

## SUMMARY OF THE HYDROGEN, BIOGAS, AND ENERGY STORAGE PROVISIONS IN THE INFLATION REDUCTION ACT

### EXECUTIVE SUMMARY

On August 7, Senate Democrats clinched final passage of their long-sought reconciliation bill, sending the measure to the House for a final vote later this week. Democratic leadership reached a breakthrough late last week after Majority Leader Chuck Schumer (D-NY) offered a series of tweaks to the tax and climate policies within the underlying bill to appease some concerns from Sen. Kyrsten Sinema (D-AZ), who was the last remaining holdout on the Inflation Reduction Act (IRA). The \$740 billion reconciliation measure contains dozens of climate and clean energy-related provisions that were reflected in the original “Build Back Better” agenda. The table below provides a description of the direct pay, hydrogen, biogas, and energy provisions in the IRA.

### Direct Pay

Provision	Description
<b>Direct Pay Exceptions</b>	<ul style="list-style-type: none"> <li>Due to the number of clean energy tax credits in the legislation, there may not be sufficient tax equity available to monetize all the tax benefits for all clean energy projects.</li> <li>To address this issue and relieve any bottlenecks in the tax equity market, the IRA would provide direct pay to eligible entities, thereby giving them the ability to transfer tax credits for cash.</li> <li>Direct pay is generally only available to certain tax-exempt entities — such as state or local governments — but the IRA would establish an exception for the clean hydrogen PTCs, which are available to all taxpayers. The exception would cover the first five years after the property is placed in service but would only last until 2032.</li> </ul>

### Hydrogen

Provision	Description
<b>Hydrogen Production Tax Credit (PTC) and Investment Tax Credit (ITC)</b>	<ul style="list-style-type: none"> <li>The IRA would provide for a 10-year PTC up to \$3.00 per kilogram of qualified clean hydrogen production facilities and \$0.60 for other facilities.               <ul style="list-style-type: none"> <li>As in the Senate and House versions of BBB, the credit is determined by a sliding scale based on lifecycle greenhouse gas emissions and only applies to facilities that begin construction before 2033.</li> <li>In the same vein as BBB, taxpayers may also elect the 30 percent ITC as an alternative to the PTC.</li> <li>Further, taxpayers are not allowed credit for qualified clean hydrogen produced at facilities that include carbon capture equipment for which a 45Q credit was claimed.</li> </ul> </li> <li>The IRA uniquely includes a series of bonus incentives for the PTC and ITC.</li> </ul>

	<ul style="list-style-type: none"> <li>○ For example, eligible facilities can qualify for an additional 10 percent ITC or a 10 percent increase in the PTC amount by using a certain percentage of U.S. produced steel, iron, and manufactured products.</li> <li>○ Facilities can also qualify for another 10 percent bump if they are located in an “energy community” that, at any time after 1999, had “significant employment related to the extraction, processing, transport, or storage of coal, oil, or natural gas” or in census tracts where a coal mine closed after 1999.</li> <li>● Notably, the IRA treats the use of electricity generated from renewable resources — that are claiming a PTC — for producing clean hydrogen as if it was sold to an unrelated party. <ul style="list-style-type: none"> <li>○ This would allow developers to utilize their wind projects to produce green hydrogen without losing their eligibility for the renewable energy PTC.</li> </ul> </li> </ul>
<b>Domestic Manufacturing Conversion Grants</b>	<ul style="list-style-type: none"> <li>● The bill would appropriate \$2 billion to the Energy Secretary for domestic manufacturing conversion grants for plug-in electric hybrids, plug-in electric drive, and hydrogen fuel cell electric vehicles and components of such vehicles under the Energy Policy Act of 2005 section 712.</li> </ul>
<b>Residential Clean Energy Credit</b>	<ul style="list-style-type: none"> <li>● The IRA would extend the 25D tax credit through 2034 for investments in residential clean energy, including fuel cells. <ul style="list-style-type: none"> <li>○ The credit rate is applied to the cost of such property at the rate of 30 percent for property placed in service between 2022 to 2032, 26 percent in 2033 and 22 percent in 2034.</li> </ul> </li> <li>● However, the IRA would eliminate the tax credit for biomass fuel property and replace it with a credit for certain battery storage technology with a capacity of no less than three-kilowatt hours.</li> </ul>
<b>Electric Vehicle (EV) Tax Credit</b>	<ul style="list-style-type: none"> <li>● The IRA would alter the \$7,500 EV tax credit by eliminating the per-manufacturer cap, increasing the minimum battery size to 7 kWh, as well as extending the credit through 2032.</li> <li>● In a deviation from the House and Senate versions of BBB, the IRA would add new domestic content requirements wherein the \$7,500 credit amount is split into two \$3,750 pieces: <ul style="list-style-type: none"> <li>○ The first piece requires that a percentage of the critical minerals in the battery are extracted or processed in a country that maintains a free trade agreement with the U.S.;</li> <li>○ The second piece requires a certain percentage of the battery to be manufactured or assembled in North America.</li> </ul> </li> <li>● Certain used vehicles may also qualify for a tax credit of up to \$4,000.</li> <li>● Commercial operators will be eligible for a tax credit worth 30 percent of the purchase of an EV, although that credit is capped at \$7,500 for vehicles less than 14,000 pounds and \$40,000 for larger vehicles.</li> </ul>

