

Executive Summary

In 2008 the U.S. Energy Information Administration (EIA) issued a report, its third since the early 1990s, that detailed federal subsidies to the nation’s energy sector. Because EIA is the government’s energy statistics arm, these assessments inevitably garnered much attention and carried a great deal of weight. Unfortunately, EIA’s subsidy tallies systematically undercounted energy subsidies, and in doing so they falsely conveyed the impression that energy subsidies do not affect the country’s energy path.

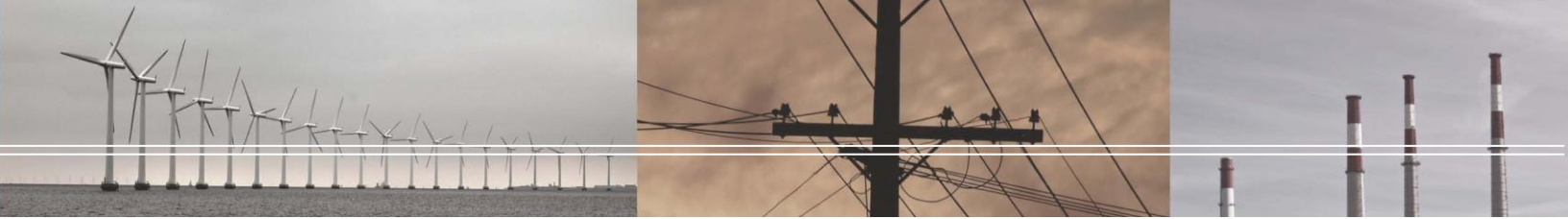
There have been a variety of problems with EIA’s approach. These ranged from the limited sources it used in its research to the many subsidies of great benefit to the energy sector that the Administration ignored in its total—the result of overly narrow definitions and inconsistent application of its stated inclusion criteria. In combination, problems of estimation and omission in EIA’s work render a picture of subsidies that has more to do with the scope and manner of its research than with the actual impact of policies in place. The impact of these problems on subsidy totals and reported support for particular fuels is summarized in Table ES-1.

Much is riding on a logical and cost-effective economic transition away from greenhouse gas-intensive fuels. The increasing involvement of government in the energy sector makes EIA’s work on energy subsidies ever more important to get right. Only through systematic review of subsidy programs can the market distortions that these existing policies cause be addressed.

In providing details on the problems with EIA’s work, this report aims to ensure that any future work the Administration carries out on the topic of energy subsidies will be done with a greater degree of freedom from political interference, with systematic coverage of all types of subsidies, and with more openness to existing work on the topic even if that work challenges previous core assumptions of the EIA research team.

If EIA is to remain tasked with tracking federal subsidies, its work must be more systematic across subsidy types and show enhanced transparency. Analyses should be produced according to a regular, preannounced schedule. Results will thus be more representative, and the Administration will be able to staff the project more consistently and invest in building the necessary screening and valuation tools over time.

EIA should have the freedom to scope its research task as needed. Congressional directives for at least the past two studies have been highly prescriptive—specifically listing policies, such as accelerated depreciation, that could not be included in the subsidy totals.



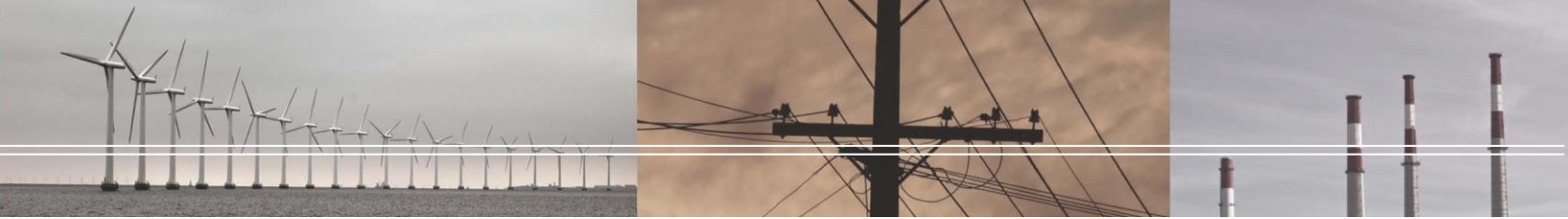
Such strictures eroded EIA's analytic independence and reduced the value of the resulting work. EIA staff have acknowledged that these limitations sometimes led to the exclusion of policies.

