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**Comments for the Record, June 12, 2012 Hearing on
Tax Reform: Impact on U.S. Energy Policy**

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I am writing to provide the comments of the American Council for an Energy-Efficient Economy (ACEEE) for the record of the hearing on Tax Reform: Impact on U.S. Energy Policy. ACEEE is a nonprofit research organization formed in 1980 that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments, and behaviors. We now employ more than 40 researchers and publish dozens of studies each year. Additional information on our organization can be found at <http://aceee.org>. ACEEE has conducted substantial research on energy efficiency tax incentives and also on how broader tax policy affects investments in energy efficiency.

The tax code has a substantial impact on whether businesses and consumers make cost-effective energy efficiency investments. In these comments I briefly address small “tweaks” to the tax code addressing such issues as depreciation and tax incentives as well as much larger reforms, such as changing the corporate income tax to be based on income, not profits, and consideration of Pigovian taxes to reduce externalities and provide revenue to allow reductions in marginal tax rates. Each of these topics is discussed in the paragraphs below.

Depreciation

There are two significant problems with how the current tax code treats depreciation of energy efficiency investments. First, in the case of investments in the commercial sector, most investments are depreciated over the life of the building (set at 39 years), even if the equipment (e.g., an air conditioner) has a far shorter life. This discourages investments in new equipment as owners are reluctant to write-off undepreciated assets, making them more likely to repair rather than replace old, inefficient equipment. Depreciation periods need to be set based on reasonable estimates of the average useful life of equipment. Options include specifying improved depreciation periods in the tax code or delegating these determinations to the IRS, as was policy in the past. We recommend the latter since this allows adjustments to be determined administratively rather than having to go through a legislative process.

Second, depreciation rates can vary for the same equipment, depending on who owns the equipment. This can stifle investment by owners who have long depreciation periods. For example, depreciation periods for combined heat and power (CHP) systems (systems that generate heat and power together, permitting much higher overall efficiencies than if power and steam generation are separate) can vary from 5-39 years. We recommend selection of a single rational depreciation period for all owners such as 15 years.

These issues and other depreciation issues are discussed in more detail in a recent ACEEE working paper on depreciation available at <http://aceee.org/white-paper/depreciation-impacts-on-tax-policy>.

Tax Incentives

Given current budget deficits, we assume that funds for energy-related tax incentives will be very limited. First, credits should target only technologies or processes that provide a societal good in the energy sector, such as reducing energy use and saving money or encouraging new energy sources that will be important in the long term. We recommend that these limited available funds be targeted at instances where technology or practice is not widespread, but

with medium-term support (e.g., five years), markets can be transformed so that these technologies or practices become much more widely used even after tax incentives end. Recent examples of such tax credits include the energy efficiency appliance tax credit (Section 45M) and the new homes tax credit (Section 45L). In the case of appliances, incentives have targeted very high efficiency appliances, substantially raising market share. Many of the products incentivized under the original 2005 legislation now represent the majority of product sales. Eligibility levels have been tightened several times so that incentives are only available for the very most efficient products on the market, with incentives phased out for lower efficiency levels that no longer need support. Likewise, the new homes tax credit has targeted very high levels of performance, raising qualifying homes from less than 1% of new construction to more than 10%. We recommend extending this credit, which expired at the end of 2011, but also adding a new, higher efficiency tier. When the market share of the original tier grows some more, incentives can be phased out, leaving only incentives for the new, higher tier. Additional information on the success of these and other energy efficiency tax incentives can be found in an ACEEE white paper available at <http://aceee.org/white-paper/energy-efficiency-tax-incentives>.

Based on this experience, we recommend that future incentives:

- Target energy-saving equipment and practices with substantial energy savings and target energy sources that can produce substantial energy in the long term (we want “mountains” not “molehills”);
- Target efficiency levels and new energy sources that currently have a very small market share to keep costs down and minimize the number of “free riders” (purchasers who would have bought equipment anyway, even without incentives);
- Pay substantial incentives to motivate significant sales; and
- Be in place for a medium period of time (e.g., five years) so manufacturers and other market players know incentives will be available for long enough that it is worth making investments. Short-term incentives do not provide such assurance. After this medium period of time, incentives should either be phased out or eligibility levels increased, starting a new market transformation process.

