Q. What tax incentives encourage energy alternatives to fossil fuels?

A. The federal tax code includes more than a dozen incentives for alternatives to fossil fuels. These provisions support electricity production from solar, wind, and other renewable sources and, to much lesser extent, from nuclear facilities. They also support alternative transportation fuels, especially electricity. And they encourage energy efficiency in homes and commercial buildings.

ELECTRICITY PRODUCTION

Several tax provisions encourage electricity production from nonfossil sources. The two largest are the renewable electricity production tax credit (PTC) and the energy investment tax credit (ITC). The PTC provides a per kilowatt hour subsidy to qualifying facilities during their first 10 years of operation. Wind-powered generators are the main recipients, but some geothermal, biomass, solid waste, and hydro facilities also claim it. The ITC provides a one-time credit for new investment in qualifying facilities. Solar generators are its main recipients, with small amounts going to fuel cells, combined heat and power systems, and other projects. The PTC is often known as the Section 45 credit, and the ITC as the Section 48 credit.

Small tax subsidies also target nuclear energy. Existing nuclear facilities get a special deduction for some contributions to future decommissioning funds. There is also an as-yet little-used production tax credit for advanced nuclear power facilities.

ELECTRIC VEHICLES

The tax code provides a substantial tax credit to individuals and businesses who purchase or lease plug-in electric light passenger vehicles and trucks. The credit starts at $2,500 and increases to $7,500 based on battery capacity. Plug-in hybrids typically qualify for credits of $4,000 to $6,000, while all-electric vehicles get the full $7,500. The credit phases out once a manufacturer reaches 200,000 qualifying vehicles. Tesla reached that limit in 2018, and General Motors is expected to do so in late 2018 or 2019. The credit for qualifying Tesla and GM vehicles will then phase down over a year. A smaller tax credit is available for electric motorcycles and other two-wheeled vehicles.

ENERGY EFFICIENCY

The tax code also encourages homeowners and businesses to use less energy, regardless of how produced. The residential energy efficiency tax credit provides up to $500 for energy efficiency improvements in existing homes, including insulation improvements and high-efficiency heating, cooling, and water heating. The $500 maximum applies cumulatively and can be claimed over multiple years. A separate residential energy-efficient property tax credit, known as Section 25D, supports home installation of solar electric and

water heating systems. Commercial buildings get a special deduction of up to $1.80 per square foot for investments in efficient lighting, heating, cooling, water heating, and building envelopes.

OTHER PROVISIONS

Smaller tax incentives for nonfossil energy sources include tax credits for certain bonds supporting renewable energy and energy conservation projects, exclusion from income tax of energy conservation subsidies provided by utilities, tax credits for fuel cell vehicles and alternative vehicle refueling, and tax preferences for biodiesel fuel.

EXPIRING PROVISIONS

Most of these tax provisions sunset every few years, and some have already expired. The residential energy efficiency and second-generation biofuel tax credits are just two of several provisions that expired at the end of 2017 and, as of mid-2018, had not been extended. Others expire later, such as the credit for residential solar, which expires at the end of 2021.

These provisions are part of a larger phenomenon of expiring tax provisions. Most eventually get extended, either before they expire or retroactively. As a result, they are often known as the tax extenders.

Energy provisions do sometimes expire, however. The tax credit for two-wheeled electric vehicles lapsed for all of 2014 before being renewed in 2015. And a substantial tax credit for ethanol fuels expired at the end of 2011.

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