

RESULTS AND RECOMMENDATIONS

CHAPTER 7

The U.S. government provided net subsidies of between \$5.2 and \$11.9 billion to the oil sector during 1995, excluding the cost of defending Persian Gulf oil supplies. We estimate defense of oil supplies to be worth an additional \$10.5 to \$23.3 billion, demonstrating the magnitude of this specific subsidy element. Thus, our estimate for net federal subsidies to oil, including defense, is \$15.7 to \$35.2 billion for 1995. Because of the sensitivity of our totals to the defense subsidy, we present our results both with and without this item.

The large range between our high and low estimates is indicative of the uncertainty surrounding some of the data inputs needed to estimate specific subsidies. Factors contributing to this range include differences between the cost of subsidies to taxpayers versus their value to the oil industry, differences between data sources, and the use of multiple methodological approaches to assess certain subsidies.

This chapter begins with a summary of the largest individual subsidies to oil. We then summarize subsidies by the type of activity supported. Next, we develop a number of metrics to evaluate the subsidies in a broader market context. Finally, we present policy recommendations suggested by our work.

7.1 LARGEST INDIVIDUAL SUBSIDIES TO OIL

Exhibit 7-1 lists the fifteen largest sources of subsidy to the oil fuel cycle at the federal level. As shown in the exhibit, the largest non-defense subsidies are worth between \$4.5 and \$11 billion, over 85 percent of our total non-defense estimates. Including defense, the fifteen largest subsidies are worth \$15 to \$34 billion, more than 95 percent of our totals. The most significant of these subsidies, grouped by topic, are described below. A complete listing of subsidy elements can be found in Appendix Exhibit A-1.

- **Defense of Persian Gulf Oil Supplies.** Defense of Persian Gulf oil shipments and infrastructure comprises two-thirds of the total high estimate, conferring a subsidy of \$10.5 to \$23.3 billion per year. The range represents the variation in analytical approaches used by defense analysts (described in detail in Chapter 4).

Exhibit 7-1

15 LARGEST SUBSIDIES TO OIL
(sorted in descending order)

Subsidy	Subsidy Amount (Oil Share, \$Millions)	Excluding Defense		Percent Share Including Defense		Description
		Low	High	Low	High	
1. Oil Defense	\$10,459 - \$23,333	NA	NA	66.8%	66.3%	Defense operations to protect and secure Persian Gulf oil shipments and infrastructure.
2. Strategic Petroleum Reserve	\$1,560 - \$5,427	30.0%	45.8%	10.0%	15.4%	Storage of crude oil to be sold during price shocks and supply disruptions to stabilize domestic supply.
3. Foreign Tax Credit	\$486 - \$1,057	9.3%	8.9%	3.1%	3.0%	Allows a portion of foreign tax payments to be credited against, rather than deducted from, U.S. taxes due.
4. Accelerated depreciation of machinery and equipment	\$720 - \$976	13.9%	8.2%	4.6%	2.8%	Allows machinery and equipment within the oil industry to be depreciated more quickly than their actual service lives.
5. Excess of percentage over cost depletion	\$335 - \$746	6.5%	6.3%	2.1%	2.1%	Allows firms to deduct more than their investment in oil properties from their taxes.
6. Public liability for plugging, abandoning, and remediating onshore wells	\$119 - \$451	2.3%	3.8%	0.8%	1.3%	Annualized shortfall in bonding levels needed to cover existing liabilities on on-going operations.
7. Accelerated depreciation of buildings other than rental housing	\$234 - \$355	4.5%	3.0%	1.5%	1.0%	Allows buildings owned by the oil industry to be depreciated more quickly than their actual service lives.
8. U.S. Coast Guard	\$308 - \$308	5.9%	2.6%	2.0%	0.9%	Water infrastructure (maintenance of coastal shipping; provision of navigational support; ice clearing).
9. Deferral of income from controlled foreign corporations	\$62 - \$303	1.2%	2.6%	0.4%	0.9%	Allows oil companies to delay payment of U.S. taxes due on earnings from certain foreign corporations.
10. Low Income Home Energy Assistance	\$274 - \$274	5.3%	2.3%	1.8%	0.8%	Assistance for low income energy consumers to buy oil.
11. U.S. Army Corps of Engineers	\$239 - \$259	4.6%	2.2%	1.5%	0.7%	Maintenance of waterways heavily used by oil tankers and barges.
12. Expensing of exploration and development costs	(\$146) - \$243	-2.8%	2.0%	-0.9%	0.7%	Allows expenses related to multi-year oil well assets to be deducted from taxes in the current year rather than capitalized.
13. U.S. Export-Import Bank	\$197 - \$241	3.8%	2.0%	1.3%	0.7%	Subsidized loans and insurance to support the sale of oil-related equipment and consulting services abroad by U.S. corporations.
14. Royalty Undercollection due to Artificially Low Posted Prices	\$31 - \$130	0.6%	1.1%	0.2%	0.4%	Undercollection due to use of below-market prices in computation of production value by integrated companies.
15. Tax break from federal/state interaction	\$56 - \$119	1.1%	1.0%	0.4%	0.3%	State revenue losses from federal tax breaks due to basing state taxable income calculations on federal tax returns.
- All other subsidies	\$724 - \$970	13.9%	8.2%	4.6%	2.8%	
TOTAL VALUE OF TOP 15 SUBSIDIES						
Excluding Defense*	\$4,477 - \$10,889	86.1%	91.8%	95.4%	97.2%	
Including Defense*	\$14,936 - \$34,223					
TOTAL SUBSIDIES						
Excluding Defense	\$5,200 - \$11,859	100%	100%	100%	100%	
Including Defense	\$15,660 - \$35,192					

