REPORT OF THE FINANCE, TRANSACTIONS AND INVESTMENTS COMMITTEE

This report summarizes developments in finance and transactions occurred during the year 2022.*

I. FINANCE OF DIGITAL ASSETS

In 2022, legislative and regulatory developments in finance and transactions centered upon the growing digital marketplace and the use of blockchain technology to power the development of those assets. Digital assets, such as cryptocurrencies, stablecoins, or non-fungible tokens (NFTs), are impacting the financial service industry, providing advantages of real-time payments, decentralization, open network with higher transparency, and smart contracts for facilitating automated transaction settlement with credibility.[1]

* The Finance & Transactions Committee thanks Deanna Reitman, Glenn Reitman, Jennifer L. Mersing, and Annette Moreno for their contributions to this report.

1. Georgia Weston, *Digital Assets To Transform Financial Infrastructure*, 101 BLOCKCHAINS (Jan. 7, 2022), https://101blockchains.com/digital-assets-in-finance/.

A. Amendments to the Uniform Commercial Code

On July 2022, the Uniform Law Commission (ULC) approved amendments to the Uniform Commercial Code (Amendments).[2] The Amendments, if adopted by the states, would create a new Article 12 of the Uniform Commercial Code (UCC) and revise other related provisions of the UCC – especially in Article 9.[3] The Amendments are wide ranging and cover a variety of topics and issues. Certain provisions of the Amendments, such as UCC Article 12, address the gaps in the law governing the transfer of property rights in certain assets that consist of, or are evidenced by, electronic records. Such examples include: virtual currencies, non-fungible tokens (NFTs) and payment intangibles and accounts evidence by electronic record.[4]

At a high level, UCC Article 12 would extend the concept of "control" currently used with respect to certain other types of electronic records, such as a "transferable record" under section 201 of the federal ESIGN Act (ESIGN) and section 16 of the Uniform Electronic Transactions Act (UETA), to "Controllable Electronic Records."[5] A Controllable Electronic Record will include some (but probably not all) NFTs and virtual currencies, as well as accounts and payment intangibles evidenced by an electronic record that includes an undertaking by the obligor to pay the person that has control (respectively, a Controllable Account or Controllable Payment Intangible).[6]

> A Controllable Electronic Record does *not* include electronic chattel paper, electronic documents of title, electronic money ("money" is limited to fiat currency under the UCC), investment property, or transferable records (as those terms are defined in the Amendments). Those categories of property will continue to be governed by their own stand-alone rules (which, in some cases, are affected by other part of the Amendments). In addition, the commentary to Amendments cautions that in some instances having control of the electronic record does not necessarily extend to rights in related property that is "tethered" to the electronic record (such as real estate, intellectual property, etc. that may be associated with an NFT).
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> As a general matter, UCC Article 12 gives a party in control of a Controllable Electronic Record the same type of super-priority currently granted to a party in control of a transferable record under ESIGN and the UETA – that is, the right to take an interest in the record free of most competing claims, even if that competing claim has otherwise been perfected under the UCC. However, UCC Article 12 establishes more liberal standards for creating control than apply to transferable records, without creating a "safe harbor" that depends on the existence of an "authoritative copy," as provided for in ESIGN and UETA.
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> The potential impact of UCC Article 12 on the assignment of rights in an electronically executed non-negotiable promissory note or other non-negotiable credit agreement is significant. Many such obligations, evidenced by an electronic record, will qualify as Controllable Payment Intangibles. In particular, an assignment of a

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2. *See Amendments to the Uniform Commercial Code*, UNIFORM LAW COMMISSION (2022), available for download at https://www.uniformlaws.org/viewdocument/enactment-kit-76?CommunityKey=1457c422-ddb7-40b0-8c76-39a1991651ac&tab=librarydocuments.

3. *Id.* at 1-4.

4. *Id.* at 1-2, 229.

5. *Id.* at 236-37.

6. *Amendments to the Uniform Commercial Code*, *supra* note 2, at 231, 234.

Controllable Payment Intangible using a transfer of control could serve to establish the priority rights of the assignee and, in many cases, eliminate the current need to conduct a UCC-1 search or file a UCC-1 financing statement with respect to the assigned obligation.

While the transferable record provisions in ESIGN and UETA remain intact, UCC Article 12 could be used as an alternative, with respect to debt obligations evidenced by electronic records that could also qualify as transferable records. However, the choice to use UCC Article 12 will involve evaluating the relative benefits to a lender or investor of UCC Article 12 as compared to having the rights equivalent to a holder in due course under ESIGN and UETA.[7]

B. *Responsible Financial Innovation Act*

On June 7, 2022, Senators Cynthia Lummis (R-WY) and Kristen Gillibrand (D-NY) released legislation addressing the regulatory and tax treatment of digital assets.[8] The "Responsible Financial Innovation Act (RFIA) seeks to create a comprehensive regulatory framework for digital assets, and it does so in a crypto-friendly manner."[9] "The RFIA addresses [] issues which arise at the intersection of traditional financial regulation and digital asset innovation across taxation, securities, banking, and consumer protection."[10] RFIA "give[s] the CFTC clear authority over applicable digital asset spot markets, affecting digital assets that meet the definition of a commodity, such as bitcoin or ether, which comprise more than half of digital asset market capitalization."[11]

