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The Energy Credit or Energy Investment Tax Credit (ITC)

Internal Revenue Code (IRC) Section 48 provides an investment tax credit (ITC) for certain energy-related property. This In Focus summarizes the current renewable energy ITC and reviews its legislative history.

Current Law

Certain investments in renewable energy property qualify for an ITC. The amount of the credit is determined as a percentage of the taxpayer's basis in eligible property (generally, the cost of acquiring or constructing eligible property). The tax credit rate and other credit parameters depend on the type of property or technology for which the credit is being claimed, as summarized in **Table 1**.

Table 1. Energy Credit: Summary of Current Law

Eligible Technology	Credit Rate	Expiration Date (End of Year)
Solar, Fiber Optic Solar, Fuel Cells, Small Wind, and Waste Energy Recovery Property[a]	30%	2019
	26%	2022
	22%	2023
Microturbines, Combined Heat and Power, Geothermal Heat Pump	10%	2023
Offshore Wind[b]	30%	2025
Solar, Geothermal Energy	10%	Permanent

Notes: Credit expiration dates are start-of-construction deadlines. For nonpermanent credits, property generally must be placed in service four years after the start of construction to qualify (five years if construction started in 2016 or 2017).

a. Waste energy recovery property is eligible starting in 2021.

b. Offshore wind facilities that began construction after 2016 are eligible. Facilities that began construction before 2017 may claim the ITC in lieu of the production tax credit (PTC).

Solar energy has a permanent 10% ITC. Temporarily, the credit rate for solar was increased to 30% through 2019, before being reduced to 26% through 2022 and 22% in 2023. Investments in small wind property (a wind turbine with 100 kilowatts of capacity or less) qualified for the 30% ITC through 2019, with the credit rate reduced to 26% through 2022 and 22% in 2023. Investments in fuel cell power plants and fiber optic solar may qualify for the ITC at these same rates. The credit for fuel cells is limited to $1,500 per 0.5 kilowatts in capacity. Waste energy recovery property that is not part of a combined heat and power (CHP) system and has a maximum capacity of 50 megawatts or less can qualify for the 26% credit if construction begins in 2021 or 2022, and a 22% credit if construction begins in 2023. Investments in microturbines, CHP systems, and geothermal heat pumps qualify for a 10% ITC. There is a 30% ITC for offshore wind property beginning construction by the end of 2025.

The expiration dates for the ITC are commence construction deadlines. For example, solar property that was under construction by the end of 2019 may qualify for the 30% tax credit, even if the property is not placed in service (or ready for use) until a later date.

Like the 10% ITC for solar, the 10% ITC for geothermal energy property is permanent. Geothermal energy property may also qualify for the renewable energy production tax credit (PTC) under IRC Section 45.

Legislative History

The Early Years

The energy tax credit was first enacted in the Energy Tax Act of 1978 (P.L. 95-618), which created a temporary 10% tax credit for business energy property and equipment using energy resources other than oil or natural gas. Tax credits for solar and wind energy property were refundable (credits could be received as a payment if the taxpayer did not have tax liability to offset), with nonrefundable credits available for a wide range of other qualifying technologies and property. The rationale behind the credits was to reduce U.S. consumption of oil and natural gas by encouraging the commercialization of a broader range of energy technologies and resources. Generally, the energy credits were scheduled to expire December 31, 1982.

The Windfall Profit Tax Act of 1980 (P.L. 96-223) expanded the energy credit to further the objective of developing an abundant range of energy resources and promoting investment in energy conservation. Tax credits for solar and wind energy property investments were extended for three years, through 1985. Additionally, the credit rate for solar and wind was increased to 15%, and the credit was made nonrefundable. The tax credit for geothermal was also increased from 10% to 15% and ocean thermal equipment was added as qualifying property. The 10% credit for biomass was also extended for three years, through 1985. The definition of biomass included materials such as municipal solid waste. The act also provided an 11% credit for small-scale hydroelectric generating property, through 1985. A 10% credit was provided for co-generation property (e.g., property that produces heat or other useful energy in addition to electricity) through 1982. The act made a number of other changes to the business energy ITC (the changes noted here are those most closely related to the current energy ITC).

When considering the Tax Reform Act of 1986 (TRA86; P.L. 99-514), Congress believed it desirable to maintain tax credits for renewable energy to continue stimulating technological development and the use of renewable energy sources. While there was not support for a broad extension of the energy credit (investment credits generally were repealed or allowed to expire in TRA86), investment tax credits for solar and geothermal energy property were

extended, but phased down to 10% before being set to expire December 31, 1988. The credit for biomass was also extended, but reduced to 10% in 1987, when it was set to expire. The credit for ocean thermal property was extended at 15% through 1988. The credit for wind was not extended. The energy credit for many other types of property had expired at the end of 1982, as scheduled.

