On August 7, the Senate passed the Inflation Reduction Act of 2022 (the “IRA”). The IRA contains a significant number of climate and energy tax proposals, many of which were previously proposed in substantially similar form by the House of Representatives in November 2021 (in the “Build Back Better Act”).

**Extension and expansion of production tax credit**

Section 45 of the Internal Revenue Code provides a tax credit for renewable electricity production. To be eligible for the credit, a taxpayer must (i) produce electricity from renewable energy resources at certain facilities during a ten-year period beginning on the date the facility was placed in service and (ii) sell that
renewable electricity to an unrelated person. Under current law, the credit is not available for renewable electricity produced at facilities whose construction began after December 31, 2021.

The IRA would extend the credit for renewable electricity produced at facilities whose construction begins before January 1, 2025. The credit for electricity produced by solar power—which expired in 2016—would be reinstated, as extended by the IRA.

The IRA would also increase the credit from 1.5 to 3 cents per kilowatt hour of electricity produced.

A taxpayer would be entitled to increase its production tax credit by 500% if (i) its facility’s maximum net output is less than 1 megawatt, (ii) it meets the IRA’s prevailing wage and apprenticeship requirements, and (iii) the construction of its facility begins within fifty-nine days after the Secretary publishes guidance on these requirements.

In addition, the IRA would add a 10% bonus credit for a taxpayer (i) that certifies that any steel, iron, or manufactured product that is a component of its facility was produced in the United States (the “domestic content bonus credit”) or (ii) whose facility is in an energy community (the “energy community bonus credit”).

Extension, expansion, and reduction of investment tax credit

Section 48(a) provides an investment tax credit for the installation of renewable energy property. The amount of the credit is equal to a certain percentage (described below) of the property's tax basis. Under current law, the credit is limited to property whose construction began before January 1, 2024.

The IRA would extend the credit to property whose construction begins before January 1, 2025. This period would be extended to January 1, 2035 for geothermal property projects. The IRA would also allow the investment tax credit for energy storage technology, qualified biogas property, and microgrid controllers.

The IRA would reduce the base credit from 30% to 6% for qualified fuel cell property; energy property whose construction begins before January 1, 2025; qualified small wind energy property; waste energy recovery property; energy storage technology; qualified biogas property; microgrid controllers; and qualified facilities that a taxpayer elects to treat as energy property. For all other types of energy property, the base credit would be reduced from 10% to 2%.

A taxpayer would be entitled to increase this base credit by 500% (for a total investment tax credit of 30%) if (i) its facility's maximum net output is less than 1 megawatt of electrical or thermal energy, (ii) it meets the prevailing wage and apprenticeship requirements, and (iii) its facility begins construction within fifty-nine days after the Secretary publishes guidance on these requirements.

In addition, a taxpayer would be entitled to a 10% domestic content bonus credit and 10% energy community bonus credit (subject to the same requirements as for bonus
credits under section 45). The IRA would also add a (i) 10% bonus credit for projects undertaken in a facility with a maximum net output of 5 megawatts and is located in low-income communities or on Indian land, and (ii) 20% bonus credit if the facility is part of a qualified low-income building project or qualified low-income benefit project.

**Section 45Q (Carbon Oxide Sequestration Credit)**

Section 45Q provides a tax credit for each metric ton of qualified carbon oxide ("QCO") captured using carbon capture equipment and either disposed of in secure geological storage or used as a tertiary injection in certain oil or natural gas recovery projects. While eligibility for the section 45Q credit under current law requires that projects begin construction before January 1, 2026, the IRA would extend credit eligibility to those carbon sequestration projects that commence construction before January 1, 2033.

The IRA would increase the amount of tax credits for projects that meet certain wage and apprenticeship requirements. Specifically, the IRA would increase the amount of section 45Q credits for industrial facilities and power plants to $85/metric ton for QCO stored in geologic formations, $60/metric ton for the use of captured carbon emissions, and $60/metric ton for QCO stored in oil and gas fields. With respect to direct air capture projects, the IRA would increase the credit to $180/metric ton for projects that store captured QCO in secure geologic formations, $130/metric ton for carbon utilization, and $130/metric ton for QCO stored in oil and gas fields. The proposed changes in the amount of the credit would apply to facilities or equipment placed in service after December 31, 2022.

The IRA also would decrease the minimum annual QCO capture requirements for credit eligibility to 1,000 metric tons (from 100,000 metric tons) for direct air capture facilities, 18,750 metric tons (from 500,000 metric tons) of QCO for an electricity generating facility that has a minimum design capture capacity of 75% of "baseline carbon oxide” and 12,500 metric tons (from 100,000 metric tons) for all other facilities. These changes to the minimum capture requirements would apply to facilities or equipment that begin construction after the date of enactment.

**Introduction of zero-emission nuclear power production credit**

The IRA would introduce, as new section 45U, a credit for zero-emission nuclear power production.

The credit for a taxable year would be the amount by which 3 cents multiplied by the kilowatt hours of electricity produced by a taxpayer at a qualified nuclear power facility and sold by the taxpayer to an unrelated person during the taxable year exceeds the “reduction amount” for that taxable year.\[4\]

In addition, a taxpayer would be entitled to increase this base credit by 500% if it meets the prevailing wage requirements.