<b>Qualified Fuel Cell Motor Vehicles</b>	<ul style="list-style-type: none"> <li>• The IRA would create a new tax credit for “qualified commercial clean vehicles” — including fuel cell vehicles — of up to 15 percent of the cost of certain commercial clean vehicles, increased to 30 percent if the vehicle is not powered by a gasoline or a diesel internal combustion engine.</li> <li>• If the vehicle is not a qualifying fuel cell motor vehicle, the battery must be capable of being charged from an external source and be at least seven kilowatt hours for vehicles weighing less than 14,000 pounds and 15 kilowatt hours for other vehicles.</li> </ul>
<b>Alternative Fuel Refueling Property Credit</b>	<ul style="list-style-type: none"> <li>• The IRA would extend the 30C alternative refueling property tax credit to 2032.</li> <li>• It would modify the tax credit by providing a longer eligibility period as opposed to a series of one-year extensions.</li> <li>• Additionally, similar to the Senate version of BBB, the IRA would increase the cap to \$100,000 per charger.</li> <li>• However, a new and major limitation is that the IRA would only make the credit available for charging equipment in low-income communities and non-urban areas, as well as being subject to the new wage and hour requirements.</li> </ul>
<b>Biogas</b>	
<b>Extension and Modification of Energy Credit</b>	<ul style="list-style-type: none"> <li>• The IRA would extend the energy ITC, but to 2035.</li> <li>• The IRA differs in its inclusion of biogas and microgrid controllers as ITC-eligible property.</li> </ul>
<b>Extension of Second Generation Biofuel Incentives</b>	<ul style="list-style-type: none"> <li>• The IRA would extend tax credits of up to \$1.01 per gallon until 2025 to incentivize the production of second-generation biofuel.</li> </ul>
<b>Biofuel Infrastructure and Agriculture Product Market Expansion</b>	<ul style="list-style-type: none"> <li>• The bill appropriates \$500 million in funding to provide grants to retail fuel stations and fuel terminal operators to upgrade refueling infrastructure and to upgrade distribution systems.</li> <li>• This provision looks to improve past Department of Agriculture (USDA) efforts to provide these refueling infrastructure incentives by allocating grants where they will drive the most market growth for low carbon biofuels.</li> <li>• Eligible entities include individuals, corporations, farm cooperatives, farmer associations, national laboratories and higher education institutions.</li> </ul>
<b>Extension of Incentives for Biodiesel, Renewable Diesel and Alternative Fuels</b>	<ul style="list-style-type: none"> <li>• The IRA would extend an incentive for taxpayers that deliver pure, unblended biodiesel into the tank of a vehicle or use as an on-road fuel in their trade or business.</li> <li>• The incentive is \$1.00 per gallon of biodiesel, agri-biodiesel, or renewable diesel.</li> <li>• The IRA would extend the incentive through 2024.</li> </ul>

