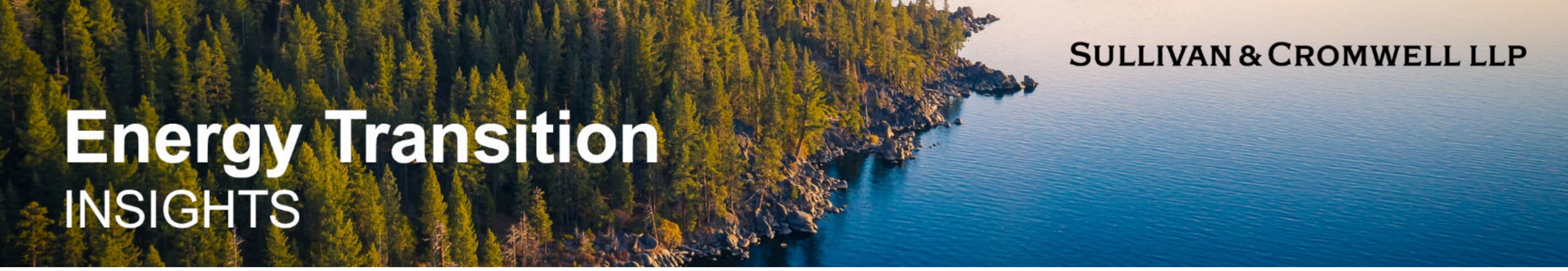

January 8, 2024

Energy Transition Year in Review and Look Ahead

In the past year, we saw remarkable activity and interest in energy transition projects in the United States and across the world. Drawing on our experience advising a range of clients—including alternative and traditional energy companies, developers, private equity firms, family offices and financial institutions—we have outlined major developments from the past year and our expectations for 2024. We encourage you to reach out to us with any questions.

UNITED STATES

The Rise of Tax Credits

The Inflation Reduction Act of 2022 (the "IRA")—the largest investment in clean energy in U.S. history—has sparked significant activity and focus on clean energy in the United States, but guidance from the IRS and Treasury Department has come slower than hoped. The ability to transfer energy tax credits has been seen as creating broad opportunities for wider participation in relevant projects. Preliminary data shows a healthy market for the sale of energy tax credits has started to develop, with a particularly strong early interest and demand in solar and onshore and offshore wind projects.

Expectations for 2024: Increased tax credit transfer activity and market trends developing. December 2023 guidance from the IRS/Treasury on IRA provisions should help facilitate additional projects and credit transfers. As equity collaborations and commercialization of arrangements continue to mature, there is likely to be increased crystallization of financing structures as projects progress in 2024.

"We have seen in our deals a lot of interest from project developers in transferring tax credits and financing structures incorporating credit transfers and expect this to be a major trend in 2024." Isaac Wheeler, Co-Head of S&C's Tax Group

S&C Resources

- Proposed Rules on U.S. Clean Hydrogen Production Tax Credit

- Proposed Guidance on U.S. Advanced Manufacturing Production Tax Credit
- Buying U.S. Clean Energy Tax Credits? Key Considerations
- *S&C Critical Insights* Podcast – U.S. Clean Energy Tax Credits: Where We Are and Where We Are Going
- New Guidance on Energy Community Bonus U.S. Tax Credit
- Proposed Guidance on the U.S. Clean Vehicle Credit: Critical Minerals and Battery Component Requirements
- New Guidance on Direct Pay and Transferability of U.S. Clean Energy Tax Credits

Robust Department of Energy (DOE) Funding

Thanks to the Bipartisan Infrastructure Law (the "BIL") and the IRA, the U.S. Department of Energy has massive new capacity to issue loan guarantees for clean energy-related projects from its Loans Program Office (LPO). As of the end of November, 189 active applications have been submitted requesting $174.7 billion, and the LPO has an additional $72.2 billion of estimated remaining loan authority for clean energy financing. At S&C, we represented Chevron U.S.A., through its Chevron New Energies division, as it acquired a majority stake in the ACES Delta green hydrogen joint venture in Utah, which was funded by the first major DOE loan issued in 10 years. The DOE is also progressing grants to kick-start seven regional clean hydrogen hubs. In addition, the agency has recently announced $3.5 billion in available grants to boost U.S. production of advanced batteries and battery materials (part of a total of $7 billion provided by the BIL).