1. Classification

The RFIA would add "digital asset" and "digital asset exchange" to definitions contained in the Commodity Exchange Act (CEA), thereby making them subject to the CFTC's jurisdiction.[12] As proposed, the CFTC would have "exclusive jurisdiction over any agreement, contract or transaction involving a contract of sale of a digital asset."[13] Indeed, under the RFIA, "digital asset" would become incorporated into the CEA's definition of "commodity."[14] This classification as a

7. Margo Tank et al., *ULC approves important new amendments to the Uniform Commercial Code for state adoption,* DLA PIPER (2022), https://www.dlapiper.com/en-us/insights/publications/2022/08/ulc-approves-important-new-amendments-to-the-uniform-commercial-code-for-state-adoption#.

8. Lummis-Gillibrand Responsible Financial Innovation Act, S. 4356, 117th Cong. (2022).

9. AKIN GROUP STRAUSS HAUER & FELD LLP, THE RESPONSIBLE FINANCIAL INNOVATION ACT – A BULLET POINT SUMMARY 1 (June 10, 2022), https://www.akingump.com/a/web/7N8wdf45eRKyQcoh548AMD/43soWD/the-responsible-financial-innovation-act.pdf; *see* S. 4356.

10. Deanna Reitman & Margo Tank, *How the Responsible Financial Innovation Act proposes to regulate cryptocurrencies and other digital assets – commodities perspective*, DLA PIPER (June 22, 2022), https://www.dlapiper.com/en/insights/publications/2022/06/how-the-responsible-financial-innovation-act-proposes; *see* S. 4356.

11. Reitman & Tank, *supra* note 10.

12. S. 4356 § 401.

13. *Id*. § 403.

14. *Id*. § 401.

commodity and therefore subject to the CFTC's regulation would not, however, excuse the digital asset from securities regulations entirely.[15]

Under the RFIA, an asset would be able to satisfy the definition of "digital asset" for purposes of CFTC jurisdiction, but would still be subject to certain disclosure requirements of the SEC: for purposes of the SEC, digital assets which are not fully decentralized, and which benefit from entrepreneurial and managerial efforts that determine the value of the assets, but do not represent securities because they are not debt or equity or do not create rights to profits, liquidation preferences or other financial interests in a business are called "ancillary assets."[16] These ancillary assets will be required to furnish disclosures with the SEC twice a year.[17] They would, however, be presumed to be treated as commodities for purposes of their classification by a United States Court and the SEC.[18]

Accordingly, through the RFIA's use of definitions, the RFIA would give digital asset companies the ability to determine what their regulatory obligations would be, while also giving the CFTC and SEC clarity to enforce existing commodities and securities laws.

2. CFTC Registration

As proposed, the CFTC would have exclusive jurisdiction over any agreement, contract, or transaction involving a contract of sale of a digital asset.[19] Through this jurisdiction, the CFTC could: (1) prohibit persons from offering, executing, or conducting any business in the United States for the purpose of soliciting or accepting a contract for the purchase or sale of a commodity for future delivery unless (a) this transaction is conducted on or subject to the rules of a board of trade designated by the CFTC as a contract market or derivatives transaction execution facility for such commodity; (b) the transaction is executed or consummated by or through a contract market; and (c) the contract is evidenced by a record in writing which shows the date, parties to the contract and their addresses, the property covered and its price, and the terms of delivery; (2) require all registered entities to maintain daily trading records, in addition to any records required to be made or submitted for such entities' registration classification, such as a futures commission merchant, swap dealer, or major swap participant; and (3) subject transactions in digital assets to the CFTC's antifraud regulations.[20]

Additionally with respect to the CFTC, under the RFIA, the CFTC would have exclusive spot market jurisdiction over all fungible digital assets which are not securities, including ancillary assets.[21] In addition to the agency's current jurisdiction over leveraged transactions, a pathway for digital asset exchanges to register with the CFTC to conduct trading activities would be created; digital asset

15. *Id.*
16. S. 4356 § 403.
17. *Id.* § 301.
18. *Id.* § 205(e).
19. *Id.* § 403.
20. S. 4356 § 404.
21. *Id.* § 301.

exchanges would be established as "financial institutions" under the Bank Secrecy Act; in an insolvency, digital assets would be treated similarly to the way commodities are treated, giving clarity to investors, creditors, digital asset exchanges and other financial institutions and ensuring that assets are appropriately safeguarded; and a payment stablecoin issued by a depository institution (bank or credit union) would be treated neither as a commodity nor a security and the CFTC could impose a small user fee on digital asset exchanges to cover increased costs to the agency.[22]

