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NOTICE

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Mr Chairman and Members of the Committee, I appreciate the opportunity to discuss the effects of energy taxes and value-added taxes (VATs). My testimony today will:

- Describe President Clinton's proposal for a new tax on the heat content of energy;

- Compare that proposal with other energy taxes and review them in terms of deficit reduction, environmental goals, national energy security, and fairness; and

- Mention some differences between a broad-based energy tax and a value-added tax.

Reducing the deficit is an important national objective because it would increase the nation's savings and promote long-term growth. An energy tax is one way to accomplish deficit reduction. A broad-based energy tax (imposed on many fuels) could produce fewer economic distortions and would spread the burden more widely in society than a more narrowly targeted energy tax.

An energy tax would support environmental objectives, but not as effectively as a tax specifically designed to ease environmental harm. Finally, an energy tax would promote energy security by reducing oil consumption and oil imports, although these benefits would be small.

A value-added tax on a broad base of consumption goods could be more neutral among industries, regions, and households than energy taxes designed to raise the same amount of revenue. However, a value-added tax would cost much more to administer--to the point of not being cost effective unless rates are high enough to raise much more revenue than the President's proposed energy tax. A value-added tax would certainly not serve environmental or energy security objectives.

THE PRESIDENT'S PROPOSAL FOR AN ENERGY TAX

If not reversed, the decline in the national saving rate in the last decade will contribute to a slower growth in U.S. living standards in the future. Reducing the deficit is the most reliable way for policymakers to increase net national saving. Over the long run, a permanently higher rate of

saving will stimulate new investment, increase productive capacity, stem the growth in debt to foreigners, and raise the nation's standard of living.

President Clinton has proposed a tax on energy as part of a broad strategy to reduce the federal deficit. He has also promoted the benefits of that tax for improving the environment, and for conserving and securing energy. His proposal would tax the heat content of fossil fuels (oil, natural gas, and coal) measured in British thermal units, or Btus, including domestic and imported sources. The tax would also be levied on nuclear power and hydropower used to generate electricity. Oil would be taxed at more than twice the rate for other energy products.

The tax would be phased in over a three-year period, with the final rates indexed to inflation after full application in July 1996. The tax would not apply to exported energy, nonfuel uses of energy products (for example, asphalt and petrochemicals), and nonconventional forms of energy (geothermal, solar, and the like). According to Administration estimates, the tax would increase revenues by $71.4 billion over the 1994-1998 period (or about $22 billion in 1998).

Based on our current understanding of the President's proposal to tax energy, it would raise average gasoline prices by 6 percent (or about 7.5 cents per gallon in 1994 dollars), residential natural gas prices by 4 percent, and residential electricity prices by 3 percent (see Table 1). Coal prices for industry and electric utilities would rise the most--about 15 percent when fully put in place. By international standards, these taxes are modest; they would still leave U.S. energy prices below those in most other industrialized countries.

The rationale for the higher tax rate on oil is to enhance energy security and promote the use of natural gas, which is generally a cleaner burning fuel. The price of natural gas would increase by more than that for competing oil products if the same rates were applied to both energy sources. Electricity prices would increase by less than prices for oil, gas, or coal because the fuel component accounts for only a fourth of electricity rates (with capital costs and operating and maintenance expenses making up the rest).

Indirectly, the design of the President's tax may also lessen (or even reverse) any losses for coal producers despite the relatively high increase

TABLE 1. CHANGE IN RESIDENTIAL ENERGY PRICES UNDER ALTERNATIVE ENERGY TAX PROPOSAL RAISING EQUAL REVENUES, 1998 (In 1994 dollars)[a]