* Numbers do not add due to rounding.

- **Provision of the Strategic Petroleum Reserve.** Stockpiling oil to protect against supply disruptions provided between \$1.6 and \$5.4 billion in subsidies to oil markets in 1995 (see Chapter 4). The high estimate includes the 1995 increment of compounded interest incurred on the many years of unrepaid debt.
- **Tax Breaks for Domestic Oil Exploration and Production.** Despite reforms intended to narrow the applicability of tax breaks for oil and gas, the industry continues to benefit substantially from tax subsidies, as described in Chapter 2. Three tax breaks benefiting oil exploration and production (the expensing of exploration and development costs, excess of percentage over cost depletion, and accelerated depreciation of oil-related capital) reduced oil industry tax payments by between \$1.1 and \$2.3 billion during 1995.
- **Support for Oil-related Exports and Foreign Production.** Tax credits for foreign royalties paid, deferrals of U.S. income taxes due for multinational oil companies, and credit subsidies through the Export-Import Bank and the Overseas Private Investment Corporation, provide between \$0.8 and \$1.6 billion per year in subsidies for exports and foreign production. These provisions are presented in detail in Chapters 2 and 3.
- **Provision and Maintenance of Coastal and Inland Shipping Routes.** With a large share of the total tonnage shipped through the nation's waterways and ports, oil benefits disproportionately from subsidies to water infrastructure (see Chapter 3). Reforms over the past ten years have increased the share of infrastructure costs borne by shippers; however, substantial subsidies remain. Tax exemptions for bonds used for harbor construction and spending by the U.S. Coast Guard and the Army Corps of Engineers continue to provide subsidies worth \$600 to \$650 million per year to oil.
- **Unfunded and Underfunded Liabilities.** Inadequate bonding and user fees for the current stock of onshore and offshore oil operators shift \$170 to \$550 million in liability insurance premiums from oil companies to the public each year. These subsidies are described in Chapter 5.
- **Royalty Losses.** Due to creative accounting by oil producers and lapses in auditing practices by some government agencies, the federal government loses at least \$80 and \$200 million per year in royalties (see Chapter 6). Adequate data were not available to quantify the full value of royalty-related subsidies.

7.2 AGGREGATE FEDERAL SUBSIDIES FOR OIL, BY ACTIVITY SUPPORTED

Individual subsidies can be classified by the type of activity they encourage, ranging from support to oil exploration and development to providing regulatory oversight to the oil industry. As shown in Exhibit 7-2, the security of oil supply is by far the largest activity supported by the federal government. Security concerns, which include the two largest individual subsidies (the Strategic Petroleum Reserve and defense of Persian Gulf oil supplies), comprise over 75 percent of our estimates if defense of Persian Gulf oil is included, and at least 30 percent of all non-defense subsidies. Incentives for oil exploration and production, at over 35 percent of the total, are the largest category of support for non-defense subsidies in our low estimate, and second largest in our high.

