

CCS / Decarbonization Project Development, Finance & Investment

October 4 - 5, 2021 | Digital Access

All times listed are Pacific Time

October 4, 2021:

Understanding the Decarbonization Project Value Chain

9:00-9:15 am

Introductory Session: Program Overview

Shariff Barakat, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

9:15-10:05 am

Session 1: Decarbonization and CCS: Existing Emitters' Perspectives

Many existing emitters are thinking hard about their carbon footprint and considering various decarbonization options. Some have announced steps that they may be taking publicly and others have not. What is driving emitters to consider these capital-intensive projects: LCFS credits, generous tax credits, green perception, voluntary credits, avoidance of penalty payments, dispatch position, possible new federal incentives? This session will explore when CCS makes sense for existing emitters such as large power plants, industrial facilities and refineries, and LNG terminals to pursue these projects, and how they might be funded. What is the role for public power and utilities in this emerging area?

- When does CCS make sense?
- How might they change economics for emitters?
- What are the contracts going to look like?
- What contractual risks might emitters be willing to take given the structure of 45Q?
- What non-contractual risks would the existing emitter expect to assume?
- Will the rating agencies, lenders and other financiers to existing facilities view CCS favorably?
- Will there be any impact on an existing project's permitting?
- Is there a market premium for energy or other products produced using CCS? Will the states allow for rate-basing of costs for CCS for certain emitters?

Moderator:

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

Panelists:

Himanshu Saxena, *Chief Executive Officer*, STARWOOD ENERGY GROUP

Kate Chisholm, *Senior Vice President of Planning and Chief Sustainability Officer*, CAPITAL POWER

Jodi Hecht, *Director, Midstream and Utilities Group*, FITCH RATINGS

10:05-10:20 am

Q&A

10:20-10:25 am

Break

10:25 -11:15 am

Session 2: **Emerging Business Models for Carbon Capture, Transport and Sequestration**

Federal and State incentives require the secure and permanent disposal or sequestration or use of captured carbon. New business models are emerging as a result, ranging from Direct Air Capture (DAC) to the build out of the CO₂ transport and storage networks as standalone business propositions. This session will provide a broad discussion of these emerging business models, including identifying the revenue streams available to support their development, construction, finance and operation and to examine their attendant risks.

- Discussion on the business case for Direct Air Capture (DAC) projects
- The business proposition of carbon storage:
 - Valuation of pore space
 - Revenue sources; DOE funding; SCALE Act; pass through of 45Q credits
 - Indemnification risk
 - Take or pay; merchant
 - Contractual requirements imposed under 45Q regulations
 - Recapture of tax credits
 - Insurance as mitigation
- Key considerations in moving forward with these investments
- Foreign opportunities and markets
- Transportation of carbon as a business – SCALE Act
 - Customer base
 - Common Carrier requirements
 - Regulatory regime
 - Siting issues
 - Eminent Domain

Moderator:

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

Panelists:

Kerri L. Fox, *CFO*, CARBON ENGINEERING

Patrick Hughes, *Senior Vice President, Carbon Solutions*, NEXTDECADE CORPORATION

Maria Jelescu Dreyfus, *Partner & Co-Founder*, ARDINALL INVESTMENT MANAGEMENT

11:15 -11:30 am

Q&A

11:30 am – 12:10 pm

Lunch Break

12:10 -1:05 pm

Session 3: **High Level Intro to 45Q**

The Bipartisan Budget Act of 2018 included the FUTURE Act to extend and reform the 45Q tax credit, which provides tax credits for the capture and sequestration of carbon. This session will review the provisions of the initial legislation, guidance issued in 2020 and 2021, and the identification and growth of other potential revenue streams for such projects.

- Overview of carbon capture credits in the IRC
- Exploring potential applications of carbon capture
- Issued guidance: Safe Harbor, begun construction notice
- Key features in final regulations and legislative extensions
- Other legislative proposals for 45Q

Presenters:

Shariff Barakat, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

1:05-1:20 pm

Q&A

1:20 -1:25 pm

Break

1:25 – 2:05 pm

Session 4: **State of the Art of Carbon Capture Technology and Equipment**

Many methods of both Direct Air Capture and removal from emitters are emerging. These technologies can have impacts not only on project cost and construction, but on qualifying for 45Q financing. The type of equipment varies greatly depending on the nature of the emitter and the composition of the emission stream, which translates to a much lower cost proposition for some cases. This session will examine the current methods for carbon capture, and the potential impacts of novel new patents being introduced.