	Gasoline	Heating Oil	Natural Gas	Electricity
		Percentage Increase		
President's Btu Tax	5.7	7.3	4.0	3.4
Oil Excise ($5 per barrel)	9.1	10.5	n.a.	0.0
Oil Import Fee ($12.50 per barrel)	22.7	26.3	n.a.	0.9
Motor Fuels Tax ($.24 per gallon)	18.3	n.a.	n.a.	n.a.
Ad Valorem Tax (5 percent)	5.0	5.0	5.0	5.0
Unit	Dollars per Gallon	Dollars per Gallon	Dollars per Mcf	Dollars per Kwh
		Unit Price Increase		
President's Btu Tax	.075	.083	.265	.003
Oil Excise ($5 per barrel)	.119	.119	n.a.	.000[b]
Oil Import Fee ($12.50 per barrel)	.298	.298	n.a.	.001
Motor Fuels Tax ($.24 per gallon)	.240	n.a.	n.a.	n.a.
Ad Valorem Tax (5 percent)	.066	.057	.332	.004

SOURCE: Congressional Budget Office from CBO and Department of Energy projections for price and energy use.

NOTE: "mcf" is thousand cubic feet. "kwh" is kilowatt hours.

n.a. = not applicable.

a. Each tax is designed to raise approximately $22 billion annually.

b. Price increases smaller than .05 cents and .5 percentage points.

in prices for coal. The reason is that demand for electricity may benefit from the relative price changes, and more than half the nation's electricity supply is generated from coal. (The dependence on coal is even higher in states in the Midwest and Southeast.)

In addition to the President's proposal, the Congressional Budget Office (CBO) has looked at several other energy taxes at the Committee's request. Descriptions of the taxes and some of the advantages and disadvantages of each appear in our recent volume, *Reducing the Deficit: Spending and Revenue Options.*

Some of these other energy taxes affect a broad range of energy sources--namely, a single-rate Btu tax (which would tax the heat content of fossil fuels, nuclear, and hydropower), a carbon tax (which would tax the carbon content of fossil fuels), and an *ad valorem* tax (or uniform percentage tax) on all fossil fuels and electricity sold to residential consumers. Still other taxes are targeted at specific fuels--a motor fuels tax, a crude oil excise tax, and an oil import fee.

POLICY OBJECTIVES

Policymakers commonly mention three objectives as rationales for energy taxes--reducing the federal deficit, improving the environment, and enhancing national energy security.

Reducing the Federal Deficit

Reducing the deficit would provide important long-term economic benefits. In CBO's recent report, *Economic and Budget Outlook: 1994-1998*, we make the following points.

- The level of consumption that the economy can sustain in the next century would be substantially increased if the deficit were erased over the next five to 10 years.

- Efforts to eliminate the deficit within the next five or 10 years could slow the economy, but monetary stimulus could largely offset the effects of this slowdown on total demand and employment.

These conclusions assume that the actions taken to reduce the deficit are broadly based, including increases in taxes and cuts in spending. In general, compared with a broad-based plan of action, a program that relied disproportionately on taxes would disrupt the economy less in the short run, but would yield smaller long-term benefits to the extent that it reduces private savings (and investment) and labor supply.

The President's package, of which the energy tax is a part, does not come close to eliminating the deficit. As a result, its economic costs and benefits would be correspondingly smaller than those described in our *Outlook*.

Energy taxes represent an attractive option for raising revenues to reduce the deficit for a number of reasons. First, energy is widely consumed, so large revenues can be raised from relatively modest tax rates and the burden of the tax is distributed widely among sectors of our society. Second, energy prices are extremely low here compared with our competitors in Europe and Asia, so that modest increases in energy taxes will not wipe out our cost advantage in the global market. Third, there are differences among the major energy tax proposals as to how they

would affect economic growth, as well as environmental and security objectives. Consequently, policymakers can make trade-offs based on the relative importance they attach to each.

Economic Impacts of Energy Taxes

The tax proposals that I will discuss today may differ in terms of the costs they impose on the economy. They could differ as an indirect consequence of changes in the mix and amount of energy use that the taxes encourage and as a direct result of temporary reductions in the economic output that such a mix of changes may cause.

