429
	Malaysia	764,306	5,069,412	IRF 2002	60,000	8,750	11,006,006	5,628,095 ****
	Mali	22,000	30,547	Aral 2003	25,000	8,000	132,000	21,994
	Mauritania	13,068	22,153	Aral 2003	25,000	8,000	78,408	15,950
	Mauritius	33,615	92,969	Aral 2003	60,000	8,750	484,056	107,597 ****
	Mexico	6,246,000	13,600,100	VDA 2003	60,000	8,750	89,942,400	10,710,078
	Mongolia	39,275	44,176	Aral 2003	25,000	8,000	235,650	31,807
	Morocco	326,350	1,326,108	IRF 2002	40,000	8,500	3,132,960	1,014,473
	Mozambique	28,021	28,951	Aral 2003	25,000	8,000	168,126	20,845
N	Namibia	81,002	82,580	IRF 2002	40,000	8,500	777,619	63,174
	Netherlands	1,039,032	7,138,026	Aral 2003	75,000	15,000	18,702,576	9,636,335
	New Zealand	460,960	2,414,840	IRF 2002	75,000	15,000	8,297,280	3,260,034
	Nicaragua	113,062	83,168	IRF 2002	25,000	8,000	678,372	59,881
	Niger	17,248	41,206	Aral 2003	25,000	8,000	103,488	29,668
	Nigeria	573,273	976,376	Aral 2003	25,000	8,000	3,439,638	702,991
	Norway	465,138	1,899,699	IRF 2002	75,000	15,000	8,372,484	2,564,594
O	Oman	111,102	262,200	Aral 2003	60,000	8,750	1,599,869	206,483
P	**Pakistan**	396,537	760,342	Aral 2003	25,000	8,000	2,379,222	980,083 ****
	Panama	110,310	296,458	Aral 2003	60,000	8,750	1,588,464	233,461
	Portugal	352,659	4,416,557	IRF 2001	75,000	15,000	6,347,862	5,962,352
R	**Russia**	5,222,374	15,151,515	Aral 2003	40,000	8,500	50,134,790	11,590,909
	Rwanda	19,648	15,035	Aral 2003	25,000	8,000	117,888	10,825
S	Saudi Arabia	1,673,309	2,775,244	Aral 2003	60,000	8,750	24,095,650	2,185,505
	Senegal	35,753	98,260	IRF 1999	25,000	8,000	214,518	70,747
	Sierra Leone	7,615	11,353	IRF 2002	25,000	8,000	45,690	8,174
	Singapore	118,534	404,274	IRF 2002	75,000	15,000	2,133,612	545,770
	Slovak Republic	175,073	1,326,891	IRF 2002	60,000	8,750	2,521,051	1,044,927
	Slovenia	67,587	920,476	Aral 2003	75,000	15,000	1,216,566	1,242,643
	South Africa	2,386,968	4,162,933	IRF 2002	40,000	8,500	22,914,893	3,184,644
	Spain	4,005,147	18,150,880	IRF 2001	75,000	15,000	72,092,646	24,503,688
	Sri Lanka	396,615	253,447	IRF 2002	40,000	8,500	3,807,504	452,458 ****
	Swaziland	38,201	35,272	Aral 2003	40,000	8,500	366,730	26,983
	Sweden	422,977	4,044,928	IRF 2002	75,000	15,000	7,613,586	5,460,653
	Switzerland	307,405	3,700,951	IRF 2002	75,000	15,000	5,533,290	4,996,284
	Syria	255,405	162,260	Aral 2003	40,000	8,500	2,451,888	124,129
T	**Tanzania**	46,799	28,701	Aral 2003	25,000	8,000	280,794	20,665
	Trinidad and Tob.	34,111	292,500	Aral 2003	60,000	8,750	491,198	230,344
	Tunisia	268,094	530,328	Aral 2003	40,000	8,500	2,573,702	405,701
	Turkey	1,636,203	4,600,140	IRF 2002	40,000	8,500	15,707,549	3,519,107
U	**United Kingdom**	3,569,100	29,007,801	VDA 2003	75,000	15,000	64,243,802	39,160,531
	United States	92,794,859	137,633,467	IRF 2001	75,000	15,000	1,670,307,462	185,805,180
	Uruguay	116,263	550,820	Aral 2003	60,000	8,750	1,674,187	433,771
	Venezuela	649,918	1,944,471	Aral 2003	60,000	8,750	9,358,819	1,531,271
V	Vietnam	91,452	485,066	Aral 2003	25,000	8,000	548,712	1,292,568 ****
Y	Yemen	319,399	281,589	Aral 2003	25,000	8,000	1,916,394	202,744

* The most recent available and the most reliable figures have been chosen.