Note, while the CFTC has authority to create speculative position limits of physically settled core future contracts, RFIA does not address whether digital asset contracts would become subject to such limits.[23]

C. Digitization of Carbon Assets

Verra, a nonprofit organization that runs the Verified Carbon Standard (VCS) Program, the "world's leading voluntary carbon markets program,"[24] held a public consultation that ran until October 2, 2022, which sought comments on the proposed approach to link verified carbon units (VCUs) with digital assets.[25] As part of the consultation, Verra published its preliminary proposal for addressing digital assets based on VCUs.[26] Verra has represented that it sees crypto instruments and tokens as an opportunity to channel finance to support emission reduction and removal projects that supply the carbon credit markets, however, it also recognizes potential risks in the use of such digital assets.[27]

Additionally, Gold Standard, an organization that has developed best practice standards for climate and sustainable development, has recently finished a consultation on the conditions under which it could consent to the tokenization of Gold Standard-issued credits.[28] In August 2022, Gold Standard, announced that it was developing governance frameworks for monitoring digital transactions, digital carbon assets, and the infrastructure of the digital carbon market.[29] In its announcement, Gold Standard stated that it would look to apply its governance framework prior to an organization being granted consent to create digital tokens

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22. *Id.* § 601.

23. *See generally* S. 4356; *see also* Final Rule, *Position Limits for Derivatives*, 86 Fed. Reg. 3,236 (2021) (to be cofidied at 17 C.F.R. pts. 1, 15, 17, 19, 40, 140, 150, 151).

24. *Who We Are*, VERRA, https://verra.org/about/overview/#the-organization.

25. VERRA, PUBLIC CONSULTATION ON THIRD-PARTY CRYPTO INSTRUMENTS AND TOKENS 1 (2022), https://verra.org/wp-content/uploads/2022/08/Verra-Public-Consultation-on-Crypto-Instruments-and-Tokens.pdf.

26. *Id.* at 2.

27. *Verra Statement on Crypto Market Activities*, VERRA (Nov. 25, 2022), https://verra.org/statement-on-crypto/.

28. GOLD STANDARD, CONDITIONS FOR CONSENTING TO TOKENISATION OF GOLD STANDARD-ISSUED CREDITS 2 (2022), https://www.goldstandard.org/sites/default/files/documents/consultation-tokenisation_september2022_0.pdf.

29. GOLD STANDARD, GOLD STANDARD AND PARTNERS START WORK TO DEFINE FUTURE OF DIGITAL CAARBON MARKET 1 (2022), https://www.goldstandard.org/sites/default/files/documents/press_release_-_digital_solutions_for_carbon_markets_-_august_2022.pdf.

representing Gold Standard credits, and would incorporate conditions into its Terms of Use, which organizations seeking consent must sign.[30] Gold Standard has outlined eight categories in which it is considering applying conditions for creating such credits.[31] These eight categories are:

> [1] the model used to create and manage digital tokens . . . [2] requirements related to information associated with digital tokens . . . [of carbon credits], the retirement of credits on the [Gold Standard] [R]egistry and reporting by the organi[z]ation responsible for creat[ing] . . . digital tokens . . . [3] limitations on the credits that [the carbon] credits can be pooled with . . . [4] due diligence informational requirements as part of the Know Your Customer and Anti-Money Laundering checks . . . [5] sustainability requirements to ensure digital [assets] representing [carbon] credits are only created using blockchain technologies with a low carbon intensity . . . [6] data security requirements to ensure organi[z]ations take appropriate steps . . . against [data] breaches that [could] put the digital tokens representing [carbon] credits at risk . . . [7] permitted units [with initial] restrictions on the type of credits that may be tokenized . . . [and] [8] provisions to protect Gold Standard and its projects from reputational harm.[32]

Comments on the proposed framework were due in October 2022.[33]

II. INFLATION REDUCTION ACT TAX CREDITS

A. Investment Tax Credit

The Investment Tax Credit (ITC), under section 48 of the Internal Revenue Code, generally provides for a one-time tax credit after a qualifying energy facility is placed in service based on certain amounts invested in a qualifying project.[34] In place since 2006, the ITC has generally been used to finance commercial and utility-scale solar energy projects.[35] The Inflation Reduction Act (IRA) extended and amended the ITC.[36] In addition to solar projects, projects eligible to receive the ITC now include stand-alone energy storage,[37] certain biogas projects, microgrid

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30. CONDITIONS FOR CONSENTING TO TOKENISATION OF GOLD STANDARD-ISSUED CREDITS, *supra* note 28.

31. *Id*. at 3.

32. *Id*. at 4.

33. *Id.* at 16.

34. *Beginning of Construction for Purposes of the Renewable Electricity Production Tax Credit and Energy Investment Tax Credit*, IRS, https://www.irs.gov/pub/irs-drop/n-13-29.pdf.