- What are the leading technologies for emissions capture and direct air capture?
- What do current costs look like?
- What will drive costs down?
- What patents are being sought now for systems integrated into the emitter and for more efficient processes?

Presenter:

Paul B. Plath, P.E., *President & CEO*, E3 CONSULTING

2:05 -2:20 pm

Q&A

2:20-3:20 pm

Virtual Networking

October 5, 2021:

Financing Carbon Capture & Storage Projects
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8:30-9:10 am Session 5: **Carbon Sequestration Risks Assessment, Contracting, Permitting, Recapture and Risk Mitigation**

CCUS projects involve a build out of carbon pipelines and storage facilities, which introduce a set of risks as well as siting and permitting issues not usually encountered in electric power projects. This session will provide a broad discussion of the development and permitting process for CCUS Projects and will highlight some of the issues that may arise.

1. Origins of CO2 Injection
 - a. The EOR process
 - b. Class VI Rule
 - c. Class II wells versus Class VI wells
2. Geologic Sequestration & Site Selection
 - a. Geology
 - b. Site Selection (CARBON SAFE sites & beyond)
3. Regulation of Geologic Sequestration
 - a. Regulatory Authority – EPA and State (primacy)
 - b. Underground Injection Control Purpose – protection of USDW
 - c. Class VI application process (timing and effort required)
 - d. MRV Plans
 - e. Measurement, monitoring and the MRV process
 - f. Geologic setting to reduce risk/leakage and seismic
 - g. Pore space legal and contractual landscape
4. Utilization - Examples for use of captured carbon
5. Seismic, Water, and Environmental Risks
 - a. Case studies
 - i. Risk to aquifers
 - ii. Risk of extended monitoring
 - iii. Risk of IRS recovery of tax credits

Intro:

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

Presenters:

Scyller J. Borglum, Ph.D., *Underground Storage Market Leader, Energy*, WSP USA

Graciela Moore, P.G., *Director, Regulatory Engineering & Geological Services, Energy*, WSP USA

Rob Rebel, PE, *Technical Principal, Environmental Engineer, Earth and Environment*, WSP USA

9:10-9:25 am Q&A

9:25-9:30 am Break

9:30-10:20 am

Session 6: **Perspectives on Investing in CCS Projects**

This session will examine the drivers for developing decarbonization projects, including raising development capital and cash equity, and explore some of the current challenges for investment.

- ESG investment drivers
- High level considerations
- Return Expectations
- Development challenges
 - Potential cash flow issues
 - Long development periods
 - Permitting and regulatory risk
 - Technology risk
 - Multi-party arrangements
 - Forecasting costs
 - Changes in law
- Cross-border issues
 - Pricing issues
 - Competitive pressures, incentives and initiatives in Europe/India/Asia/Middle East.
- Potential for club and syndication deals

Moderator:

Matthew Kapinos, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Panelists:

Chris Archer, *Head of Americas, Green Investment Group*, MACQUARIE CAPITAL (USA) INC.

Philippe Larochelle, *Investment Principal*, BREAKTHROUGH ENERGY VENTURES

James Mackey, *Managing Director*, OGCi CLIMATE INVESTMENTS LLC

Jim McDermott, *Chairman*, RUSHEEN CAPITAL MANAGEMENT, LLC

10:20-10:35 am

Q&A

10:35-10:40 am

Break

10:40-11:35 am

Session 7A: **45Q Flip Structure Basics**

Intro:

Shariff Barakat, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Session 7B: **Tax Equity Structures for CCS**

IRC Section 45Q, as updated in early 2018 and 2020, has transformed CCUS projects into a major new vehicle for tax equity investment. However, given the numerous differences presented by this tax credit from renewable energy tax credit investments, these investments will require additional analysis by investors and resolution of some remaining policy and regulatory issues. This session will examine the complexities of the 45Q tax credit, how these differ from tax

equity structures under Sections 45 and 48, and address any unique risks presented to tax equity investors.

