U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON ENERGY AND COMMERCE

March 27, 2017

TO: Members, Subcommittee on Energy

FROM: Committee Majority Staff

RE: Hearing entitled "Federal Energy-Related Tax Policy and its Effects on Markets, Prices, and Consumers"

I. INTRODUCTION

The Subcommittee on Energy will hold a hearing on Wednesday, March 29, 2017, at 10:15 a.m. in 2322 Rayburn House Office Building. The hearing is entitled "Federal Energy-Related Tax Policy and its Effects on Markets, Prices, and Consumers."

II. WITNESSES

- **Terry Dinan, Ph.D.**, Senior Advisor, Congressional Budget Office;
- **Ben Zycher, Ph.D.**, Resident Scholar and John G. Searle Chair, American Enterprise Institute;
- **Robert Murphy, Ph.D**, Senior Economist, Institute for Energy Research;
- **Devin Hartman**, Electricity Policy Manager, R Street Institute;
- **Joseph E. Aldy**, Associate Professor of Public Policy, Harvard University, School of Government; and
- **Steve Clemmer**, Director of Energy Research and Analysis, Union of Concerned Scientists.

III. BACKGROUND

The Federal government provides support for energy development, production, and use of fuels and energy technologies through the tax code and spending programs administered by the Department of Energy (DOE). Tax preferences provide the bulk of federal support. In 2016, energy-related tax preferences cost an estimated $18.4 billion, while relevant DOE spending programs cost $5.9 billion.[1]

[1] Congressional Budget Office, update to report entitled *Federal Support for the Development, Production, and use of Fuels and Energy Technologies* (November 2015).

As Congress evaluates the tax code and contemplates tax reform, there has been interest in understanding the effects of energy-related tax policy on evolving energy markets, prices, and consumers. The U.S. tax code supports the energy sector by providing a number of targeted tax incentives relating to the production and use of fossil fuels, nuclear power, renewable energy, and energy efficiency technologies (Appendix 1). The Energy Information Administration (EIA) has examined direct federal financial interventions and subsidies across different energy resources covering FY 2007, FY 2010, and FY 2013. EIA's study found that, relative to production levels, federal tax expenditures for renewable energy greatly exceeded support for fossil sources of energy.[2] Historical trends and legislative history provide some context for understanding the policy objectives of certain tax expenditures. While measuring cost-effectiveness relative to achieving policy goals provides a starting point for discussion, a more comprehensive evaluation of energy-tax policy would study its effects on energy markets, fuel and electricity prices, and consumers.

The changing energy landscape and increasing interconnectedness and interdependency of the nation's energy and electricity delivery systems requires a deeper understanding of the effects of energy-related tax policies. Today's energy and electricity markets are evolving to respond to increased domestic oil and gas production, a changing power generation mix, new technologies and improvements in energy efficiency, emerging physical and cyber threats, competition and consumer demands. These trends affect the price of electricity, fuels, and feedstocks, which in turn influences the costs of transportation, manufacturing, and household energy consumption.

IV. ISSUES

The following issues may be examined at the hearing:

- Effects of federal energy-related tax policy on evolving energy and electricity markets, including implications for imports/exports, domestic energy production, power generation mix, energy efficiency, new technologies and services, and state and local policies;

- Effects of federal energy-related tax policy on prices, including fuel costs, costs to build and operate power generation, costs to maintain and use transmission, storage, and distribution systems, regulatory costs; and,

- Effects of federal-energy related tax policy on consumers, including fuel and electricity prices, tariffs and rates relating to facilities and services.

V. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Brandon Mooney or Tom Hassenboehler of the Committee staff at (202) 225-2927.

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[2] U.S. Energy Information Administration, *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2013*.