New section 45U would not apply to taxable years beginning after December 31, 2032.
Biodiesel, Alternative Fuels, and Aviation Fuel Credit

The IRA would extend the existing tax credit for biodiesel and renewable diesel at $1.00/gallon and the existing tax credit for alternative fuels at $.50/gallon through the end of 2024. Additionally, the IRA would create a new tax credit for sustainable aviation fuel of between $1.25/gallon and $1.75/gallon. Eligibility for the aviation fuel credit would depend on whether the aviation fuel reduces lifecycle greenhouse gas emissions by at least 50%, which corresponds to a $1.25/gallon credit (with an additional $0.01/gallon for each percentage point above the 50% reduction, resulting in a maximum possible credit of $1.75/gallon). This credit would apply to sales or uses of qualified aviation fuel before the end of 2024.

Introduction of clean hydrogen credit

The IRA would introduce, as new section 45V, a clean hydrogen production tax credit. To be eligible, a taxpayer must produce the clean hydrogen after December 31, 2022 in facilities whose construction begins before January 1, 2033.

The credit for the taxable year would be equal to the kilograms of qualified clean hydrogen produced by the taxpayer during the taxable year at a qualified clean hydrogen production facility during the ten-year period beginning on the date the facility was originally placed in service, multiplied by the “applicable amount” with respect to such hydrogen.\[5\]

The “applicable amount” is equal to the “applicable percentage” of $0.60. The “applicable percentage” is equal to:

- 20% for qualified clean hydrogen produced through a process that results in a lifecycle greenhouse gas emissions rate between 2.5 and 4 kilograms of CO₂e per kilogram of hydrogen;
- 25% for qualified clean hydrogen produced through a process that results in a lifecycle greenhouse gas emissions rate between 1.5 and 2.5 kilograms of CO₂e per kilogram of hydrogen;
- 4% for qualified clean hydrogen produced through a process that results in a lifecycle greenhouse gas emissions rate between 0.45 and 1.5 kilograms of CO₂e per kilogram of hydrogen; and
- 100% for qualified clean hydrogen produced through a process that results in a lifecycle greenhouse gas emissions rate of less than 0.45 kilograms of CO₂e per kilogram of hydrogen.

A taxpayer would be entitled to increase this base credit by 500% if (i) it meets the prevailing wage and apprenticeship requirements or (ii) it meets the prevailing wage requirements, and its facility begins construction within fifty-nine days after the Secretary publishes guidance on the prevailing wage and apprenticeship requirements.

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FOOTNOTES
All references to section are to the Internal Revenue Code.

The IRA would require new prevailing wage and apprenticeship requirements to be satisfied in order for a taxpayer to be eligible for increased credits. To satisfy the prevailing wage requirements, a taxpayer would be required to ensure that any laborers and mechanics employed by contractors or subcontractors to construct, alter or repair the taxpayer’s facility are paid at least prevailing local wages with respect to those activities. To satisfy the apprenticeship requirements, “qualified apprentices” would be required to construct a certain percentage of the taxpayer’s facilities (10% for facilities whose construction begins before January 1, 2023 and 15% for facilities whose construction begins on January 1, 2024 or after). A “qualified apprentice” is a person employed by a contractor or subcontractor to work on a taxpayer’s facilities and is participating in a registered apprenticeship program.

An “energy community” is a brownfield site; an area which has (or had at any time after December 31, 1999) significant employment related to the extraction, processing, transport, or storage of coal, oil, or natural gas; and a census tract in which a coal mine closed or was retired after December 31, 1999 (or an adjoining census tract).

A “qualified nuclear power facility” is any nuclear facility that is owned by the taxpayer, that uses nuclear energy to produce electricity, that is not an “advanced nuclear power facility” as described in section 45J(d)(1), and is placed in service before the date that new section 45U is enacted.

“Reduction amount” is, for any taxable year, the amount equal to (x) the lesser of (i) the product of 3 cents multiplied by the kilowatt hours of electricity produced by a taxpayer at a qualified nuclear power facility and sold by the taxpayer to an unrelated person during the taxable year and (ii) the amount equal to 80% of the excess of the gross receipts from any electricity produced by the facility (excluding an advanced nuclear power facility) and sold to an unrelated person during the taxable year; (y) over the amount equal to the product of 2.5 cents multiplied by the kilowatt hours of electricity produced by the taxpayer at a qualified nuclear power facility and sold by the taxpayer to an unrelated person during the taxable year.

“Qualified clean hydrogen” is hydrogen that is produced (i) through a process that results in a lifecycle greenhouse gas emissions rate of no more than 4 kilograms of CO₂e per kilogram of hydrogen, (ii) in the United States, (iii) in the ordinary course of the taxpayer’s trade or business, (iv) for sale or use, and (v) whose production and sale or use is verified by an unrelated party. The IRA does not explain what “verified by an unrelated party” means.

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National Law Review, Volume XII, Number 221