** The km estimations are depending on the income of the countries (LIC, LMIC, UMIC, HIC).

*** Commercial vehicles are calculated with 24 litre diesel per 100 km.
Passenger cars are calculated with 9 litre gasoline per 100 km.

**** Gasoline consumption includes the consumption of motor cycles.

12.5 Fuel Tax Contribution to Total State Revenues
Calculation Details

	Country	Fuel Taxation* (= Retail Fuel Price - "Nornal Sales Price")		Fuel Tax Revenues** (based on Fuel Consumption and Fuel Taxation)			Total State Revenues incl. Grants***	Fuel Tax Revenues as Part of Total State Revenues
		[US Cents per Litre]		[Million US $]			[Million US $]	[%]
		Diesel	Gasoline	Diesel	Gasoline	Total		
A	Albania	0.58	0.78	403	88	491	2,050	24 %
	Algeria	-0.30	-0.14	-1,452	-100	-1,552	31,470	-5 %
	Argentina	0.05	0.18	970	696	1,665	29,150	6 %
	Australia	0.39	0.40	15,089	5,098	20,187	222,700	9 %
	Austria	0.75	0.87	4,414	4,656	9,070	142,500	6 %
	Azerbaijan	-0.27	-0.05	-150	-11	-161	2,715	-6 %
B	Belgium	0.63	1.05	6,248	6,754	13,002	173,700	7 %
	Benin	0.28	0.32	23	10	33	869	4 %
	Bolivia	-0.05	0.09	-68	17	-51	2,264	-2 %
	Bosnia and H.	0.53	0.52	382	51	433	3,618	12 %
	Brazil	0.05	0.39	1,873	4,985	6,858	140,600	5 %
	Burkina Faso	0.50	0.73	76	23	100	695	14 %
C	Cameroon	0.39	0.50	185	53	239	2,493	10 %
	Canada	0.24	0.23	3,061	5,329	8,390	151,000	6 %
	Chad	0.57	0.72	71	7	78	1,131	7 %
	Chile	0.20	0.40	2,052	427	2,479	21,530	12 %
	China	-0.02	0.03	-1,032	395	-636	317,900	0 %
	China, Hong Kong	0.56	1.09	1,838	629	2,466	26,600	9 %
	Colombia	-0.09	0.27	-677	380	-297	15,330	-2 %
	Congo, Rep.	0.15	0.42	15	12	27	870	3 %
	Costa Rica	0.12	0.33	338	94	432	2,497	17 %
	Côte d'Ivoire	0.51	0.69	281	205	486	2,412	20 %
	Croatia	0.69	0.79	1,348	769	2,117	14,140	15 %
	Czech Republic	0.63	0.63	3,103	1,795	4,898	39,310	12 %
D	Denmark	0.91	1.06	5,630	2,753	8,383	136,100	6 %
E	**Egypt**	-0.35	-0.18	-1,926	-285	-2,210	15,420	-14 %
	Eritrea	-0.05	0.35	0	2	2	235	1 %
	Ethiopia	-0.03	0.15	-8	7	-1	1,887	0 %
F	Finland	0.77	1.09	4,493	3,193	7,686	96,430	8 %
	France	0.81	0.97	86,708	37,988	124,696	1,005,000	12 %
G	Gabon	0.25	0.45	64	10	74	2,129	3 %
	Germany	0.85	1.01	38,789	57,423	96,212	1,200,000	8 %
	Ghana	-0.02	0.04	-4	3	-2	2,170	0 %
	Guatemala	0.19	0.23	95	100	194	2,878	7 %
	Guinea	0.25	0.30	35	4	39	383	10 %
H	Haiti	0.16	0.43	31	10	42	330	13 %
	Hungary	0.78	0.85	4,321	1,750	6,071	46,070	13 %
I	**India**	0.18	0.42	3,711	6,199	9,910	67,300	15 %
	Indonesia	-0.27	-0.19	-4,008	-1,087	-5,094	52,130	-10 %
	Iran	-0.43	-0.37	-2,666	-931	-3,597	43,340	-8 %
	Ireland	0.85	0.84	3,900	1,627	5,527	62,510	9 %
	Israel	0.36	0.60	2,268	1,223	3,490	48,090	7 %
	Italy	0.87	1.08	58,016	45,593	103,609	768,900	13 %
J	Jamaica	0.13	0.18	35	15	50	2,793	2 %
	Japan	0.51	0.81	176,823	59,272	236,095	1,401,000	17 %
	Jordan	-0.26	0.16	-262	35	-227	3,483	-7 %