APPENDIX 1

Table 1. Energy Tax Provisions

(billions of dollars)

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
	Fossil Fuels				
Expensing of percentage over cost depletion	Firms that extract oil or gas are permitted to deduct 15% of gross income (up to 25% for marginal wells depending on oil prices; 10% for coal and lignite) to recover their capital investment in a mineral reserve. The amount deducted may not exceed 100% of net income in the case of oil and gas properties. Percentage depletion allowances for oil and gas property cannot exceed 65% of taxable income. The alternative to percentage depletion is cost depletion, where deductions are based on a taxpayer's adjusted basis in the property. Integrated oil and gas companies must use cost depletion.	0.9	5.2	none	611, 612, 613, 613A
Expensing of intangible drilling costs (IDCs) and development expenditures for hard minerals	Firms engaged in the exploration and development of oil, gas, or geothermal properties have the option of expensing (deducting in the year paid or incurred) rather than capitalizing (i.e., recovering such costs through depletion or depreciation) certain intangible drilling and development costs (IDCs). Integrated oil and gas companies can expense 70% of qualified IDCs, with the remaining 30% capitalized and amortized over a 60-month period. 70% of the costs paid or incurred for the development of a mine or other natural deposit (other than oil or gas) may be expensed.	1.8	8.0	none	616, 617, 263(c), 291
Amortization of G&G expenditures associated with oil and gas exploration	Under the Modified Accelerated Cost Recovery System (MACRS), the cost of selected types of geological and geophysical (G&G) expenditures is depreciated over two years for independent producers and smaller integrated oil companies.	0.1	0.6	none	167(h)
Coal production credits	A $6.71-per-ton production credit for refined coal used to produce steam, for the first 10 years of qualifying production. A $2.354 per-ton production credit for coal reserves owned by an Indian tribe, for up to an 11-year period. Both credits are adjusted for inflation from 1992.	(i)	0.2	12/31/2011 (placed-in-service deadline for refined coal) No credits for Indian coal paid after 12/31/2016	45

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
Credits for investing in clean coal facilities	Tax credit of 20% of investment for integrated gasification combined cycle (IGCC) systems and 15% for other advanced coal technology credit allocations made under the Energy Policy Act of 2005 (P.L. 109-58). 30% credit for IGCC and other advanced coal technology credit allocations under the Energy Improvement and Extension Act of 2008 (P.L. 110-343).	0.2	1.0	Allocation limit	48A, 48B
Amortization of air and pollution control facilities	Allows the pre-1976 5-year amortization period for investments in pollution control equipment for coal-fired electric generation plants available to those plants placed in service on or after January 1, 1976. The 5-year amortization incentive for pre-1976 plants applies only to pollution control equipment with a useful life of 15 years or less. In that case 100% of the cost can be amortized over five years. If the property or equipment has a useful life greater than 15 years, then the proportion of the costs that can be amortized over 5 years is less than 100%.	0.5	4.2	none	169 and 291
Exceptions for energy-related publicly traded partnerships	Publicly traded partnerships are generally treated as corporations. The exception from this rule occurs if at least 90% of its gross income is derived from interest, dividends, real property rents, or certain other types of qualifying income. Qualifying income includes income derived from certain energy-related activities, such as fossil fuel or geothermal exploration, development, mining, production, refining, transportation, and marketing.	0.9	4.9	none	7704, 851
Credit for alternative fuels and alternative fuels mixtures	Alternative fuels (liquefied petroleum gas, P Series Fuels, compressed of liquefied natural gas, liquefied hydrogen, liquid fuel derived from coal using the Fischer-Tropsch process, or compressed or liquefied gas or liquid fuel from biomass) qualify for a tax credit of 50¢ per gallon. The alternative fuels credit may also be received as an outlay payment.	0.8[b]	0.9[b]	12/31/2016	6426 and 6427
Renewables					