35. *Solar Investment Tax Credit (ITC),* SOLAR ENERGY INDUSTRIES ASSOCIATION, https://www.seia.org/initiatives/solar-investment-tax-credit-itc.; 26 U.S.C § 25D (2022) (addresses an ITC for residential solar installations).

36. *Inflation Rediction Act Extends and Modifies Tax Credits for Solar Project*, MCGUIREWOODS (Feb. 6, 2023), https://www.mcguirewoods.com/client-resources/Alerts/2023/2/inflation-reduction-act-extends-and-modifies-tax-credits-for-solar-projects.

37. Linsay Sobers & Kenneth C. Wang, *Inflation Reduction Act expands tax credits for energy projects*, REUTERS (Sept. 15, 2022), https://www.reuters.com/legal/legalindustry/inflation-reduction-act-expands-tax-credits-energy-projects-2022-09-15/. The ITC has previously been used for combined solar-plus-storage projects. *See* MCGUIREWOODS, *supra* note 36. Eligible storage projects under the IRA include property that stores energy for conversion to electricity and in the form of hydrogen. Sobers & Wang, *supra* note 37.

controllers, and heat pumps.[38] The revised ITC generally applies to qualified projects placed in service starting in 2022 and with construction beginning before January 1, 2025.[39]

The IRA also generally lowered the base rate of the ITC from 30% to 6% for projects that begin construction on or after January 30, 2023.[40] But, as described below, the IRA also introduced rate adders for taxpayers satisfying certain wage and apprenticeship requirements (base rate x5), domestic content requirements (2 percentage points or 10 percentage points with wage and apprenticeship standards), and energy community location requirements (2 percentage points or 10 percentage points with wage and apprenticeship standards).[41] Additionally, some installations on buildings in certain low-income areas are also eligible for an additional 10 or 20 percentage points bonus rate adder.[42] The Internal Revenue Service ("IRS") has solicited public comment regarding certain aspects of implementing the IRA amendments to §48.[43]

B. Advanced Energy Project Credit

The IRA also renewed funding for the Advanced Energy Project Credit, which provides up to a 30% tax credit for qualified investments related to the manufacture of certain energy and climate project components in areas that have seen the closure of a coal mine or the retirement of a coal-fired electric generating unit.[44] The tax credit is limited to the $10 billion in allocated funding, and the Secretary of the Treasury must certify qualified investments in order for such investments to be eligible for the credit.[45]

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38. Kris J. Eimicke et al., *Relief Arrives for Renewable Energy Industry – Inflation Reduction Act of 2022*, NAT'L L. REV, https://www.natlawreview.com/article/relief-arrives-renewable-energy-industry-inflation-reduction-act-2022 (last updated Aug. 19, 2022). *See* Sobers & Wang, *supra* note 37.

39. Eimicke et al., *supra* note 38. The ITC also applies to geothermal projects, which can begin construction through 2034. Jameson Calitri et al., *The clean energy provisions of the Inflation Reduction Act of 2022 – a historic effort to encourage the development of clean energy and reduce carbon emissions,* DLA PIPER, https://www.dlapiper.com/en/insights/publications/2022/08/the-clean-energy-provisions-of-the-inflation-reduction-act-of-2022 (last updated Aug. 17, 2022).

40. Eimicke et al., *supra* note 38. The base rate for the ITC will remain at 30% for projects that begin construction before January 30, 2023 (i.e., 60 days after the Department of Treasury published in the Federal Register its initial guidance on the wage and apprenticeship requirements under the IRA). *Id.* The wage and apprenticeship standards for the ITC also do not apply for projects with a maximum net output of less than 1 MWac. *Id.*

41. *Id*.

42. *Id.*

43. Request for Comments on Certain Energy Generation Incentives, I.R.S. Notice 2022-49 (Oct. 5, 2022).

44. Eimicke et al., *supra* note 38.

45. Inflation Reduction Act of 2022 § 13501, 26 U.S.C § 48C (2022). $4 billion of such funding is restricted to qualified investments that are located in an area that has not previously housed a project that received a tax credit under section 48C. *See The IRA's New and Expanded Tax Credits for Projects to Support Clean Energy Manufacturing and Recycling*, ARENT FOX SCHIFF (Aug. 22, 2022), https://www.afslaw.com/perspectives/energy-cleantech-counsel/the-iras-new-and-expanded-tax-credits-projects-support-clean.