Any restrictions placed on the type of sources EIA is allowed to use should be made public. EIA's 2008 report did not contain a single citation for nongovernmental organization (NGO) work on subsidies, even though NGOs have been active in the field for decades and actually built up the estimation methodologies in some areas. If Congress or the U.S. Department of Energy (of which EIA is a part) is placing restrictions on sources, this policy needs to be made public so that it can be challenged as necessary. Research quality is normally better if a variety of sources can be used.

EIA should use range estimates rather than point estimates for the majority of subsidy transfers that are not simply cash payments. Tax, credit, insurance, and minimum purchase requirements are all examples of policies that provide substantial subsidies to the energy industry but that also require a complex process of estimation to quantify. When EIA oversimplifies—as in including only single measurement values in its totals for subsidies to federal power marketing administrations; or in using only Treasury Department estimates of tax-expenditure losses even when the Joint Committee on Taxation's (JCT's) estimates for the same provision are hundreds of millions of dollars higher—it creates a significant problem.

Point estimates convey artificial precision, understate subsidy totals, and skew the reported fuel-by-fuel subsidy mix by billions of dollars. Adding JCT estimates to the subset of tax subsidies that EIA included in the past would by itself have extended reported subsidies by more than 30 percent, or some \$5.3 billion per year. The largest percentage increases in subsidy value from this adjustment would flow to oil and gas (124 percent higher), nuclear power (66 percent higher), and coal (53 percent higher).

EIA must do a much better job of evaluating subsidy impacts on new investment. EIA has adopted a "snapshot" approach, which measures subsidies at a single time. While this is a useful metric, is it not sufficient as the *only* metric of subsidy magnitude. In the past five years, scores of new and very large subsidies have been enacted, of particular benefit to new coal and nuclear plants, but because these facilities have not yet come online, EIA has pegged the subsidies at zero. As a result, these programs' enormous influence on the economics of new energy investments was entirely missed in EIA's work. Every future report should contain not only a snapshot subsidy estimate but also a marginal analysis of the impact of subsidies on the levelized cost of new investments. Both the California Energy Commission and the Congressional Research Service have used this approach, as has EIA in some of its other activities.



EIA needs to evaluate long-term actuarial balance, not short-term cash surpluses, when assessing whether particular trust funds provide subsidies. Many trust funds cover very long-term care issues (e.g., nuclear waste) or must accrue surplus funds to cover anticipated longer-term losses. In the past, EIA has too quickly concluded that excess cash in a trust fund indicated no subsidies, thereby understating total subsidies to nuclear, coal, and oil in particular.

Where EIA has changed important decision rules across studies, past estimates need to be recalibrated so as to ensure accurate time trends. For example, EIA reported tax losses in its earlier two studies using an “outlay equivalent” metric that evaluated the after-tax benefit of the tax subsidies. This practice was discontinued in their 2008 analysis, depressing reported tax subsidies by 20–30 percent as a result. Similarly, some public power subsidies were evaluated but not included in subsidy totals in earlier EIA work due to stated measurement problems. The 2008 report finally included at least a low-end subsidy value for the provisions, but it did not adjust tallies from earlier studies upward to reflect this change. Use of an inconsistent baseline skews both the time trend and the reported results by billions of dollars.