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
Credits for electricity production from renewable resources ("PTC" or "production tax credit")	Tax credit of 2.3¢/kWh for electricity produced from wind, closed-loop biomass, and geothermal energy in 2015. Tax credit of 1.2¢/kWh for electricity produced from open-loop biomass, small irrigation, landfill gas, trash combustion, qualified hydropower, and marine and hydrokinetic sources in 2015. The tax credit is available for 10 years after the date the facility is placed in service. Taxpayers may also elect to receive a 30% ITC in lieu of the PTC.	3.4	25.7	12/31/2019 (construction start deadline, wind); phaseout begins after 12/31/2016 12/31/2016 (construction start deadline, other technologies)	45
Energy credit ("ITC" or "investment tax credit")	Tax credit equal to 10% of investment in energy production using geothermal, microturbine, or combined heat and power methods. The tax credit is equal to 30% of investment in energy production using solar electric, solar hot water, fuel cell, or small wind methods. After 2019, the credit rate for solar electric begins to decrease over time to 10% for projects that begin construction after 2021, or that are not placed in service before 2024.	2.6	13.6	none (geothermal excluding geothermal heat pumps) 12/31/2016 (other technologies; solar has permanent 10% credit after 2021)	48
Section 1603 grants in lieu of tax credits	Section 1603 allows taxpayers eligible for the PTC and ITC to receive a one-time cash grant in lieu of tax credits. Eligible facilities may qualify for a grant equal to 10% or 30%, depending on technology type, of a qualifying project's eligible cost basis.	1.2[a]	1.9[a]	12/31/2011 (construction start date)	45, 48
Residential energy-efficient property credit	Tax credit for 30% of the cost of the purchase of solar electric property, solar water heating property, geothermal heat pump property, or small wind energy property. Tax credit for solar technologies subject to phaseout schedule. Fuel cell power plants receive 30% credit, limited to $500 for each 0.5 kilowatt of capacity.	1.1	3.2	12/31/2021 (solar, with phaseout after 12/31/2019) 12/31/2016 (other technologies)	25D

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
Five-year cost recovery of certain energy property	Accelerated depreciation allowances are provided under the modified accelerated cost recovery system (MARCs) for investments in certain energy property. Specifically, certain solar, wind, geothermal, fuel cell, and biomass property has a five-year recovery period. Second-generation biofuel plant property is allowed an additional first-year depreciation deduction equal to 50% of the property's adjusted basis.	0.3	2.0	12/31/2016 (placed in service date for second-generation biofuel, certain solar illumination, and certain ground or ground water thermal property) None (other technologies)	168
Credits for holders of clean renewable energy bonds	Provides a tax credit for the holder of the bond against its income tax. Clean Renewable Energy Bonds ("CREBs") are subject to a volume cap of $1.2 billion with a credit rate set to allow the bond to be issued at par and without interest. New Clean Renewable Energy Bonds ("New CREBs") are subject to a volume cap of $2.4 billion with a credit rate set at 70% of what would permit the bond to be issued at par and without interest.	(i)	0.6	Allocation limit	54, 54C
Credit for biodiesel, renewable diesel, and second-generation (cellulosic) biofuels	$1 per gallon for biodiesel, agri-biodiesel, and renewable diesel (extra 10¢ for small producers of agri-biodiesel). Second-generation biofuel qualify for a credit of $1.01 per gallon. Depending on the specific incentive, tax credits go to fuel producers and/or blenders. Credits are generally coordinated income and excise tax credits.	2.2[b]	2.6[b]	12/31/2016	40, 40A, 6426, 6427
Advanced energy manufacturing tax credit	30% tax credit for qualified investments in advanced energy property. A total of $2.3 billion was allocated for advanced energy property investment tax credits, which were competitively awarded by the Departments of Energy (DOE) and the Treasury.	0.3	0.8	Allocation limit	48C
	Energy Efficiency				
Credit for nonbusiness energy property	Tax credit for 10% of the amount paid for qualified energy-efficiency improvements and expenditures for residential energy property including qualifying improvements to the building's envelope, the HVAC system, furnaces, or boilers. Credit limited to $500 (limit applies to multiple tax years).	0.5	0.9	12/31/2016	25C