C. Production Tax Credit ("PTC")

The PTC, under section 45 of the Tax Code, generally provides for a per kWh inflation-adjusted tax credit based on the amount of energy produced by the qualified project for 10 years from the date the project is placed in service.[46] First enacted in 1992, the PTC is generally used to finance wind energy projects.[47] As with the ITC, the IRA also extended and amended the PTC.[48] Also similar to the ITC, the revised PTC generally applies to qualified projects placed in service starting in 2022 and with construction beginning through 2024.[49] The IRA generally lowered the base rate of the PTC (to 0.3 cents, as adjusted for inflation, per kWh of electricity generated by a qualifying facility and sold to an unrelated party during the applicable tax year), but introduced rate adders for taxpayers satisfying certain wage and apprenticeship requirements (base rate x5), domestic content (increased by 10%), and energy community requirements (increased by 10%).[50] For qualifying facilities placed in service starting in 2022, the base PTC for the 2022 tax year is 2.75 cents per kWh (which includes the x5 multiplier).[51] The IRS has solicited public comment regarding certain aspects of implementing the IRA amendments to §45.[52]

D. Hydrogen Tax Credits

The IRA also introduced two new hydrogen tax incentives: (i) Credit for the Production of Clean Hydrogen under section 45V of the Tax Code (Hydrogen PTC)[53] and (ii) a Hydrogen ITC under section 48 of the Tax Code.[54] For both the Hydrogen PTC and the Hydrogen ITC, the qualifying property is linked to greenhouse gas emissions (i.e., "hydrogen [that] is produced through a process that results in a lifecycle greenhouse gas emissions rate of not greater than 4 kilograms of CO2e per kilogram of hydrogen").[55] Additionally, the applicable property

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46. 26 U.S.C. § 45 (2022).

47. David K. Burton, *The Dramatic Arc of PTC*, MAYERBROWN (Oct. 2, 2017), https://www.taxequitytimes.com/2017/10/dramatic-arc-ptc/.

48. Inflation Reduction Act of 2022 § 13102, 26 U.S.C. § 45.

49. *Id.*

50. Inflation Reduction Act of 2022 §§ 13101, 13701, 26 U.S.C. § 45 (2022). The wage and apprenticeship standards for the PTC will be deemed satisfied if construction begins before January 2023 (i.e., 60 days after the Department of Treasury published in the Federal Register its initial guidance on the wage and apprenticeship requirements under the IRA). *Id.* The wage and apprenticeship standards for the PTC also do not apply for projects with a maximum net output of less than 1 MWac. *Id.*

51. Charles Hyde, *Renewable Electricity Production Credit Amounts for Calendar Year 2022*, IRS (2022), https://www.irs.gov/pub/irs-drop/a-22-23.pdf (discussing that the 2.75 cents per kWh PTC rate applies to qualified energy resources of wind, closed-loop biomass, geothermal energy, and solar energy.); *see* 26 U.S.C. § 45 (discussing how the PTC also applies to electricity produced in open-loop biomass facilities, landfill gas facilities, trash facilities, but the tax credit is reduced by half).

52. Request for Comments on Certain Energy Generation Incentives, *supra* note 43.

53. Inflation Reduction Act of 2022 § 13204, 26 U.S.C. § 45V (2022).

54. Inflation Reduction Act of 2022 § 13204, 26 U.S.C. § 48 (2022).

55. Inflation Reduction Act of 2022 § 13204, 26 U.S.C. § 45V. The IRA refers to the Clean Air Act and the GREET model developed by Argonne National Labs for purposes of determining lifecycle greenhouse gas

needs to be located in the United States and the hydrogen must be produced for sale or use (as verified by a third party).[56] The Hydrogen PTC provides a base rate of a certain percentage of $0.60 (as adjusted for inflation, and times five when wage and apprenticeship requirements are met) per kilogram of hydrogen produced, according to the following lifecycle greenhouse gas emissions thresholds: (i) 20% for 2.5 to 4 kilograms of CO2e per kilogram of hydrogen, (ii) 25% for 1.5 to 2.49 kilograms of CO2e per kilogram of hydrogen, (iii) 33.4% for 0.45 to 1.49 kilograms of CO2e per kilogram of hydrogen, and (iv) 100% for 0.0 to 0.44 kilograms of CO2e per kilogram of hydrogen.[57] The Hydrogen PTC applies to hydrogen produced starting in 2023 and is available for 10 years after the project is placed in service.[58] In addition, construction of the qualified property must begin before 2033.[59] On November 3, 2022, the IRS issued a request for stakeholder input on the implementation of the Hydrogen PTC, with an emphasis on clarifying the definition of "qualified clean hydrogen."[60] If a taxpayer elects the Hydrogen ITC instead of the Hydrogen PTC,[61] the ITC base rate ranges from 1.2% to 6% based on the lifecycle greenhouse gas emissions thresholds described above,[62] and also qualifies for ITC bonus rate adders described above for satisfying certain wage and apprenticeship requirements, domestic content requirements, and energy community location requirements.[63]

E. Sustainable Aviation Fuel Credit

The IRA also introduced a new Sustainable Aviation Fuel Credit, which is available for sales and uses in 2023 and 2024 and provides a credit of $1.25 per gallon of sustainable aviation fuel in a qualifying mixture.[64] For purpose of the tax credit, sustainable aviation fuel is tied to a lifetime greenhouse gas emissions reduction percentage of at least 50% (with a bonus rate increase of $0.01, up to $0.50, per percentage point by which the lifecycle greenhouse gas emissions reductions exceeds the 50% minimum reduction).[65] The fuel must also be produced

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emissions. *Id.* The Hydrogen ITC adopts the same definition of "qualified clean hydrogen" used in the Hydrogen PTC. *Id.*

56. Inflation Reduction Act of 2022 § 13204, 26 U.S.C. §§ 45V, 48.

57. Inflation Reduction Act of 2022 § 13204, 26 U.S.C. § 45V.

58. Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production, I.R.S. Notice 2022-58 (Nov. 3, 2022).