The third largest subsidy activity is support for oil-related transportation, a category often overlooked. This support primarily involves maintenance of oil shipping routes and infrastructure, and is worth as much as \$775 million per year. It is important to remember that this category includes only the transport of oil; subsidies to transportation systems that rely on oil (and which therefore increase the demand for oil) are not included in our analysis.

The remaining subsidy categories each comprise between one and six percent of our total estimates. Though small on a percentage basis, the dollar value of these categories is still substantial. For example, transfers to the public sector of liability for properly closing oil drilling operations were worth as much as \$500 million in 1995.

7.3 SUBSIDIES IN CONTEXT

In this section we evaluate our subsidy estimates in the context of the oil production and consumption that they support. We discuss the value of these subsidies relative to the number of barrels of oil consumed and consumer expenditures for that oil. While not all subsidies affect prices, these comparisons offer a better idea of the impact subsidies have on consumption behavior than the aggregate subsidy values alone.

We also discuss the results of our subsidy analysis in the context of two major policy initiatives within the past decade to modify oil demand patterns. The first is the issue of carbon taxes currently being debated. The second policy is the Btu-tax that was proposed early in the Clinton administration's first term. This discussion underscores the importance of integrating subsidy removal into ongoing policy reform efforts.

The subsidy metrics are evaluated using three scenarios, reflecting the complexity associated with U.S. government subsidies that partly benefit foreign rather than domestic petroleum:

Exhibit 7-2

AGGREGATE FEDERAL SUBSIDIES FOR OIL, BY ACTIVITY SUPPORTED
(Millions of 1995 Dollars, Net of User Fees)*‡

	Low Estimate			High Estimate		
	Subsidy	% Share, excluding Defense	% Share, including Defense	Subsidy	% Share, excluding Defense	% Share, including Defense
Research and Development / Provision of Basic Market Information	\$215	4%	1%	\$243	2%	1%
Cost of Access to Oil Resources	\$81	2%	1%	\$205	2%	1%
Exploration and Production	\$2,005	39%	13%	\$4,093	35%	11%
Support for Oil-related Transportation	\$690	13%	4%	\$776	6%	2%
Security of Oil Supply						
Excluding Defense Costs	\$1,560	30%		\$5,427	46%	
Including Defense Costs	\$12,019		77%	\$28,760		82%
Regulatory Oversight and Response to Oil Contamination	\$147	3%	1%	\$166	1%	0%
Transfer of Oil-related Liability to Public Sector	\$171	3%	1%	\$557	5%	2%
Assistance for Energy Consumers	\$274	5%	2%	\$274	2%	1%
Crosscutting Tax Provisions	\$56	1%	0%	\$119	1%	0%
Subsidy Offsets*	\$0	0%	0%	\$0	0%	0%
TOTAL, excluding Defense	\$5,200	100%		\$11,859	100%	
TOTAL, including Defense	\$15,660		100%	\$35,192		100%

*Many federal programs benefiting oil are partially funded by user fees levied on program beneficiaries. The subsidy figures shown in this exhibit have already deducted user fees. Detailed data on user fees and gross subsidy values are provided in the Appendix exhibits. The final category in this exhibit, "Subsidy Offsets," allows for adjustments to account for any additional fees on oil that are not program specific, yet appropriately deducted from gross subsidies. No such adjustments were appropriate in 1995. Exhibit 2-1 further explains our treatment of federal levies.

‡Numbers do not add due to rounding.

- **Scenario 1** evaluates domestic subsidies only, excluding credit subsidies to international banks, defense of Persian Gulf oil supplies, and tax breaks for foreign operations.
- **Scenario 2** allocates a portion of the foreign subsidies to the domestic market, reflecting the fact that some of the foreign oil supported by these programs is imported into the United States.
- **Scenario 3** sets an upper bound by assuming all subsidies benefit domestic markets. Although in reality not all the oil supported by internationally oriented programs reaches U.S. markets, foreign tax breaks and lending programs primarily benefit U.S. corporations, and supply shocks in the Persian Gulf affect the price of *all* U.S. oil, regardless of its origin.