There were a number of short-term extensions to the energy credit in the late 1980s and early 1990s. The Miscellaneous Revenue Act of 1988 (P.L. 100-647) extended the solar, geothermal, and ocean thermal investment credits at their 1988 rates. The Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239) again extended the credits for solar, geothermal, and ocean thermal equipment. The Omnibus Budget Reconciliation Act of 1990 (P.L. 101-508) extended the tax credits for solar and geothermal, as did the Tax Extension Act of 1991 (P.L. 102-227).

The Energy Policy Act of 1992 (P.L. 102-486) made the credits for solar and geothermal permanent. After P.L. 102-486, the only tax credits remaining from the Energy Tax Act of 1978 (P.L. 95-618) were the newly permanent 10% solar and geothermal credits.

Evolution of the Current Credit

The Energy Policy Act of 2005 (EPACT05; P.L. 109-58) increased the solar ITC from 10% to 30% for 2006 and 2007. The legislation also provided that fiber-optic distributed sunlight property was eligible for the tax credit, while solar property used to heat a swimming pool was not. EPACT05 also provided a 30% ITC for fuel cell power plants and a 10% ITC for stationary microturbine power plants that were placed in service during 2006 or 2007. The temporary components of the ITC and EPACT05 credit rates were extended through 2008 in the Tax Relief and Health Care Act of 2006 (P.L. 109-432).

The Emergency Economic Stabilization Act of 2008 (P.L. 110-343) substantially expanded and provided a long-term extension of the temporary components of the energy credit. The objective was to promote the continued development of alternative energy resources. In P.L. 110-343, the EPACT05 credits for solar, fuel cells, and microturbines were extended for eight years, through December 31, 2016. The legislation also provided a 10% credit for geothermal heat pump property, a 30% credit for small wind energy property, and a 10% credit for CHP property, each with a placed-in-service deadline of December 31, 2016. The purpose of the tax credit for CHP was to encourage more efficient use of fossil fuel power generation. The energy ITC was modified as part of the American Recovery and Reinvestment Act (ARRA; P.L. 111-5) in 2009, with certain limitations and restrictions relaxed. Changes in credit rates and expiration dates were not part of the ARRA modifications.

In 2015, the Consolidated Appropriations Act, 2016 (P.L. 114-113) further extended the credit. The 30% credit rate for solar electric or heating property (but not fiber-optic solar) was extended through 2019. The termination date was changed from a placed-in-service deadline to a construction start date. The higher rate was scheduled to phase out, with a 26% credit for property beginning construction in 2020, and 22% for property beginning construction in 2021.

The Bipartisan Budget Act of 2018 (P.L. 115-123) extended the ITC for five years for fiber-optic solar, fuels cell, small wind, microturbine, CHP, and geothermal heat pump property. For property eligible for a 30% credit through 2019, the credit rate is reduced following the reduction schedule for solar enacted in P.L. 114-113. All termination dates were changed to construction start deadlines.

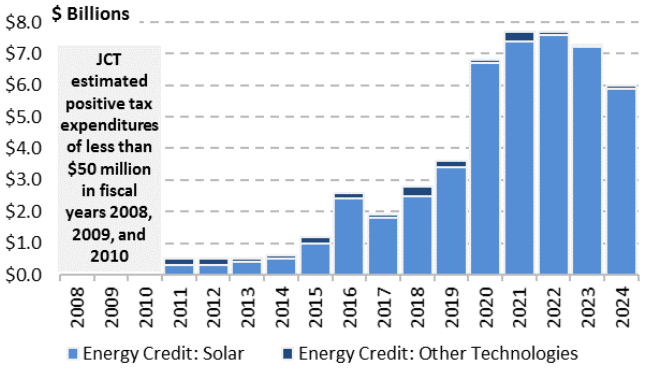
The energy credit deadlines were generally extended by two years in the Taxpayer Certainty and Disaster Tax Relief Act of 2020 (Division EE of P.L. 116-260). This legislation expanded the credit to include waste energy recovery property and to allow an ITC for offshore wind. For offshore wind, the credit is allowed for property that begins construction by the end of 2025. The tax credit rate for offshore wind is 30% and does not phase out.

Cost of the Credit

For much of its history, there was little cost associated with the energy credit. From the credit's inception in 1978 through 2007, the Joint Committee on Taxation (JCT) estimated that tax expenditures—or forgone revenue—associated with the energy credit were generally *de minimis* (less than $50 million per year; fiscal years 1997, 1998, and 2007 were exceptions, when the tax expenditure estimate for the credit was $0.1 billion).

JCT provided energy credit tax expenditure estimates by type of qualifying technology starting in 2008 (**Figure 1**). Energy credit tax expenditure estimates have increased in recent years. The majority of the cost is for solar credits.

Figure 1. Tax Expenditures for the Energy Credit
FY2008-FY2024



Source: Joint Committee on Taxation.

For 2020, the JCT estimated energy credit tax expenditures to be $6.8 billion, with the majority of tax expenditures ($6.7 billion) attributable to solar. Between 2020 and 2024, the JCT has estimated energy credit tax expenditures to be $35.5 billion, with $34.8 billion for solar.

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