59. *Id.*

60. *Id.* Comments were due on December 3, 2022. *Id.*

61. Inflation Reduction Act of 2022 § 13204, §§ 26 U.S.C. 45V, 48. The election of the Hydrogen ITC (in place of the Hydrogen PTC) is similar to how other PTC-qualified facilities would elect the ITC instead. *Id.*; *see also* Rob O' Neill et al., *An Overview of Clean Energy Tax Legislation in the Inflation Reduction Act*, MOSSADAMS (Aug. 26, 2022), https://www.mossadams.com/articles/2022/08/inflation-reduction-act-clean-energy-credits.

62. *Id.*; *see* Michael Rodgers et al., *Inflation Reduction Act Offers Significant Tax Incentives Targeting Energy Transition and Renewables*, WHITE & CASE LLP (Aug. 17, 2022), https://www.whitecase.com/insight-alert/inflation-reduction-act-offers-significant-tax-incentives-targeting-energy-transition.

63. *See supra*, section II.A-D.

64. 26 U.S.C. § 40(B)(a)(2) (2022).

65. *Id.* § 40(B)(b).

in the United States and transferred to an aircraft in the United States.[66] The IRS has issued a notice explaining the requirements for fuel to be eligible for the Sustainable Aviation Fuel Credit and for claiming the credit, as well as soliciting public comment regarding implementing aspects of the credit.[67]

F. *Carbon Capture Credit*

The IRA also greatly expanded and increased the Credit for Carbon Oxide Sequestration ("Carbon Capture Credit"), originally enacted in 2008.[68] The IRA enhanced the value of the Carbon Capture Credit: (i) $17 ($85 if wage and apprenticeship requirements are met) per metric ton of qualified carbon oxide from electric generation and other facilities for secure geological storage, (ii) $36 ($180 if wage and apprenticeship requirements are) per metric ton of qualified carbon oxide from direct air capture facilities for secure geological storage, (iii) $12 ($60 if wage and apprenticeship requirements are met) per metric ton of qualified carbon oxide from electric generation and other facilities for use as a tertiary injectant or if utilized, and (iv) $26 ($130 if wage and apprenticeship requirements are met) per metric ton of qualified carbon oxide from electric generation and other facilities for use as a tertiary injectant or if utilized.[69] The credit rates will be adjusted annually for inflation after 2026.[70] The IRA also amended the credit to apply to a broader range, including reducing the threshold for (i) direct air capture facilities from 100,000 metric tons to 1,000 metric tons of captured qualified carbon oxide, (ii) carbon capture equipment installed on electrical generating facilities from 500,000 metric tons to 18,750 metric tons of captured qualified carbon oxide, and (iii) other facilities from 25,000 metric tons to 12,500 metric tons of capture qualified carbon oxide.[71] Construction of the qualified facilities must begin before 2033, and the credit will be available for 12 years after the date on which the facility is placed in service.[72]

G. *Other Tax Credits for Clean Electricity and Fuels*

The IRA also introduced a number of new post-2024 tax incentives linked to the lifecycle greenhouse gas emissions of the applicable clean electricity or fuel produced.[73] These tax credits will generally be available through the later of 2032 or the year after the greenhouse gas emissions of the United States is less than 25% of national greenhouse gas emission from 2022.[74] These credits include: (i) the

66. *Id*. § 40(B)(c).

67. Sustainable Aviation Fuel Credit; Registration; Certificates; Request for Public Comments, I.R.S. Notice 2023-06 (Dec. 19, 2022).

68. Inflation Reduction Act of 2022 § 13104, 26 U.S.C. § 45Q (2022).

69. *Id*.

70. *Id*.

71. *Inflation Reduction Act (IRA) Summary: Energy and Climate Provisions*, BIPARTISAN POL'Y CTR. (Aug. 4, 2022), https://bipartisanpolicy.org/blog/inflation-reduction-act-summary-energy-climate-provisions/.