Two factors are most important in determining the relative extent of economic losses from different energy taxes. First is the cost to businesses of switching among energy forms and reducing the total use of energy. Losses in productivity would be smaller where this substitution is least costly.

Second is the degree to which the tax falls on consumers rather than businesses, either because competitive conditions allow businesses to

pass the tax on or because the tax is imposed on consumers in the first place. The presence of significant competition from abroad may be especially important for some industries in determining whether they can pass on the costs of any new taxes. Either way, the economy would not move as far away from its lowest cost mix of productive resources if the tax can be passed directly to consumers who, in turn, would not greatly alter their demand for the taxed products.

Considering both factors together, a tax that does not distort the relative cost of different fuels or a tax that falls exclusively on consumers would have the smallest economic effect in the short term. The biggest short-term impact would stem from taxes that distort relative prices and raise energy costs the most for businesses least able to stop using that form of energy or pass on the higher cost.

One way of minimizing the disruptions to producers is to exempt energy-intensive industries that face significant competition from imports or are themselves large exporters. The President's proposal will exempt energy consumed as feedstock in the production of petrochemicals, but does not exempt the use of energy by other internationally competitive industries. Without such exemptions (or surcharges on imports of energy-

intensive goods), a unilaterally imposed tax on energy goods may lower the use of domestic energy in final consumption by less than it reduces total domestic energy use if it increases the energy content of our net imports.

The economic rationale for exempting energy-intensive businesses that sell predominantly in the domestic market is not as clear. Nonetheless, the case is frequently made for exempting nonfuel uses of energy, such as asphalt and coking coal, as the President's proposal does.

Improving the Environment

Environmental quality is closely associated with energy use. The production, transportation, and use of many forms of energy pollutes the nation's air, surface waters, and ground waters. Burning fossil fuels emit sulfur dioxide, volatile organic compounds, nitrogen oxides, and other substances. These pollutants contribute to respiratory problems caused by smog and damage to forest foliage from acid rain. In addition to these more immediate consequences, burning fossil fuels emit carbon dioxide--a gas that may contribute to global warming.

Taxes that broadly discourage energy use are a blunt tool for controlling most emissions. If it were feasible, it would be better to tax the pollution itself rather than the fuel. Taxing sulfur dioxide emissions from coal combustion, for example, would be better than simply taxing coal because it would encourage use of technologies that burn the coal more cleanly or that remove the sulfur dioxide from the exhaust gases. Nevertheless, although it is a blunt tool, a tax that reduces energy consumption may still convey environmental benefits.

Taxing fossil energy directly can be an efficient way to control emissions of carbon dioxide, since there are no known ways to remove carbon dioxide from exhaust gases (without imposing prohibitive costs) and because a fairly stable relationship exists between the quantity of each type of fuel burned and the amount of carbon dioxide emitted.

The President's proposed energy tax would have environmental benefits similar to those of any broad-based energy tax. A carbon tax raising a similar amount of revenue would reduce carbon dioxide emissions by a greater amount, however, because it would place a heavier burden on coal--the fuel with the greatest amount of carbon per unit of heat energy. In addition, a carbon tax would have higher tax rates on

fossil fuels than would a Btu tax because the Btu tax would also be applied to nuclear and hydroelectric power. (For example, the President's proposal could raise coal prices by about 15 percent, but a carbon tax yielding the same revenues would raise coal prices by more than 30 percent.) An *ad valorem* tax on all fuels at the retail level would have a smaller effect on coal, and hence a smaller effect on emissions of carbon dioxide, than a carbon tax, a single-rate Btu tax, or the President's proposal.

Both a single-rate Btu tax and an *ad valorem* tax would most likely include hydroelectric and nuclear power production. No carbon dioxide is emitted in producing either nuclear or hydroelectric power, but each has its own potential consequences for the environment that make taxing these energy sources attractive for some environmentalists.