In each scenario, we have adjusted both the subsidy value and the denominator (consumption, consumer spending, carbon emissions, and Btus) to best approximate the scope of the subsidies included. The consumption figures used for Scenario 1 are for domestic petroleum only, and consumer expenditures exclude the value of imported oil prior to domestic refining. Scenarios 2 and 3 include total U.S. consumption and expenditure data. The specific metrics are shown in Exhibit 7-3; more detail on their derivation can be found in Appendix Exhibit A-7a.

7.3.1 Subsidies as a Percent of Oil Prices

Subsidies to domestic oil are worth between \$1.20 and \$2.80 per barrel of domestic crude consumed. This range is equivalent to roughly 3 to 6.5 percent of consumer expenditures on petroleum products in 1995.¹⁹⁶ The range is slightly lower in our second scenario, although the uncertainty associated with the values suggests that the differences would probably not be statistically significant.

Total federal subsidies for oil are worth as much as 17 percent of 1995 retail petroleum prices. Were all, or even most, of the benefits of the subsidies to foreign production to flow back to the U.S. oil sector, the impact on consumption decisions would be considerable. Under this scenario, the subsidy intensity of imported oil is much higher than domestic production. Were these subsidies eliminated, we would expect the relative competitive position of domestic versus imported oil to improve, with some marginal oil wells again becoming economic.

¹⁹⁶ Because our subsidy estimates are net of user fees, we have adjusted expenditure data to eliminate the portion of prices attributable to the various fees on oil.

Exhibit 7-3

**OIL SUBSIDIES IN CONTEXT
(All figures reflect 1995 values)**

	Scenario 1	Scenario 2	Scenario 3
	Domestic Subsidies Only (Note 1)	Domestic and Pro-rated Share of Foreign Subsidies (Note 2)	Total U.S. Subsidies for Domestic and Foreign Oil (Note 3)
Subsidy Value (\$million) (Note 4)	\$4,445 - \$10,226	\$5,430 - \$12,417	\$15,660 - \$35,192
Per Barrel of Domestic Consumption (\$/bbl)	\$1.2 - \$2.8	\$0.8 - \$1.9	\$2.4 - \$5.4
As % of U.S. consumer expenditures, net of user fees	2.9% - 6.6%	2.7% - 6.1%	7.7% - 17.3%
Per Btu (\$/mmBtu)	\$0.25 - \$0.57	\$0.16 - \$0.36	\$0.45 - \$1.02
Per Metric Ton of Carbon (\$/ton carbon)	\$7.41 - \$17.06	\$9.06 - \$20.71	\$26.12 - \$58.70

Notes:

- 1) Does not include subsidies for foreign oil (i.e., foreign lending, foreign tax breaks, and Persian Gulf defense). Consumption data (both barrels and Btus) were adjusted to exclude net imports since they do not benefit from domestic subsidies. Consumer expenditure data were adjusted to exclude the value of net imports upon arrival to U.S. refineries, again because that value is not impacted by domestic subsidies.
- 2) Subsidy value includes the pro-rated share of foreign subsidies that benefit net imports. Foreign tax breaks and lending subsidies are pro-rated by U.S. net imports' share of total foreign petroleum products supplied. Persian Gulf defense spending is pro-rated by the percentage of total Persian Gulf production imported by the U.S. Total U.S. consumption and expenditure figures are used.
- 3) Includes all subsidies for domestic and foreign oil. Total U.S. consumption and expenditure figures are used
- 4) See Appendix Exhibit A-7a for additional detail on the derivation of adjusted subsidy values and the subsidy metrics.

7.3.2 Subsidy Intensity in the Context of Proposed Oil Taxes

Tremendous attention has focused on efficient mechanisms to reduce the impact of climate change. Taxes on carbon are an oft-suggested tool to “get the prices right” (i.e., to internalize environmental externalities) in energy markets. A number of economists have estimated economically efficient carbon tax levels that would begin the transition to lower-carbon fuels. Their results suggest median values of between \$9 and \$14 per ton.¹⁹⁷

Our three subsidy scenarios suggest that federal oil subsidies are worth \$7.50 to nearly \$60 per ton of carbon emitted from U.S. petroleum consumption. While subsidy removal should not be substituted for a carbon tax, since the latter is aimed specifically at mitigating externalities associated with fossil fuels, the comparison is instructive. The relative size of the values suggests that even without the political will to implement a carbon tax, phasing out oil subsidies could help to improve the price signals that now exist within oil markets. In addition, the fact that the subsidy intensity actually exceeds these carbon tax values underscores the market distortions that would remain if carbon taxes were implemented without concurrent subsidy reform.