<b>Sustainable Aviation Fuel Credit</b>	<ul style="list-style-type: none"> <li>The IRA would establish a new tax credit that lasts until 2024 for sustainable aviation fuel of an amount up to the number of gallons multiplied by \$1.25 plus the applicable supplementary amount.</li> </ul>
<b>Extension, Increase, and Modifications of Nonbusiness Energy Property Credit</b>	<ul style="list-style-type: none"> <li>The IRA would extend to 2032 an up to 30 percent tax credit to incentivize individuals to upgrade the energy efficiency of their nonbusiness properties, including through biofuel heaters.</li> <li>This provision also adds a tax credit — limited to \$150 — for home energy audits conducted by certified auditors that provide the most significant and cost-effective energy efficiency improvements.</li> </ul>
<b>Solar</b>	
<b>Extension and Modification of Credit for Electricity Produced from Certain Renewable Resource</b>	<ul style="list-style-type: none"> <li>The bill would extend the PTC for renewable energy facilities that begin construction before 2025.</li> <li>In addition to the existing eligible technologies of wind, biomass, geothermal, and hydropower, this provision revives the PTC for solar facilities and extends the PTC for geothermal facilities.</li> <li>Facilities placed in service after December 2021 would be eligible to receive full value credits under this provision.</li> <li>Facilities may receive a base credit rate of 0.3 cents per kilowatt hour or a bonus credit rate of 1.5 cents per kilowatt hour, so long as they fulfill the prevailing wage and apprenticeship requirements.</li> <li>Facilities that certify that any steel, iron, or manufactured product that is a component of its facility was produced in the U.S. would receive an increased rate of 10 percent.</li> <li>The credit rate may also be increased by an additional ten percent for qualified facilities in an energy community.</li> </ul>
<b>Extension and Modification of Energy Credit</b>	<ul style="list-style-type: none"> <li>The IRA would extend the energy ITC for facilities that begin construction before 2035.</li> <li>As discussed in the biogas and energy storage sections of this table, the eligible technologies would be expanded to include energy storage technology, qualified biogas property, microgrid controllers, and linear generators, in addition to the currently eligible technologies that include solar photovoltaic property.</li> <li>The provision would establish a 2 or 6 percent base credit rate, depending on the technology, for facilities that are placed in service after December 31, 2021.</li> <li>Prevailing wage and apprenticeship requirements must be fulfilled in order to claim the bonus credit rates of either 10 or 30 percent.</li> </ul>
<b>Increase in Energy Credit for Solar and Wind Facilities Placed in Service in Connection with Low-Income Communities</b>	<ul style="list-style-type: none"> <li>The legislation would provide additional ITC-related incentives of up to 20 percent for qualified solar and wind facilities that are located in historically underserved communities.</li> <li>Projects must apply to the Treasury Department to be eligible for these additional incentives.</li> <li>Eligible projects must be: (1) under five megawatts in size; (2) located in a low-income community; (3) located on Indian land; (4) located on low-income residential buildings and providing benefits to the occupants; and (5) otherwise provide at least 50 percent of their financial benefit to low-income persons.</li> <li>Projects meeting the first four requirements are eligible for a 10-percentage point increase to the ITC, and projects that meet the fifth requirement as well would be eligible for a 20-percentage point increase.</li> </ul>

<b>Residential Clean Energy Credit</b>	<ul style="list-style-type: none"> <li>As mentioned under the hydrogen section, the IRA would extend the 25D tax credit through 2034, providing federal income tax credits for investments in residential clean energy, which includes solar technologies.</li> </ul>
<b>Energy Storage</b>	
<b>Extension and Modification of Energy Credit</b>	<ul style="list-style-type: none"> <li>The IRA would extend the energy ITC through 2035.</li> <li>The IRA expands ITC-eligible property to include standalone energy storage facilities and microgrid controllers.</li> <li>Energy storage technology is defined broadly to include property that receives, stores, and delivers energy for conversion to electricity and has a nameplate capacity of not less than five kilowatt hours and thermal energy storage property.</li> </ul>
<b>Extension of the Advanced Energy Project Credit</b>	<ul style="list-style-type: none"> <li>The IRA would provide an extension of the 30 percent tax credit for qualifying advanced energy projects.</li> <li>The provision also includes phase-outs on these credits beginning in 2030, which would impose a reduction of 25 percent per year between 2030 and 2033, when the credit becomes completely phased out.</li> </ul>