In addition, for measures that are expensive and for which quick market transformation is not possible, such as comprehensive home and building energy efficiency retrofits, Congress should consider repayable incentives after the initial five-year incentive ends. Under such a scheme, a tax credit could be made when investments are made, but then the taxpayer would gradually repay the investment in subsequent-year taxes. For example, if a business receives an initial tax credit of \$100,000 on a CHP system the year the system was placed into service, they might repay the federal credit at the rate of \$20,000 per year over the next five years. The initial credit encourages the original investment, and the subsequent repayments channel the value of some of the energy bill savings back to the federal government, so that the long-term cost to the federal government is very low – just defaults plus interest costs. Essentially this would be a zero-interest loan.

This idea has already begun to circulate in Congress. In 2011, Senator Shaheen from New Hampshire circulated a draft bill that would provide a repayable tax incentive for CHP systems. Under the proposal, an incentive would be given to electric utilities that finance CHP systems.

The amount of the incentive would then be repaid to the Treasury through an annual installment payment paid by the customer who owns the CHP system equal to the amount of the subsidy divided by an installment period, specified in years. In this case, the installment period is 3 years (e.g., the customer repays the subsidy over 3 years) but payments don't begin until the third year after the subsidy is paid (i.e., the customer repays nothing for the first two years, then repays 1/3 of the subsidy each year for the next three years). However, this particular proposal is complicated by the fact that the electric utility receives the tax incentive, but a business that hosted the CHP system would make the repayment, resulting in some tricky legal issues. These issues would be much more limited if the same firm received the credit and then made the repayments.

Consider Taxing Income, Not Profits

Under the current tax code, individuals are taxed on income but corporations are taxed on profits (the difference between income and expenses). This results in substantial gamesmanship on ways to incur paper expenses in order to minimize paper profits. Also, regarding energy efficiency, the fact that energy expenses are deductible essentially means that the federal government is sharing a portion of energy costs (around 25% given the average corporate tax rate), reducing the incentive for businesses to reduce energy use. Likewise, energy efficiency savings are taxed, also reducing investment incentives. The corporate tax could be dramatically simplified by taxing income instead of profits. Since profits are much smaller than income (e.g., the national average profit is about 9% of income¹), tax rates could be much lower. In order to keep from “pancaking” taxes, taxes incorporated in the costs of goods purchased could be deducted, so firms would only pay taxes on their value added. We roughly estimate that with these changes a corporate tax of about 3.25% of income would produce about the same revenue as the current system. Further details are provided in an ACEEE working paper available at <http://aceee.org/white-paper/business-tax-working-paper>. At this point we are not advocating for adoption but do suggest that this idea be explored further.

Pigovian Taxes

Two witnesses at the hearing, Dr. Dale Jorgenson and the Honorable Philip Sharp, discussed this possibility. Many observers have proposed reducing marginal tax rates by eliminating or reducing a variety of tax expenditures. While this sounds great in theory, reducing tax expenditures is very difficult in practice and users of these incentives will fight hard to defend them. To the extent additional revenue is needed in order to reduce marginal tax rates to desired levels, Pigovian taxes should be considered. An ACEEE working paper on this subject can be found at <http://aceee.org/white-paper/should-us-consider-modest-emissions-fee>.

¹ Average corporate net income of U.S. firms appears to be about 9.2% (derived from data in Markle and Shackelford, 2011, “Cross-Country Comparisons for Corporate Income Taxes,” Working Paper 16839, Cambridge, MA: National Bureau of Economic Research. <http://www.nber.org/papers/w16839>.)

Concluding Thought

Tax reform is a monumental challenge but one that we hope Congress takes up in a pragmatic and bipartisan fashion. We would be happy to discuss these issues further, either in a hearing or in discussions with staff.