A comparison to proposed taxes on Btus (British thermal units) illustrates a similar point. Btus measure the heat content of a fuel. During 1992 and 1993 the U.S. Congress proposed a Btu-based tax on energy. In addition to raising revenues, proponents argued that the tax would ensure that energy prices reflected the environmental impacts associated with the production and consumption of particular fuels. The proposed tax rate set for oil was \$0.31 per million Btu (scaled to 1995 dollars). In comparison, oil subsidies for 1995 ranged from 50 to 325 percent of the proposed tax value, depending on the scenario. Had the tax been implemented, much of the hoped for benefit in terms of price signals would merely have offset distortions already in place from federal subsidies to oil. Environmental externalities would still not have been reflected in oil prices.

7.3.3 Summary of Subsidy Intensity

The evaluation of subsidies in the context of the oil market demonstrates that subsidies to oil are important and probably impact oil consumption decisions. Eliminating subsidies throughout the fuel cycle will help clarify price signals throughout the production chain,

¹⁹⁷ The tax values calculated are set at a rate such that the marginal cost of carbon-emitting activities reflects the (estimated) damage these activities cause the environment. We chose a median carbon tax estimate over an average because the source of our data contained an outlier, \$142.50 per metric ton of carbon (1995 dollars), that exceeded all of the other estimates by more than a factor of six. Data on the optimal tax rate on carbon are from five studies (Nordhaus, Cline, Peck and Tiesberg, Fankouser, and Maddison) summarized in the Intergovernmental Panel on Climate Change, *Climate Change 1995: Economic and Social Dimensions of Climate Change*, Contribution of Working Group III to the Second Assessment Report of the IPCC, Cambridge University Press, 1996, Table 6.1, p. 215.

improving economic efficiency. In conjunction with externality-based taxes, the price of oil would begin to provide suppliers, consumers, and governments much more accurate information with which to adjust their economic decision making.

7.4 RECOMMENDATIONS

The impacts of oil subsidies merit greater attention as the world tries to shape a global climate change strategy and address the many competing needs for scarce government funds. While it has long been recognized that oil prices do not reflect the environmental costs of petroleum consumption, our analysis shows that prices do not even reflect the direct costs of petroleum production. At a time of tight fiscal constraints and cuts to social programs, the government should not spend billions of dollars every year to subsidize oil and the environmental problems that result from its consumption.

The costs of supplying oil should fall on the user, not on the general taxpayer. Continued subsidization of oil makes little sense. Subsidies to the oil fuel cycle distort oil exploration, production and consumption decisions; reduce the incentive to develop substitutes; intensify environmental degradation; and cost taxpayers billions of dollars per year. Our analysis suggests that subsidy reform can be a positive force in achieving environmental improvements and substantial fiscal savings, while also eliminating the price distortions that hinder economic efficiency. Furthermore, our analysis suggests that the magnitude of subsidies is large enough that they can impede the efficacy of other policy reform efforts (such as carbon taxes) if ignored.

The historically low oil prices now in effect provide a tremendous opportunity for governments to phase out their oil subsidies with minimal inflationary risks. To help this process, efforts to characterize, report, and remove oil subsidies need to be intensified. Based on our analysis, we make the following recommendations for structural change. To reduce the economic dislocations, many of these reforms should be phased in over time.

- 1) **Decouple oil subsidies from rural economic development.** Many subsidies to oil exploration and production are justified on the grounds that they provide jobs and livelihoods for isolated rural populations. Data suggest that development policies focused on natural resource extraction have rarely been successful. In addition, rapid advances in telecommunications and computer technology provide an increasing range of development options for geographically-isolated communities. By decoupling oil development and jobs, governments can stop subsidizing environmental degradation and work to create cleaner, higher value job opportunities for rural populations.
- 2) **Internalize oil-related defense costs into market prices.** Where governments choose to intervene in oil markets to ensure the security of supplies, the costs of this intervention should be recovered through a user fee on oil consumers. Given the magnitude of these costs, excluding them from the price of oil creates significant and undesirable distortions in consumption behavior.