Enhancing Energy Security

Energy security is described many ways--for example, as the share of our total energy demand that is met by imports, or as the military cost of protecting oil supplies from the Persian Gulf, or as the avoided economic

cost of disruptions in world oil supply. CBO believes the problem of energy security is almost exclusively a problem related to oil alone. The benefits of energy security are most practically measured as the avoided macroeconomic losses from rising oil prices that result from political disruptions to oil supplies.

Energy taxes could serve the objectives of energy security by reducing the amount of oil the United States imports, thus limiting the increase in our import bill in the event of a disruption. If the decline in demand for oil also lowers world oil prices, the United States will enjoy further benefits through an improvement in our terms of trade with oil-exporting nations.

CBO estimates that the tax proposed by the President would cause imports to fall by about 150,000 barrels per day in the first year after full application--about 2 percent of our average net imports of 6.9 million barrels per day. The effect of a reduction of this magnitude on world demand could cause a 50-cent a barrel drop in oil prices. The impact on imports of an oil import fee designed to raise the same total revenue would be far greater--more than 500,000 barrels per day, or 7 percent of our net imports--since the increase in petroleum product prices with an

oil import fee would be significantly greater (for example, 23 percent for gasoline at the pump compared with 6 percent under the President's proposal). Moreover, oil produced in the United States would not be taxed in the case of the oil import fee. This exemption would encourage a slight increase in production, which would further reduce the need for imports.

The benefit associated with energy security, however, would be small. The economic costs of any such disruption would decline only marginally with the slightly lower level of imports. Under the President's proposed tax, and even under the oil import fee, the United States would remain heavily dependent on foreign supplies for its oil and, more important, the world would remain dependent on insecure sources of supply.

World oil price shocks would affect our economy in the same way, with or without these taxes, since our domestic oil prices would still go up and the cost of our energy-intensive imports would rise. As a result, the United States would remain vulnerable to any disruptions of world oil supplies.

ADDITIONAL POLICY CONCERNS IN THE DESIGN OF TAXES

In comparing energy taxes or any other taxes, one should also consider the distribution of the tax burden among income groups and regions, the effects of the tax on specific energy-using industries and producers of energy, and the cost of administering the tax.

Effects of Energy Taxes Among Income Groups

Energy taxes will raise the cost of energy consumed by households and industry. Households will ultimately also pay for the increased energy costs to industry in the form of higher prices of goods and services that use energy in their production and distribution. In short, an energy tax is a form of a tax on consumption with different impacts on consumers, depending on the proportions of different goods and services they consume.

One measure of the tax burden is the ratio of annual taxes to the cash income of families. By this measure, taxes on consumption are regressive; the tax burden on low-income families as a proportion of their

annual income is larger than the tax burden on high-income families. The reason is that, in general, families with higher incomes consume a smaller fraction of their income in any year than do lower-income families.

The use of annual data, however, overstates the degree to which consumption taxes disproportionately affect low-income families. People whose income is temporarily low typically do not reduce consumption by as much as their drop in income. At the same time, people whose income is temporarily high save a large proportion of their increase in income. People consume a smaller fraction of their income in their middle years, when their earnings are relatively high, than they consume when young or old. Economists who have measured consumption taxes on a lifetime basis find that they are still regressive, but not as regressive as annual measures show.

Energy taxes can be more or less regressive than more broadly-based consumption taxes, depending on whether the ratio of energy consumption to total consumption declines or increases with income. The distributional burden of energy taxes also depends on the relative rates applied to different forms of energy. Taxes on consumption of energy products that account for a relatively large share of expenditures of low-

income families (such as electricity) are more regressive than taxes on energy products, which account for a relatively larger share of consumption by middle-income families of items such as gasoline.