Expectations for 2024: Further ramp-up of DOE loan guarantees and grants for activities across the energy transition space and progression on the seven DOE-backed hydrogen hubs around the United States.

"Each major energy transition deal breaks ground in slightly different ways and can require bespoke and innovative structures and terms. The availability of DOE loans and grants can help to jump start many of these projects." Inosi Nyatta, Co-Head of S&C's Global Project Development & Finance Practice

S&C Resources

- DOE Grants Offered for U.S. Battery Materials Processing and Manufacturing
- Proposed Guidance on 'Foreign Entity of Concern' Definition for DOE Battery Grants

New Investors Focused on Energy Transition

Energy transition projects globally will require enormous capital, estimated at $4.5 trillion annually by 2030 according to the World Economic Forum, in order to meet the Paris climate goals. Financial advantages offered by U.S. tax credits and DOE loans have generated excitement among investors new to the energy sector, including mid-market private equity firms, technology companies and family offices. As one example, we advised Ampliform along with a number of family offices and other energy transition investors in a joint venture with solar energy developer Prospect14 in raising equity commitments for Ampliform's launch.

Ampliform will originate, develop, build, operate and optimize utility-scale solar and solar and storage projects in the United States.

"Energy transition projects require terms that support long-term operations in a changing landscape. That requires a deal framework with the flexibility to accommodate changing technology regulation and market conditions." Chris Mann, Head of S&C's Global Infrastructure Practice

Focus on Critical Minerals

The IRA and BIL incentives for critical minerals to be extracted, processed and/or recycled in the United States or countries that are U.S. free trade partners have already started to shift global supply chains. We saw significant activity from private equity funds acquiring and investing in technology, as well as extraction, processing and recycling assets in the critical minerals space. Given the complex supply chains for extracting lithium and other critical minerals, and certain limitations on foreign ownership in order to benefit from U.S. incentives, companies are finding creative solutions. Last year, for example, we advised a number of mining companies and major OEMs/auto manufacturers on long-term contracts in the lithium supply chain, with the goal of securing IRA-eligible supply. Some OEMs are moving even further down the supply chain. We advised Stellantis N.V. on its $100 million anchor investment commitment to a company that will acquire two mines in Brazil, including one that possesses a rare nickel sulphide resource, that are expected to create a new leader in green critical metals.

Expectations for 2024: Continued focus by companies on creative ways to secure IRA-eligible critical minerals through joint ventures and contractual arrangements. Incentive or other support regimes from governments outside the United States, or agreements with the United States to benefit from the IRA credits may also emerge.

"For complex critical mineral projects around the world, S&C offers more than a pure legal perspective. We bring deep experience in finance and geopolitical issues and are able to work with all parties to deliver a win-win solution." Stewart Robertson, Co-Head of S&C's Global Project Development & Finance Practice

S&C Resources

- Proposed Guidance on U.S. Advanced Manufacturing Production Tax Credit
- Proposed Guidance on 'Foreign Entity of Concern' Definition for DOE Battery Grants and Tax Credits
- *S&C Critical Insights* Podcast – Implications of Recent U.S. and EU Critical Mineral Legislation
- Proposed Guidance on the U.S. Clean Vehicle Credit: Critical Minerals and Battery Component Requirements

Advances in Clean Hydrogen

There remains robust interest in clean hydrogen as a pathway to decarbonizing large sectors of the global economy, but the delay in tax credit guidance from the IRS has thus far slowed U.S. projects. That will likely change this year as the Treasury and IRS released proposed regulations in December that seek to address outstanding questions, including how green hydrogen producers must calculate a project's lifecycle greenhouse gas emissions. Projects seeking to export to the EU will also have to navigate the stringent EU Renewable Fuels rules (as discussed below). The ACES Delta green hydrogen project, which our client Chevron acquired an interest in last year, stands unique as a U.S. green hydrogen project that has been fully financed on a non-recourse basis with the assistance of the DOE.