72. *Id.*

73. *Id.*

74. *Id.*

Clean Electricity Production Credit (§45Y) and the Clean Electricity Investment Credit (§48E) (for U.S. facilities that produce electricity for which the greenhouse gas emissions are no more than zero) and (ii) the Clean Fuel Production Credit (§45Z) (for transportation fuel that has an emissions factor to be set annually by the Treasury).[75] In general, taxpayers are excluded from claiming these post-2024 tax credits and other IRA tax credits for the same facilities.[76] The IRS has solicited public comment on the implementation of certain of these post-2024 tax incentives.[77]

H. Wage and Apprenticeship Bonus Credit

As discussed above, many of the tax incentives contained in the IRA will receive a bonus rate boost when certain wage and apprenticeship requirements are satisfied.[78] As specified in the IRA, the wage requirements generally provide that the taxpayer pay no less than the local prevailing wage for laborers and mechanics employed, including contractors or subcontractors, during construction of the facility.[79] The requirements extend to certain alterations and repairs to the facility for between four and ten years after the facility is placed in service.[80] For ITC projects, the requirements shall be in place for the five year period beginning on the in-service date of the project.[81] For projects involving qualified facilities and any carbon capture equipment, the wage requirements shall be in place for a period of 12 years.[82] The local prevailing wage (which includes fringe benefits) will be determined in accordance with the U.S. Department of Labor standards.[83] Additionally, to qualify for the bonus rate, the taxpayer must hire a sufficient proportion of workers from registered apprenticeship programs.[84] The apprenticeship standards generally require (subject to a good faith effort standard) that each taxpayer,

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75. BIPARTISAN POL'Y CTR., *supra* note 71.

76. *Id.*

77. Request for Comments on Certain Energy Generation Incentives, *supra* note 43 (comments were due on November 4, 2022); Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production, *supra* note 58 (comments were due on December 3, 2022).

78. Request for Comments on Certain Energy Generation Incentives, *supra* note 43. The prevailing wage and apprenticeship provisions apply to: (i) the Alternative Fuel Refueling Property Credit (§30C), (ii) the Production Tax Credit (§45, §45Y), (iii) the Credit for Carbon Oxide Sequestration (§45Q), (iv) the Credit for Production of Clean Hydrogen (§45V), (v) the Clean Fuel Production Credit (§45Z), (vi) the Investment Tax Credit (§48, §48E), (vii) the Advanced Energy Project Credit (§48C), and (viii) the Energy Efficient Commercial Buildings Deduction (§179D). *Id.* In addition, the prevailing wage provisions apply to the New Energy Efficient Home Credit (§45L) and the Zero-Emission Nuclear Power Production Credit (§45U). *Id.*

79. Notice of Initial Guidance, Prevailing Wage and Apprenticeship Initial Guidance Under Section 45(b)(6)(b)(II) and Other Substantially Similar Provisions, 87 Fed. Reg. 73,580 (Nov. 30, 2022).

80. *Id.*

81. IRC Section 48(a)(10).

82. IRC Section 45Q(h)(3). *See also* IRC Sections 45Q(a)(3)(a) and (4)(a) (providing for 12 year timeframe for wage requirements).

83. *Prevailing Wage and the Inflation Reduction Act*, U.S. DEP'T OF LABOR, https://www.dol.gov/agencies/whd/IRA. The Wage and Hour Division of the U.S. Department of Labor posts labor classifications and their prevailing wage rates in wage determinations at www.sam.gov.

84. 87 Fed. Reg. 73,580 at 73,581.

contractor, or subcontractor, as applicable, that employs more than four individuals for construction also employ at least one or more qualified apprentice(s).[85] Apprentice(s) must perform an increasing percentage of total labor hours for the construction of the project (ending with 15% for facilities that begin construction after 2023).[86] On November 30, 2022, the IRS issued a notice of initial guidance on the prevailing wage and apprenticeship requirements in the IRA and established January 30, 2023 as the effective date for the standards.[87]

I. Domestic Content Requirement

In addition to the wage and apprenticeship standards, many of the tax incentives contained in the IRA will receive a varying bonus rate boost when certain domestic content requirements are satisfied.[88] The domestic content requirements are primarily targeted toward steel and iron and manufactured products, and are generally available for projects placed in service starting in 2023.[89] For example, to qualify for the domestic content bonus rate for the PTC, facilities must have 40% (based on total costs) of domestically manufactured component parts and 100% of domestically-made steel and iron to satisfy the domestic content standards.[90] The IRS has issued a request for public comment regarding the implementation of the domestic content requirements in the IRA.[91]

J. Energy Communities Bonus Credit Rate

A number of the tax incentives contained in the IRA will also receive a bonus rate boost when the applicable facility is located in an "energy community."[92] Energy communities include brownfield sites, certain fossil-fuel dependent communities with high unemployment, and certain communities where a coal mine or coal-fired electric generation unit has closed.[93] The IRS has issued a request for public comment regarding the implementation of the energy communities requirements in the IRA.[94]

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85. *Id.*

86. *Id*.

87. *Id.* at 73,580.

88. Rodgers et al., *supra* note 62. The domestic content rate adder provisions apply to: (i) the Production Tax Credit (§45), (ii) the Investment Tax Credit (§48), (iii) the Clean Electricity Production Credit (§45Y), and (iv) the Clean Electricity Investment Credit (§48E). *Inflation Reduction Act: Overview of Energy -Related Tax Provisions — An Energy Transition "Game Changer,"* SIDLEY (Aug. 18, 2022), https://www.sidley.com/en/insights/newsupdates/2022/08/inflation-reduction-act-an-energy-transition-game-changer.