- 3) **Treat Strategic Petroleum Reserve like a formal government enterprise.** SPR costs taxpayers billions of dollars per year in direct costs and foregone interest. The Reserve should be treated as a government enterprise, financed through taxes on oil consumption and formally held responsible for repayment of invested capital plus interest.
- 4) **Include subsidy reform as an integral element in strategies to mitigate the impacts of climate change.** Taxing emissions makes little sense if governments simultaneously continue to subsidize fossil fuels. Subsidy identification, reporting, and removal should be an integral part of climate change mitigation programs.
- 5) **Improve the transparency of oil leases on public lands so terms can be easily compared.** Subsidized lease terms can provide large benefits to oil producers at the taxpayers' expense, and the resulting acceleration in oil development creates or aggravates environmental problems. Leasing of public oil reserves should be done in a transparent manner at both the federal and state levels. Environmental groups should work with the relevant government agencies to develop a standard disclosure form to be completed for each sale. Modification of lease terms should also be reported in a standardized, publicly available format. This disclosure form will ensure that lease-related subsidies are visible and that lease terms are comparable across sales. Given the international nature of oil markets, the goal of this disclosure system should be to allow international comparisons of lease terms.

Exhibit A-7a

OIL SUBSIDIES IN CONTEXT

	Scenario 1	Scenario 2	Scenario 3
	Domestic Subsidies Only (Note 1)	Domestic and Pro-rated Share of Foreign Subsidies (Note 2)	Total U.S. Subsidies for Domestic and Foreign Oil (Note 3)
Domestic Subsidies	\$4,445 - \$10,226	\$4,445 - \$10,226	\$4,445 - \$10,226
Pro-rated share of foreign tax deferral	\$0 - \$0	\$8 - \$40	\$62 - \$303
Pro-rated share of foreign tax credit	\$0 - \$0	\$63 - \$138	\$486 - \$1,057
Pro-rated share of Eximbank	\$0 - \$0	\$26 - \$32	\$197 - \$241
Pro-rated share of OPIC	\$0 - \$0	\$1 - \$4	\$10 - \$31
Pro-rated share of Persian Gulf defense	\$0 - \$0	\$887 - \$1,978	\$10,459 - \$23,333
Adjusted Subsidy Value	\$4,445 - \$10,226	\$5,430 - \$12,417	\$15,660 - \$35,192
Per Barrel of Consumption (\$/bbl)	1.2 - 2.8	0.8 - 1.9	2.4 - 5.4
As % of U.S. consumer expenditures, net of user fees	2.9% - 6.6%	2.7% - 6.1%	7.7% - 17.3%
Per Btu (\$/mmBtu)	0.25 - 0.57	0.16 - 0.36	0.45 - 1.02
Per Metric Ton of Carbon	7.41 - 17.06	9.06 - 20.71	26.12 - 58.70

Notes:

- 1) Does not include subsidies for foreign oil (i.e., foreign lending, foreign tax breaks, and Persian Gulf defense). Consumption data (both barrels and Btus) were adjusted to exclude net imports since they do not benefit from domestic subsidies. Consumer expenditure data were adjusted to exclude the value of net imports upon arrival to U.S. refineries, again because that value is not impacted by domestic subsidies.
- 2) Subsidy value includes the pro-rated share of foreign subsidies that benefit net imports. Foreign tax breaks and lending subsidies are pro-rated by U.S. net imports' share of total foreign petroleum products supplied. Persian Gulf defense spending is pro-rated by the percentage of total Persian Gulf production imported by the U.S. Total U.S. consumption and expenditure figures are used.
- 3) Includes all subsidies for domestic and foreign oil. Total U.S. consumption and expenditure figures are used

1995 Petroleum Consumption (Note 1)

	Million Barrels/Day	Total Barrels (mmbbl) (Note 2)	Btu (quadrillion)	Carbon Content (mill. metric tons)	Source
U.S. Consumption	17.73	6,470	34.66	600	(1,2,4)
U.S. Net Imports (Note 3)	7.89	2,878	16.87		(1,2)
World Consumption	70.19	25,620	141.15		
U.S. Consumption, net of imports	9.84	3,591	17.79	600	(3)
Foreign Petroleum Products Supplied	60.35	22,029	123.36		
<i>U.S. Net Import Share of Foreign Consumption</i>		13.1%			
Persian Gulf Petroleum Supply (Note 4)	18.44	6,730			(1)
U.S. Net Petroleum Imports from the Persian Gulf (Note 3)	1.56	570			(1)
<i>U.S. Net Import Share of Persian Gulf Production</i>		8.5%			