Expectations for 2024: Continued interest globally in clean hydrogen, with activity poised to accelerate to a degree given the release of IRS guidance and if European and Asian regulatory and support frameworks further develop.

"For these types of groundbreaking deals, a comprehensive knowledge of legal, regulatory and commercial risks is essential to advising clients on deal structuring and execution." Sam Saunders, Special Counsel and Co-Coordinator of S&C's Energy Transition Practice

S&C Resources

- Proposed Rules on U.S. Clean Hydrogen Production Tax Credit
- Full Steam Ahead – Recent Developments in U.S. Hydrogen Investments, Incentives and Policies
- European Hydrogen Bank Launches Pilot Auction on Domestic Hydrogen Production
- European Hydrogen Bank: Key Aspects for Producers of Green Hydrogen
- Exporting Green Hydrogen to the EU: Key Considerations for Producers under New EU Rules

Highlights in Carbon Capture

The IRA's enhanced tax credit for carbon capture and sequestration (CCS) has generated significant interest, including from traditional oil & gas players who are moving CCS into their core strategy. We advised California Resource Corporation, the state's largest producer of oil and natural gas, in the formation of a joint venture with Brookfield Renewable to create a partnership dedicated to carbon capture and sequestration. However, delays in permitting and tax guidance have slowed activity. Several states, including Texas, West Virginia and Arizona, are seeking approval from the EPA to issue their own Class VI injection well permits. Louisiana recently received approval, joining North Dakota and Wyoming as the only states with that authority. Regulators, including the CFTC, have taken an increased interest in the voluntary carbon credit market.

Expectations for 2024: More announced projects and permits, especially for industrial source capture, with additional direct air capture (DAC) pilot projects also being launched. Greater clarity on monetizing CCS tax credits will start to emerge with a focus on supporting financing of the projects.

"Negotiating terms for these projects without much precedent requires a deep understanding of the parties' commercial objectives and requirements, along with creativity aimed at addressing customary bankability risks in a brand new context and market." Inosi Nyatta, Co-Head of S&C's Global Project Development & Finance Practice

S&C Resources

- Voluntary Carbon Credits: Recent Legal Developments
- CFTC Voluntary Carbon Credit Derivatives Proposal
- New Guidance on Direct Pay and Transferability of U.S. Clean Energy Tax Credits

Highlights in Renewables

Traditional solar and wind projects received a boost from the IRA through enhanced and extended tax credits, as well as new provisions allowing for the transfer of tax credits. We saw the first closing of a major tax equity deal for offshore wind with the Vineyard Wind 1 project off the coast of Martha's Vineyard, but a number of offshore wind PPAs and OREC contracts have been terminated prior to FID or put in doubt by cost inflation, higher interest rates and supply chain issues, and have been subject to attempts to renegotiate or re-bid.

Expectations for 2024: Continued robust activity in traditional solar and onshore wind, albeit with tighter margins than in other energy sectors. For troubled offshore wind projects, cost and rate stabilization and new bidding processes should hopefully lead to a pick-up in momentum.

"There are key differences in the financing and investment structures for offshore wind projects compared to onshore projects. S&C's broad experience with large, complex and precedent-setting projects enables us to guide clients in this area." Sam Saunders, Special Counsel and Co-Coordinator of S&C's Energy Transition Practice

S&C Resources

- Webinar: The Winds of Change – U.S. and European Perspectives on the Offshore Wind Market
- New Guidance on Direct Pay and Transferability of U.S. Clean Energy Tax Credits
- Guidance Out on U.S. Domestic Content Bonus Clean Energy Tax Credits
- New Guidance on Energy Community Bonus U.S. Tax Credit

EUROPE AND THE UK

As the EU aims to remain a leader in developing a clean hydrogen market for domestic use, which is expected to play an important role in the EU's transition to climate neutrality by 2050, it has established the European Hydrogen Bank (EHB) to support investment in sustainable hydrogen and launched the first auction that will support domestic EU hydrogen projects by providing a "fixed premium." At the same time, the EU has set prescriptive rules on what qualifies as renewable hydrogen, which is expected to have global implications with participants in other markets closely monitoring the EU approach when setting their own standards.