CBO has made preliminary estimates of the distributional effect among income groups of increases in energy taxes. These estimates distribute the burden of direct increases in costs of energy products (home-heating oil, natural gas used by households, electricity, and highway motor fuels) to families in proportion to their consumption of those products. The estimates then distribute the burden of increases in the costs of industry to families in proportion to their consumption of all goods and services (see Table 2).

Although all of the energy tax alternatives are regressive, some are less so than others. For proposals that raise the same total revenue, an *ad valorem* tax on final energy consumption would impose the largest tax burden relative to income on families in the lowest income quintile and a motor fuels tax or oil excise tax would impose the smallest burden. The President's proposal and a general Btu tax would impose approximately the same burden as a share of income on the lowest quintile--less than an *ad valorem* tax on all energy, but more than a motor

fuels tax. All of the alternatives would impose approximately the same burden on households in the top three quintiles.

All the proposals except for the *ad valorem* energy tax increase taxes as a percentage of total expenditures by about the same amount in each income quintile (see Table 3). Thus, the President's proposal is

TABLE 2. ENERGY TAX AS PROPORTION OF CASH INCOME (In percent)

	Families Ranked by Income Quintile				
	Bottom	Second	Third	Fourth	Top
President's Btu Tax	1.1	0.7	0.6	0.5	0.3
Btu Tax	1.1	0.7	0.6	0.5	0.3
Oil Excise Tax	1.0	0.7	0.6	0.5	0.3
Motor Fuels Tax	1.0	0.7	0.6	0.5	0.2
Ad Valorem Tax on Households	1.3	0.8	0.6	0.5	0.2

SOURCES: CBO tax simulation model. Consumption data from U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey* and U.S. Bureau of Economic Analysis, *National Income and Product Accounts*.

NOTES: The President's Btu option is simulated at 1994 levels with the tax fully phased in. All options increase revenues by the same amount. The tax change includes both the direct tax on energy consumed by households and the indirect effects of taxes on energy consumption by businesses. It also includes the effects of increased benefits and lower taxes that result from indexing COLAs and income tax exemptions, the standard deduction, and bracket widths to reflect the effect of energy taxes on the consumer price index. Family rankings include an adjustment for differences in family size.

about as regressive as a general tax on all consumption. An *ad valorem* tax would be more regressive than a general consumption tax.

The distribution of the tax burden among income groups depends on the entire tax system, not just the relatively small share of total taxes that the proposed energy tax or an alternative consumption tax will raise.

TABLE 3. ENERGY TAXES AS A PROPORTION OF TOTAL EXPENDITURES (In percent)

	Families Ranked by Income Quintile				
	Bottom	Second	Third	Fourth	Top
President's Btu Tax	0.5	0.5	0.6	0.6	0.5
Btu Tax	0.5	0.5	0.6	0.5	0.5
Oil Excise Tax	0.5	0.5	0.6	0.6	0.5
Motor Fuels Tax	0.5	0.6	0.6	0.6	0.5
Ad Valorem Tax on Households	0.6	0.6	0.6	0.5	0.4

SOURCES: CBO tax simulation model. Consumption data from U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey* and U.S. Bureau of Economic Analysis, *National Income and Product Accounts*.

NOTES: The President's Btu option is simulated at 1994 levels with the tax fully phased in. All options increase revenues by the same amount. The tax change includes both the direct tax on energy consumed by households and the indirect effects of taxes on energy consumption by businesses. It also includes the effects of increased benefits and lower taxes that result from indexing COLAs and income tax exemptions, the standard deduction, and bracket widths to reflect the effect of energy taxes on the consumer price index. Family rankings include an adjustment for differences in family size.

It is possible to offset the impact on low-income families by a combination of other changes in tax and spending programs. For example, the Administration's budget proposal will assist some low-income families by increasing the earned income tax credit and will raise most of its additional revenue from high-income families by increasing income taxes on tax returns with taxable income in excess of $115,000.