* Theoretical "Normal Sales Price" for diesel: 27.5+11+6 = 44.5 US cents per litre diesel
Theoretical "Normal Sales Price" for for gasoline: 27.5+12+6 = 45.5 US cents per litre gasoline

** See Table 12.4 for the calculation of the fuel consumption.

*** Figures are taken from the "CIA Fact Book 2004" (www.cia.gov/cia/publications/factbook).

12.5 Fuel Tax Contribution to Total State Revenues
Calculation Details

	Country	Fuel Taxation* (= Retail Fuel Price - "Nornal Sales Price") [US Cents per Litre]		Fuel Tax Revenues** (based on Fuel Taxation and Fuel Consumption) [Million US $]			Total State Revenues incl. Grants*** [Million US $]	Fuel Tax Revenues as Part**** of Total State Revenues [%]
		Diesel	Gasoline	Diesel	Gasoline	Total		
K	Kazakhstan	-0.07	0.07	-166	53	-113	8,670	-1 %
	Kenya	0.32	0.47	183	82	265	2,890	9 %
	Korea, South	0.51	0.90	37,996	11,781	49,777	150,500	33 %
	Kuwait	-0.21	-0.22	-725	-220	-944	35,820	-3 %
L	Lao PDR	0.04	0.09	5	7	11	284	4 %
M	Malawi	0.44	0.50	86	11	97	536	18 %
	Malaysia	-0.23	-0.09	-2,476	-478	-2,955	25,330	-12 %
	Mali	0.46	0.71	60	16	76	764	10 %
	Mauritania	0.15	0.35	11	6	17	421	4 %
	Mauritius	0.12	0.29	56	31	86	1,231	7 %
	Mexico	0.01	0.14	450	1,446	1,896	160,000	1 %
	Mongolia	0.23	0.16	53	5	58	582	10 %
	Morocco	0.26	0.65	799	654	1,453	12,860	11 %
	Mozambique	0.35	0.43	58	9	67	1,186	6 %
N	Namibia	0.21	0.23	159	14	174	1,788	10 %
	Netherlands	0.79	1.17	14,682	11,226	25,908	256,900	10 %
	New Zealand	-0.04	0.32	-290	1,027	737	38,290	2 %
	Nicaragua	0.20	0.24	132	14	146	726	20 %
	Niger	0.47	0.57	48	17	65	320	20 %
	Nigeria	0.01	-0.07	17	-46	-28	11,780	0 %
	Norway	1.00	1.16	8,331	2,962	11,293	134,000	8 %
O	Oman	-0.19	-0.15	-296	-30	-326	9,291	-4 %
P	**Pakistan**	-0.04	0.17	-83	162	78	13,450	1 %
	Panama	0.04	0.09	56	20	75	3,095	2 %
	Portugal	0.64	0.93	4,031	5,515	9,546	74,380	13 %
R	**Russia**	0.01	0.10	251	1,101	1,352	106,400	1 %
	Rwanda	0.55	0.53	64	6	70	355	20 %
S	Saudi Arabia	-0.35	-0.22	-8,313	-470	-8,783	104,800	-8 %
	Senegal	0.46	0.65	98	46	143	1,572	9 %
	Sierra Leone	0.45	0.31	20	2	23	96	24 %
	Singapore	0.11	0.44	224	237	461	17,050	3 %
	Slovak Republic	0.75	0.72	1,878	747	2,625	15,440	17 %
	Slovenia	0.67	0.67	809	826	1,635	13,360	12 %
	South Africa	0.36	0.36	8,135	1,131	9,265	47,430	20 %
	Spain	0.66	0.76	47,221	18,500	65,721	383,700	17 %
	Sri Lanka	-0.04	0.27	-133	120	-13	3,340	0 %
	Swaziland	0.29	0.31	105	8	113	495	23 %
	Sweden	0.93	1.06	7,043	5,761	12,804	201,300	6 %
	Switzerland	0.93	0.84	5,118	4,172	9,290	131,500	7 %
	Syria	-0.32	0.01	-772	1	-772	6,580	-12 %
T	**Tanzania**	0.43	0.48	119	10	129	1,985	7 %
	Trinidad and Tob.	-0.21	-0.11	-101	-24	-125	3,250	-4 %
	Tunisia	-0.06	0.23	-142	91	-50	6,799	-1 %
	Turkey	0.68	0.99	10,603	3,466	14,069	78,530	18 %
U	**United Kingdom**	1.16	1.11	74,202	43,272	117,474	834,900	14 %
	United States	0.13	0.09	208,788	15,793	224,582	1,862,000	12 %
	Uruguay	0.27	0.68	444	293	736	3,332	22 %
	Venezuela	-0.43	-0.42	-3,977	-635	-4,613	26,910	-17 %
V	Vietnam	-0.13	0.03	-69	32	-36	10,660	0 %
Y	Yemen	-0.36	-0.27	-680	-54	-734	4,251	-17 %