Meanwhile, the EU's proposed Critical Raw Materials Act, set to enter into force this year, aims to ensure a secure and sustainable supply of critical raw materials for European industry and reduce dependence on imports from single-country suppliers outside the EU. It establishes targets for domestic EU capabilities in extraction, processing and recycling and a streamlined permitting process for strategic projects. Unlike the IRA, however, this Act does not provide additional funding.

The European Commission has also proposed a Net-Zero Industry Act intended to promote investment in EU manufacturing of net-zero technologies, and has enacted the new Renewable Energy Directive, which raises the share of renewable energy in the EU's overall energy consumption.

In the UK, the Energy Act 2023 was passed with objectives that include strengthening energy security and supporting the achievement of net zero. Hydrogen remains an area of key focus, and the latest round of projects to receive UK government funding was recently announced, with 11 new projects set to receive £2 billion over the next 15 years.

The UK government also introduced a licensing framework for carbon transport and storage to help deliver new carbon capture sites. Finally, the UK's 2023 Green Finance Strategy set out plans to commission a review into how the UK can become the best place in the world for raising transition finance and position the UK as a global hub for such finance.

Expectations for 2024: Continued development of an EU market for sustainable fuels (including hydrogen) and support mechanisms, but the scale of government financial incentives in the EU for energy transition projects is likely to remain well behind the United States, resulting in momentum remaining firmly with projects in the United States. However, expect the energy transition to remain a priority for EU lawmakers.

"There is significant interest from clients in the United States, Asia, Latin America and Europe on the implications of EU regulatory developments across the energy transition and ESG space." Craig Jones, S&C London Partner

S&C Resources

- European Hydrogen Bank Launches Pilot Auction on Domestic Hydrogen Production
- European Hydrogen Bank: Key Aspects for Producers of Green Hydrogen
- *S&C Critical Insights* Podcast – Implications of Recent U.S. and EU Critical Mineral Legislation
- Exporting Green Hydrogen to the EU: Key Considerations for Producers under New EU Rules
- Facilitating European Production of Net-Zero Technologies: The Net-Zero Industry Act

AUSTRALIA/ASIA PACIFIC

As a result of the Australia-United States Climate, Critical Minerals and Clean Energy Transformation Compact (the "Compact") and Australia's status as a U.S. free trade partner, we have seen strong interest from Australian clients looking to the United States as a potential source for clean energy funding, as well as a desire to participate in U.S. supply chains for critical minerals. A key objective of the Compact—designating Australia as a “domestic source” under the U.S. Defense Production Act—received bipartisan support when the U.S. Congress passed the National Defense Authorization Act, which President Biden signed on December 22. The Australian government published its Critical Minerals Strategy in June and continues to focus on clean energy initiatives, including anticipated support for clean hydrogen and carbon capture.

Elsewhere in the APAC region, there’s rising interest in Asian markets, including in Japan and South Korea, serving as key export destinations for clean hydrogen, similar to what we’ve seen historically in the LNG market. But local regulatory frameworks and support mechanisms need further development.

Expectations for 2024: Australia renewable energy companies and developers of critical minerals projects will continue to look for sources of capital to meet funding needs. It is also expected that there will be continued development of clean hydrogen frameworks and incentives in the APAC region.

“Our clients in the region are closely monitoring IRA-related guidance and other U.S. legislative developments. Australian-backed companies have already benefited from U.S. Department of Energy grants and other incentives to develop projects in the United States. We expect there will continue to be significant developments as Australia and the United States continue their commitment to ensuring the security of critical minerals supply chains.” John Anselmi, Special Counsel in S&C’s Melbourne office

S&C Resources

- Australia – United States Climate, Critical Minerals and Clean Energy Transformation Compact
- *S&C Critical Insights* Podcast – The Australian-American Partnership to Address Climate Change

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Questions regarding the matters discussed in this publication may be directed to any of the lawyers listed on S&C's Energy Transition Practice page or any Sullivan & Cromwell LLP lawyer with whom you have consulted in the past on similar matters.

Additional S&C resources about energy transition matters may be found here.