Carbon Content

1995 Crude Oil Carbon Coefficient (Note 3) 20.23 million metric tons carbon / quadrillion Btu (4)

Notes:

- (1) Consumption is the same as total demand and as total petroleum products supplied. Btu consumption figures are for the heat content of petroleum products supplied. They include Btu losses incurred in the generation, transmission, and distribution of electricity, power plant electricity use, and other unaccounted losses that are not counted in end-use consumption figures.
- (2) Total barrels is the product of barrels per day and 365 days per year.
- (3) Total U.S. carbon emissions from petroleum consumption are reported in EIA, *Emissions of Greenhouse Gases in the United States: 1996*. This statistic is based on the carbon content of crude oil entering U.S. refineries (tons carbon per Btu). Because foreign oil only benefits from domestic subsidies for part of its fuel cycle (i.e., once it has arrived to the U.S.), the carbon emissions are only partially subsidized. We have not adjusted for this factor in our domestic only scenario. Thus the subsidy per ton of carbon is understated.
- (4) Includes crude oil, natural gas liquids, and refined products. Persian Gulf countries are Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, and the United Arab Emirates.

Sources:

- (1) EIA, International Petroleum Statistics Report, 9/27, T. 4.4, 4.6, 4.7, 4.9
- (2) EIA, Annual Energy Review: 1996, Table 1.3, 1.4
- (3) EIA, International Energy Annual: 1995, December 1996, Table E2.
- (4) EIA, Emissions of Greenhouse Gases in the United States 1996, October 1997, Tables 5 and B1.

1994 Petroleum Expenditures

A. Total Consumer Expenditures

	Expenditures (Millions)	
Distillate Fuel	47,235	
Jet Fuel	12,474	
Liquid Petroleum Gas	15,286	
Motor Gasoline	129,900	
Residual Fuel	5,289	
Other	18,856	
<i>Total Consumer Expenditure Estimates for</i>	229,040	EIA, <i>Annual Energy Review: 1996</i> , Table 3.4
<i>Petroleum</i>		
<i>Adjusted to 1995 Dollars</i>	234,859	Adjusted using GDP implicit deflator

B. User Fees on Oil (Note 1)

User Fees Already Evaluated	Fee	Pro-rated to Oil	
Motor Fuels Excise Tax			
Leaking Underground Storage Tank Trust Fund	165	165	
Aquatic Resources Trust Fund	334	334	
Highway Trust Fund	23,528	23,528	
Airport & Airway Trust Fund	5,571	5,571	
Crude Oil Windfall Profits Tax	0	0	
Superfund Feedstock Fee	1,479	1,479	
Oil Spill Liability Trust Fund	113	113	
Inland Waterway Fund	103	20	See Exhibit A-3b for allocation to oil.
TAPS Liability Fund	119	119	
Harbor Maintenance Trust Fund	671	228	See Exhibit A-3b for allocation to oil.
Rivers and Harbors Contributed Funds	103	34	See Exhibit A-3b for allocation to oil.
Deep Water Port Liability Fund	0	0	
<i>Total User Fees on Oil</i>	32,186	31,591	

Total Consumer Expenditures for Petroleum Products, net of user fees (Note 2) 203,268

C. Value of Net Imports

U.S. Net Petroleum Imports (mmbbl)	2.88E+03	
Refinery Acquisition Cost for Imports (\$/bbl)	17.14	EIA, <i>Annual Energy Review: 1996</i> , Table 5.19
<i>Value of Net Imports (\$million)</i>	49,336	

Total Consumer Expenditures for Petroleum Products, net of user fees and imports 153,932

Notes:

- (1) These fees on oil would be factored into the prices of petroleum products. We deduct them from total consumer expenditures because our subsidy totals are net of user fees.
- (2) Assumes 100 percent of user fees are passed on to consumers.

**FUELING GLOBAL WARMING:
FEDERAL SUBSIDIES TO OIL IN
THE UNITED STATES**

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