* Theoretical "Normal Sales Price" for diesel: 27.5+11+6 = 44.5 US cents per litre diesel
Theoretical "Normal Sales Price" for for gasoline: 27.5+12+6 = 45.5 US cents per litre gasoline

** See Table 12.4 for the calculation of the fuel consumption.

*** Figures are taken from the "CIA Fact Book 2004" (www.cia.gov/cia/publications/factbook).

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Annex 2

- Cooperation with the Russian MADI University
- Cooperation with World Bank
- About the Editor

13.1 Cooperation with Russian MADI University

Russian University publishes the Fuel Price Study

The GTZ Study, International Fuel Prices 2003, is also available online (html format) on the website of the State Technical University MADI in Russia (http://en.madi.ru).
This is thanks to Russian-German cooperation based on the special personal commitment of Prof. Valentin Silyanov from the MADI University and Dr Gerhard P. Metschies.

Discover the Russian version of "International Fuel Prices 2003 (Цены на топливо в международном масштабе 2003)" at:

www.madi.ru/gtz

Contact the Russian MADI University

If you want to contact Prof. Silyanov, Vice Rector of the MADI University, please write an email in English or Russian to:

Prof. Valentin Silyanov
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Website: http://en.madi.ru

About the PDF file of the Russian version

The Russian version of "International Fuel Prices 2003" is also available as PDF file at:
www.International-Fuel-Prices.com

About the PDF format and the Russian version of Adobe Reader

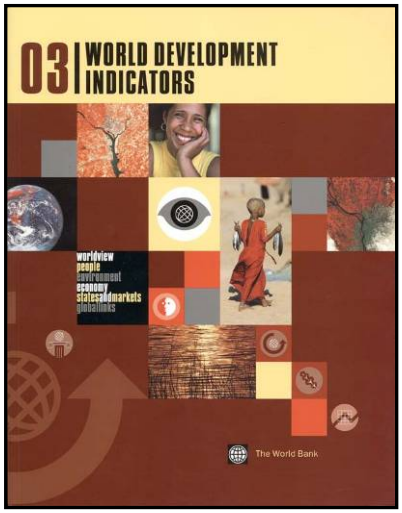
PDF is the international standard format for converting books for reading and printing, regardless of the production software. To read and print PDF files you need the Adobe Reader (previously called Acrobat Reader) that can be downloaded in over 21 different languages free of charge. Adobe Reader is available in an Russian version at:
www.adobe.ru