89. Rodgers et al., *supra* note 62.

90. 26 U.S.C. §45(b)(9)(2022). Different thresholds apply to offshore wind facilities. *Id.* §45(b)(9)(c)(ii).

91. Request for Comments on Prevailing Wage, Apprenticeship, Domestic Content, and Energy Communities Requirements Under the Act Commonly Known as the Inflation Reduction Act of 2022, I.R.S. Notice 2022-51 (Oct. 5, 2022).

92. *Id.* at 10. The energy communities rate adder provisions apply to the same credits as the domestic content rate adder provisions: (i) the Production Tax Credit (§45), (ii) the Investment Tax Credit (§48), (iii) the Clean Electricity Production Credit (§45Y), and (iv) the Clean Electricity Investment Credit (§48E). *Id.*

93. *Id.*

94. I.R.S. Notice 2022-51, *supra* note 89, at 1.

K. Direct Pay

The ITC and PTC and other tax incentives in the IRA are generally in the form of a tax credit that can be used to offset a taxpayer's federal tax liability.[95] But, if an entity does not have any federal tax liability, those tax incentives would be of limited use since there is no federal tax liability to offset. Generally, starting in the 2023 tax year, the IRA expands the reach of certain tax incentives by providing for direct pay of the applicable tax incentives to tax-exempt organizations, state government organizations, tribes, electric cooperatives, and the Tennessee Valley Authority (i.e., entities that generally do not have federal tax liability).[96] With direct pay, the claiming entity would receive a check from the U.S. Department of Treasury for the value of the applicable tax credit.[97] The IRS has issued a request for public comments regarding implementation of the direct pay provisions in the IRA.[98] This direct pay option in the IRA will potentially expand financing options for energy projects as more entities (now including those who do not pay federal taxes) stand to benefit from the tax incentives in the IRA.[99]

L. Transferability

The IRA also provided options for certain clean energy and climate incentives to be transferred to another entity.[100] With transferability, a taxpayer (that is generally not eligible for direct pay) may elect to transfer certain income tax credits to another, unrelated taxpayer in exchange for cash.[101] The IRS has also issued a request for public comments regarding the implementation of the elective transferability provisions in the IRA.[102] While this new transferability option potentially expands financing options for energy projects by increasing the liquidity of the tax credits, the transferee may bear the risk of the tax credit being recaptured

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95. *Federal Solar Tax Credits for Businesses*, U.S. OFF. OF ENERGY EFFICIENCY & RENEWABLE ENERGY, https://www.energy.gov/eere/solar/federal-solar-tax-credits-businesses.

96. Inflation Reduction Act of 2022 § 13801, 26 U.S.C. § 6417 (2022).

97. *Id.* § 6417(b). The direct pay provisions apply to: (i) the Alternative Fuel Refueling Property Credit (§30C), (ii) the Production Tax Credit (§45, §45Y), (iii) the Credit for Carbon Oxide Sequestration (§45Q), (iv) the Zero-Emission Nuclear Power Production Credit (§45U), (v) the Credit for Production of Clean Hydrogen (§45V), (vi) the Credit for Qualified Commercial Clean Vehicles (§45W, tax-exempt entities only), (vii) the Advanced Manufacturing Production Credit (§45X), (viii) the Clean Fuel Production Credit (§45Z), (ix) the Investment Tax Credit (§48, §48E), and the Advanced Energy Project Credit (§48C). *Id.* In addition, in certain circumstances, the direct pay option for the Clean Hydrogen Production Credit (§45V), the Carbon Oxide Sequestration Credit (§45U), and the Advanced Manufacturing Production Credit (§45X) may be available to other taxpayers. *Id.*

98. Request for Comments on Elective Payment of Applicable Credits and Transfer of Certain Credits, I.R.S. Notice 2022-50 (Oct. 5, 2022).

99. Jeffrey H. Paravano et al., *What's in It for Me: The Inflation Reduction Act's Clean Energy Tax Credits*, BAKER HOSTETLER (Sept. 16, 2022), https://www.bakerlaw.com/inflation-reduction-act-clean-energy-tax-credits.

100. Inflation Reduction Act of 2022 § 13801, 26 U.S.C. § 6418.

101. *See* Inflation Reduction Act of 2022 § 13801, 26 U.S.C. § 6417. The transferability provisions in the IRA generally apply to the same tax incentives as do the direct pay provisions (although there is no transferability for the Qualified Commercial Clean Vehicles Credit under §45W). *Id.*

102. I.R.S. Notice 2022-50, *supra* note 96, at 11.

if the underlying project ends up not meeting all of the required criteria for the tax credit.[103]

The IRA represents a large amount of government spending to facilitate the clean energy transition in the United States, with an emphasis on promoting U.S. labor and manufacturing. With the focus on energy and climate tax incentive provisions, the IRS will play a leading rule in the IRA's implementation.

103. Inflation Reduction Act of 2022 § 13801, 26 U.S.C. § 6417.