Effects of Energy Taxes on Regions

Alternative proposals for taxing energy will affect households in various regions of the country quite differently, depending on their patterns of direct consumption of energy. Households in the Northeast, for example, use much more home heating oil than households in other regions; households in the West and South use somewhat more gasoline (see Table 4).

All of the taxes increase direct energy costs more for rural households (about 15 percent of the population) than for urban households. Moreover, all of the taxes except for the motor fuel taxes raise costs relatively less for households in the West. The President's

proposal and an oil excise tax would raise costs relatively more for households in the Northeast.

The direct impact on households generally is largest for the *ad valorem* tax on final energy consumption because final consumers pay the entire tax. In contrast, because businesses pay a portion of the other taxes, they affect the prices of all goods that households consume and not just energy. The President's proposal and the single-rate Btu tax have the smallest direct effects on households. Because these taxes include both industrial uses and coal (which is mostly used by industry and affects households directly only through purchases of power generated by coal-

TABLE 4. INCREASED DIRECT ENERGY COSTS PER HOUSEHOLD (In 1994 dollars)

	Urban Households					
	Northeast	Midwest	South	West	Rural	Total
President's Btu Tax	107	103	102	94	128	105
Btu Tax	98	98	94	83	111	96
Oil Excise Tax	130	116	122	119	169	128
Motor Fuels Tax	157	170	181	179	219	179
Ad Valorem Tax on Households	240	243	241	206	289	241

SOURCES: See Table 2 for sources.

fired utilities), they have the smallest direct effect on household energy costs.

Industries

Another way to see which individuals would be most affected by particular energy taxes is to look at which industries are most affected. Just because an industry uses a lot of energy, it does not mean it will be harmed by higher energy costs. As I mentioned earlier, the real losses that an industry and its employees will incur will depend on the ability of that industry to switch to untaxed fuels (or conserve energy) and the competitive circumstances that would allow them to pass any higher costs on to consumers.

Excluding the energy-producing and conversion sectors, iron mining, chemicals, primary iron and steel manufacturing, and plastics (in that order) would experience the biggest increase in their output costs resulting from any across-the-board increase in energy prices. The competitive ability of each of these industries to pass on higher taxes is probably limited, given the global scope of their markets.

However, the technical ability of each industry to switch out of high-taxed fuels at low cost (either to low-taxed fuels or to capital and labor by way of conservation) would vary significantly. Plastics and chemicals that depend on oil inputs would have little alternative and would be most harmed by oil taxes although the President's proposal to exempt nonfuel uses of energy would greatly reduce the tax burden on these industries. Other industries that use energy mainly as a source of heat could switch more easily among energy sources over time.

Energy Producers

A further concern about distribution relates to how much of the tax consumers pay (in terms of higher post-tax energy prices) and how much domestic energy producers pay (in terms of lower pretax energy prices). The relative incidence of the tax on energy consumers and producers will vary with the particular forms of energy being taxed and the changes in demand for energy that result from changes in relative energy prices to users at the end point.

Costs to any particular group of fossil energy producers will not be commensurate with the size of the tax on that energy source; they will generally be much less. For example, under the President's proposal, the Btu tax on petroleum would have a minimal effect on crude oil prices to producers and demand for domestic crude oil, since the marginal source of oil is imported and domestic prices are determined by world markets. As a result, the burden of the tax would fall heavily on oil consumers.

The burden of any tax on natural gas is likely to be split among producers and consumers if relative taxes are such that natural gas demand would fall. Gas supply is not very sensitive to changes in price, so pretax prices to natural gas producers could drop if the demand for gas fell. However, the net effect of the President's plan on the demand for gas is not clear. The natural gas market may pick up some new customers who switch from oil. At the same time, it will be threatened by increased competition from electricity.

Despite high increases in coal prices under the Clinton and other plans, pretax coal prices would change little, since coal supply responds nicely to price changes. Coal production would fall if the demand for coal dropped, which would increase the burden on coal producers. However,

demand for coal itself may not change under the energy tax described by the President or other broad-based tax proposals. The percentage increase in coal prices with a new tax is not as important as the resulting percentage increase in electricity prices relative to competing energy forms.