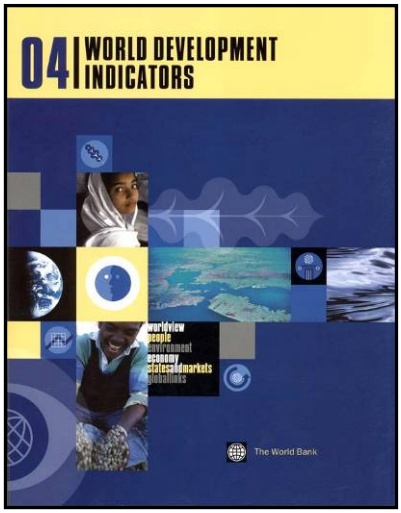
13.2 Cooperation with World Bank

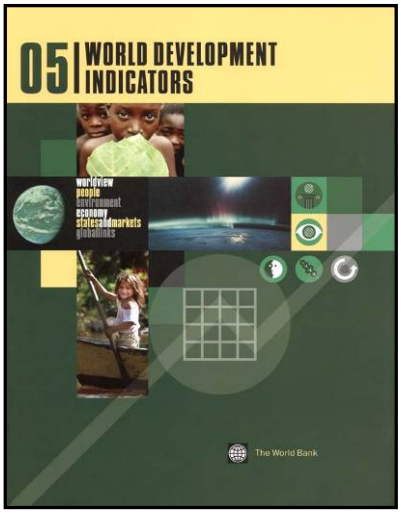
World Bank includes Fuel Prices in WDI

Since 1993, the World Bank has used and supported the fuel price surveys of the German Technical Cooperation GTZ.
Since 2003, the World Bank includes the figures from "International Fuel Prices" in its "World Development Indicators (WDI)":

> WDI 2003, page 164-167 (**www.Worldbank.org/data/wdi2003**)
> WDI 2004, page 160-163 (**www.Worldbank.org/data/wdi2004**)
> WDI 2005, page 174-177 (**www.Worldbank.org/data/wdi2005**)







About the World Bank

The World Bank (International Bank for Reconstruction and Development) is an international organization of more than 184 member countries and counts among the world's leading development institutions, its mission being to fight poverty and improve living standards with sustainable economic and social development projects in the developing world. The World Bank provides loans, policy advice, technical assistance and knowledge sharing. Visit the World Bank homepage at:

www.Worldbank.org

About World Development Indicators

World Development Indicators (WDI) is the title of one of the most important World Bank publication and provides statistical information on global development.
In the 403-page book of WDI 2005 you can consult over 83 tables and over 800 indicators for 152 economies. The Fuel Prices can be found in the right column of the table "3.12 Traffic and congestion" on page 174.

WDI 2005 online (free): **www.Worldbank.org/data/wdi2005/wditext/TOC.htm**
WDI 2005 book (USD 60): **www.Worldbank.org/data/wdi2005**

13.3 About the Editor

About the German Technical Cooperation GTZ

The German Technical Cooperation GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) is a government-owned, but privately organized corporation for international cooperation. It operates on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), its main financing organization. The aim of GTZ is to improve the living conditions and future prospects of people in developing and transition countries.

Policy advice has become increasingly important in many countries. GTZ thus supports numerous partner nations in their efforts to introduce complex reform processes with the necessary changes in the political, economic and social framework.

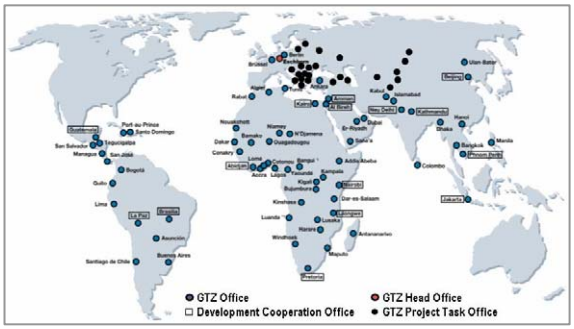
GTZ operates in 63 countries. Over 10,000 employees worldwide work for it in over 131 countries; some 8,600 of these are locally-contracted nationals. About 1,000 employees work at GTZ Head Office in Eschborn, Germany. In 2003, GTZ's fiscal turnover totalled about US $ 1,060 million.

Visit GTZ in the Internet at: www.gtz.de/english

The GTZ Head Office

About 1,000 employees work at GTZ Head Office in Germany.