In its future reports, EIA should adopt a more systematic review of subsidies to the energy sector. Current work omits far too many programs that provide the sector with large and directed subsidies. EIA’s rules for inclusion are sometimes arbitrary or inconsistently applied. For example, the Administration includes tax-exempt energy-related private activity bonds (of which roughly \$150 million were issued in 2006) while excluding up to \$36 *billion* in tax-exempt energy-related municipal bonds issued that same year. Because some types of subsidies are very important to one fuel and not at all to others, the Administration’s decisions to exclude entire classes of subsidies can dramatically skew reported inter-fuel numbers. Specifically, future studies must make a much better effort to characterize and quantify subsidies related to insurance and administrative oversight of market activities, minimum purchase requirements and associated tariff protection, subsidies to bulk energy transport and energy security, export credit assistance, and capital depreciation and bond issuance.

EIA should not lump all supposedly renewable technologies into a single category. The approach, dominated by large subsidies to corn ethanol, presents an inaccurate pattern of actual support across fuels. Future work should do a better job of segmenting out beneficiary energy forms.

Table ES-1 provides a summary of the key analytic problems with EIA’s work, a rough estimate of the anticipated increase in total subsidies should the problem be corrected, and an estimate of which types of energy would see the largest increases in reported subsidies.

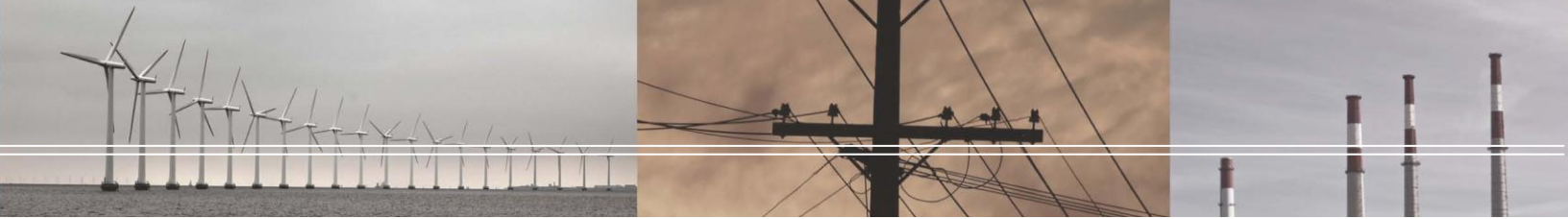


Table ES-1. Expected Bias Resulting from EIA Subsidy Definition and Valuation Conventions

Issue	Scale of impact/year	Issue understates subsidies to:
Use of point rather than range estimates	\$5.3 billion for subset of tax expenditures alone	Oil, gas, nuclear, coal, efficiency
Use of revenue-loss rather than outlay-equivalent metric for tax subsidies	Billions	Oil, gas, wind, biofuels
No marginal analysis of new and expanded subsidies	Billions	Clean coal, nuclear
Use of current account rather than actuarial balance on trust funds to assess subsidy level	Billions	Nuclear, fossil (to a lesser extent)
Omission of subsidies related to insurance and publicly provided market oversight	Billions	Nuclear, coal, hydroelectricity
Omission of minimum purchase requirements such as Renewable Fuel Standard	Billions	Liquid biofuels; renewable electricity if federal RPS enacted
Omission of support to bulk fuel transport infrastructure	~1–2 billion	Oil, coal, and, to a lesser extent, ethanol and liquefied natural gas
Omission of support to energy security	>\$10 billion	Primarily oil, with some benefits as well to nuclear and natural gas
Omission of subsidized credit through export credit agencies and multilateral development banks	Unknown	Oil, gas, coal, renewables, new nuclear
Omission of use of tax-avoiding corporate forms	Unknown	Oil, gas, coal
Omission of lease-related subsidies	>\$1 billion	Oil and gas, synfuels
Inadequate reflection of subsidies to public power	>\$1 billion	Coal, natural gas, nuclear, hydroelectricity
Omission of most accelerated depreciation to energy	Billions	Oil, coal, natural gas, wind, biofuels, new nuclear
Omission of most energy-related tax-exempt bonds	Billions	Coal, natural gas, wind, biofuels