The Cost of Administration

In general, the costs of administering any tax are minimized by collecting the tax from fewer sources. For energy, this process would mean assessing the tax on crude oil or refined products at the refinery, on natural gas at the hookup to trunk pipelines, coal at the minemouth, and electricity at the utility.

Further cost advantages exist where the new tax can take advantage of existing mechanisms for collecting taxes (for example, superfund taxes on oil, black-lung taxes on coal, and federal excise taxes on motor gasoline).

Some important considerations affect the cost of administering any broad-based energy tax. A Btu tax assessed on crude oil at the refinery gate would be easier to administer than one on all products (unless, perhaps, the unit tax would vary with the heat content of every oil shipment). Petroleum product taxes assessed upstream (at the refinery or some wholesale distribution point) would be easier to administer than those assessed at the retail level, since there would be fewer collection points to monitor. The same consideration applies to coal taxes. If collected at the minemouth, they could be relatively cheap to administer. If the unit taxes varied with the heat content of each coal source, however, the costs would rise. One cost-effective point for taxing natural gas would be at the place it enters the main interstate or intrastate trunk pipelines, since it would leave only a small number of pipeline companies to monitor. Another point might be at the city gate.

A VALUE-ADDED TAX

Taxes imposed on energy use primarily affect consumers by increasing the cost of operating motor vehicles, heating homes, and using electricity. Moreover, because the production and distribution of other goods for

consumption require energy, energy taxes raise the prices of these goods too, but by much less.

Broad-based consumption taxes such as the retail sales tax or the value-added tax (VAT) are levied on consumption in a more even-handed way. Because they do not single out energy use, they have a much more neutral effect on consumer behavior. But by having a more neutral effect on behavior, they do not encourage energy conservation.

A value-added tax is similar to a retail sales tax, but it is collected in a different way. Instead of collecting the tax on consumer purchases all at once at the retail level, a VAT collects the tax in stages as goods and services are produced and marketed. Collecting the VAT in stages discourages tax evasion and allows businesses to recoup the tax they pay on their purchases.

One possible advantage of a VAT over an energy tax is that it would be less regressive. Because a disproportionately large share of the expenditures of low-income families are for energy, an energy tax is more of a burden on low-income families than a broad-based consumption tax. Moreover, goods such as home heating fuels could be excluded from the

base of a consumption tax to lessen the tax burden on low-income families. Of course, the regressive burden of an energy tax could be offset, either through a rebate mechanism or a compensating reduction in some other tax.

An important disadvantage of a VAT is the high cost of administering and complying with the tax. Based on typical costs for administering and complying with a VAT in Europe, CBO estimates that the annual cost in the United States would be $5 billion to $8 billion, involving at least 7 million businesses. Thus, a VAT would not be particularly cost effective if it were adopted at a rate that only brought in the revenue that the President has called for from his proposed energy tax ($22 billion annually).

In contrast, energy taxes would be collected from a relatively small number of energy producers, refiners, and utilities. In addition, the energy tax could be "piggy-backed" on the existing mechanism for tax collection (including superfund taxes on oil, black-lung taxes on coal, and federal excise taxes on motor gasoline) and collected at a relatively low cost. Granting tax exemptions or tax rebates to energy users for any

reason, however, would increase the complexity of an energy tax and add to the costs of administering and complying with it.

CONCLUSION

No one likes taxes, but if we are to deal meaningfully with the rising deficit, we must be prepared to swallow the strong medicine of reduced spending, increased taxes, or both. A broad-based energy tax can be a constructive component of a tax package, with the added benefit of contributing modestly to environmental and energy security goals. An even broader-based value added tax could also contribute constructively to increased tax revenues, although at the level of revenues proposed by the President ($22 billion), a VAT would not be cost-effective for the United States.