The GTZ Offices Worldwide



Over 10,000 employees worldwide work for GTZ in over 131 countries. The fuel price data are mainly based on this global GTZ network.

About the GTZ Surveys on Fuel Prices

Transport is the key to development. As the most important part of the transport sector, roads in particular are what make economic development possible, including access to education and health care. Due to rapid population growth, however, developing countries face enormous problems in financing their roadways. Often, existing roads are not maintained properly and not enough new ones are built to back up economic development.
Worldwide experience shows that fuel taxation is the main source (average 80-90%) of sustainable road finance. Since 1993 GTZ sheds light on national fuel taxation policies with its fuel price surveys and provides a sound basis for consultancy in fuel taxation and road finance.
The used fuel price data are mainly based on the global network of regional GTZ offices. Further data sources are German embassies / consulates worldwide and the German Automobile Association ADAC as well as other sources.

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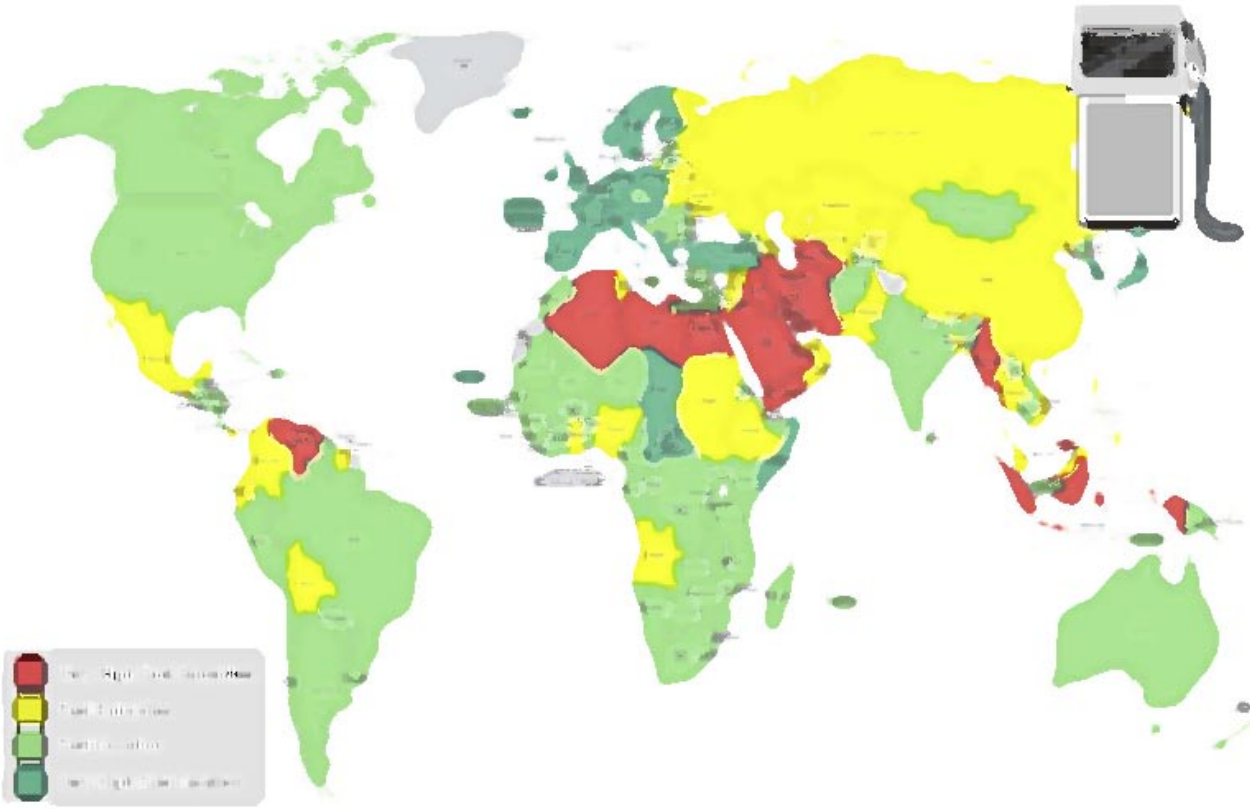

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