- Ownership structures for CCS projects
- Back leverage debt in 45Q structures
- IRS Safe harbor rules on partnerships; beginning construction
- Revenue Ruling 2021-13
- OCC final regulations on national banks' tax equity investments
- What impacts might 45Q regulations have on CCE technology selection?
- What structuring issues arise for projects with highly integrated CCE in the emitter when this equipment is separately owned?
- Election to pass credit to sequestration party

Moderator:

Shariff Barakat, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Panelists:

Wim Goethals, *Managing Director, Renewable Energy & Environmental Finance*, WELLS FARGO

Jim Hansen, *Managing Director, Head of Investment Banking*, OPPORTUNE PARTNERS LLC

Bret Logue, *Principal*, ELYSIAN VENTURES

11:35-11:50 am

Q&A

11:50-12:25 pm

Lunch Break

12:25-1:10 pm

Session 8A: **LCFS Primer**

Intro:

Scott Chabina, *CEO & Founder*, CHABINA ENERGY PARTNERS, LLC

Session 8B: **Renewable Fuels + CCS; Revenue under the California LCFS CCS Protocol**

California's Low Carbon Fuel Standard (LCFS) Carbon Capture and Sequestration (CCS) Protocol is one of the first programs to create an incentive structure for decarbonization and carbon capture. This CARB-administered program has proven to be a major revenue source for many types of emission reduction projects involving renewable fuels. The LCFS-CCS Protocol can be applied to projects in many geographic locations, which has made it one of the main ways to monetize projects. This session will review the Protocol, answer questions regarding its use, and explore its implications for CCS/decarbonization business models.

- How does this credit work with renewable fuels projects?
- What is the value of the credit obtained?
 - How consistent is this revenue stream? Hedging products available?
 - What types of projects are eligible under the Protocol?
 - What types of sequestration sites qualify?
 - How does the application process work?
 - What are the security requirements?
 - What is a party's general liability for damages resulting from leakage?

- What reporting, credit compliance and verification requirements need to be met?

Moderator:

Scott Chabina, *CEO & Founder*, CHABINA ENERGY PARTNERS, LLC

Panelists:

Stephen Johnson, *President*, ILLINOIS CLEAN FUELS

Kevin Pykkonen, *Vice President, Business Development*, CARBON AMERICA

Brian Steenhard, *CEO*, WHITE ENERGY

1:10-1:25 pm

Q&A

1:25 -1:30 pm

Break

1:30-2:10 pm

Session 9A: **Status of Decarbonization Policy Incentives**

Ryan Edwards, *Low Carbon Policy Advisor*, OXY LOW CARBON VENTURES, A SUBSIDIARY OF OCCIDENTAL

Session 9B: **The Future of Decarbonization Policy Incentives**

Decarbonization is likely to take a major step forward under the Biden administration, but will congress pass legislation to provide projects potential “legs” to survive long-term? This session will review the policies being pursued, recent developments, and potential road for the future.

- Potential role of the revitalized DOE loan guarantee program
- Incentives for clean hydrogen
- CIFIA loan program
- State-level concerns
- Buy America and environmental justice initiatives

Moderator:

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON PEABODY LLP

Panelists:

Khalid Abedin, *Supervisory Investment Officer, Loan Program Office*, US DOE

2:10-2:30 pm

Q&A

2:30-2:45 pm

Break

2:45-3:25 pm

Session 10: **Office Hours: Interactive Live Zoom Session**

This Interactive Live Zoom Session at the class conclusion allows you to get your most pressing questions answered, and to interact with Master Class Instructors in real time.

Shariff Barakat, *Partner*, AKIN GUMP STRAUSS HAUER & FELD LLP

Ellen Friedman, *Partner and Co-leader, Energy and Infrastructure Projects Team*, NIXON
PEABODY LLP

3:25-3:30 pm

Closing Remarks

3:30 pm

Master Class Adjourns

3:30-4:30 pm

Virtual Networking