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
Exclusion of energy conservation subsidies provided by public utilities	Subsidies are not taxable as income.	(i)	0.1	none	136
Qualified energy conservation bonds	The federal government has authorized the issue of $3.2 billion in Qualified Energy Conservation Bonds ("QECBs"). QECBs provide a tax credit worth 70% of the tax credit bond rate stipulated by the Secretary of the Treasury. QEC bonds issued by state and local governments must fund an energy-savings project, such as the green renovation of a public building, R&D in alternative fuels, and public transportation projects.	(i)	0.3	Allocation limit (allocated to the States)	54D
Plug-in electric vehicles and other alternative fuel vehicles	Credits available for plug-in electric vehicles are available up to $7,500 depending on kilowatt hour capacity of vehicle (prior to 2010 the credit limit was higher, up to $15,000 for qualifying heavy vehicles). Fuel cell vehicles receive a base credit of $4,000 for vehicles weighing less than 8,500 pounds. Heavier vehicles qualify for up to a $40,000 credit. An additional credit of up to $4,000 is available for cars and light trucks that exceed the 2002 base fuel economy. A 10% credit, up to $2,500, is available for the cost of two-wheeled plug-in electric vehicles. Qualified vehicles include those propelled to a significant extent by an electric motor drawing from a battery with a capacity greater than 2.5 kWh, and capable of achieving a speed of at least 45 mph.	0.3	4.5	Plug-in electric vehicle credit volume capped (200,000) per manufacturer 12/31/2016 for fuel cell and 2-wheeled electric vehicles	30, 30B, 30D
	Other				
Exclusion of interest on State and local government private activity bonds for energy production facilities	Exclusion of interest from private activity bonds used to finance privately owned or operated sewage, water, solid waste disposal, and heating and cooling facilities, certain private electric and gas facilities, hydroelectric dam enhancements, qualified green building and sustainable design projects from tax. Generally subject to a state private activity bond volume cap.	(i)	0.7	none	141, 142
Depreciation recovery periods for energy specific items	Smart electric distribution property is allowed 10-year depreciation under the modified accelerated cost recovery system (MARCs). Certain electric transmission property is allowed 15-year depreciation. Natural gas distribution lines are also allowed 15-year depreciation.	0.4	1.8	various	168

Tax Provision	Description	2016 Cost	2016-2020 Cost	Expiration Date	I.R.C. Section
Deferral of gains from the sale of electric transmission property	A taxpayer may elect to recognize the gain from the sale of certain electric transmission property over an eight-year period.	-0.2	-1.0	12/31/2016	451(i)

Source: CRS compilation based on data from U.S. Congress, Joint Committee on Taxation, *Estimates of Federal Expenditures for Fiscal Years 2016–2020*, January 30, 2017, JCX-3-17; U.S. Congress, Joint Committee on Taxation, *Estimated Budget Effects of Division Q of Amendment #2 to H.R. 2029 (Rules Committee Print, 114-40), The "Protecting American's from Tax Hikes Act of 2015,"* 114th Congress, December 16, 2015, JCX-143-15; and the President's FY2017 budget, *Analytical Perspectives*.

Notes: Provisions estimated as *de minimis* (i.e., estimated to have a revenue loss of less than $50 million over the 2016 through 2020 period) are not included in **Table 1**. (i) = less than $50 million per year for both individuals and corporations.

a. These figures are estimated outlays under the Section 1603 grants in lieu of tax credits program.

b. This figure includes the reduction in excise tax receipts or outlay payments for biodiesel, renewable diesel, alternative fuel, or alternative fuel mixtures, as enacted as part of the 2016 Consolidated Appropriations Act (P.L. 114-113).

Source: Congressional Research Service Memorandum to Committee Majority Staff, *Energy Tax Expenditures*, March, 21, 2017