RENEWABLE ENERGY PROJECT FINANCE MODELING COURSE

DURATION: 3 DAYS

PIVOTAL 180

WWW.PIVOTAL180.COM

RENEWABLE ENERGY PROJECT FINANCE MODELING

COURSE CONTENT

- Develop a best-practice financial model and optimize it for both debt and equity investors for a renewable energy project finance deal. Learn from industry leaders and ivy league professors either in-person at a public session, on-site at your offices or campus, online, or our new live streaming courses.

WHATS INCLUDED

- 12 months access to our online material, including concept videos with transcriptions, lecture slides, downloadable spreadsheet examples.
- A complete step-by-step model walk-through, and access to discussion forums for ongoing questions.
- Subscription can be extended annually post the first 12 months for $100 per annum.
- Lunch, tea & coffee at the venue (public session participants only).
- Membership to the Pivotal180 alumni network.
- Course completion certificate.

WHO SHOULD ATTEND

- Due to the large volume of content available, the course is suitable for all-levels – there is something for everyone.
- Analysts, associates & vice presidents at banks, funds, investors, developers, and operating entities looking to standardize approaches to modeling or solve new problems
- More senior participants changing careers or looking to up their skill-set
- Students wishing to enter the renewable energy sector or about to start new roles – get ahead of your competition now

PRE-REQUISITES

- Basic knowledge of Excel only

COURSE OUTCOME

- Learn best practice financial modeling by doing
- Understand renewable energy finance concepts and operations
- Optimize the model to achieve requirements of all investors
- Prepare professional outputs for decision making

The course, and in particular, Dan and Haydn's knowledge and experience exceeded our expectations. We look forward to taking another course!

RENEWABLE ENERGY PROJECT FINANCE MODELING

DELIVERY ONLINE, PUBLIC, LIVE STREAMING OR IN-HOUSE

ONLINE OFFERINGS

In addition to in-person training, we offer interactive live-streamed courses and self-paced online learning programs with video lessons and downloadable demonstration files. Our online platform allows participants to review materials or dive deeper whenever they chose to do so. Videos can also be available for license to host on your choice of Learning Management System.

WORLD-CLASS TRAINING

Our courses are not limited to financial modeling and best practices in Microsoft Excel. We are committed to explaining how the numbers align with underlying financial and engineering concepts, transaction structures, legal documentation, market conditions and risk management approaches. We don't just teach how to build models. We teach how to do deals.

CUSTOMIZED CONTENT

Our training programs are the most custom tailored in the market. As one size rarely fits all, we encourage clients to select training topics from an extensive menu of offerings as diverse as corporate governance, compliance and international tax. If we don't have something ready to go, we are happy to develop new content or company-specific case studies upon request.

We design our programs to make hard things feel easy. Dry material becomes interesting and fun.

RENEWABLE ENERGY PROJECT FINANCE MODELING

PRE-COURSE MATERIAL

- Course requirements and overview
- Excel functions required
- Shortcuts, named ranges, and data validation
- Best practice principles
- Best practice – flags and accounts
- Net present value (NPV) and internal rate of return (IRR)

PROJECT FINANCE INTRODUCTION

- Introduction to project finance
- Typical investment structures
- Tax and legal implications
- Overall timeline and cashflow relationships
- Major contracts and risk vs reward
- Roles of different parties in the deal

PROJECT FINANCE TERM LOANS

- Impact of leverage on a deal
- Types of lenders and their mindset
- Appropriate discount rates and interest repayments
- Principal repayment options (linear, mortgage, DSCR sculpted)
- Debt service cover ratio (DSCR)
- Sculpting and sizing debt
- Loan life cover ratio (LLCR) and other debt ratios
- Bullet, balloon, and mini-perm repayments
- Cash sweeps
- Understanding a Facility Agreement

GENERATION AND THE GRID

- Capacity versus energy
- Capacity factors for different technologies
- Power curves and forecasting
- Typical losses and degradation
- Calculating P50 and P99 generation
- Probability analysis in determining P-factors
- Seasonality
- Common risk areas and ‘things that go wrong’
- Developing the energy generation calculations

SELLING ENERGY

- Capacity payments, energy payments and price x volume
- Comparison of different off-takers
- Common REC and ROC structures (coming soon)
- Merchant tails
- Escalation provisions in contracts
- Scenarios and modeling a PPA with merchant tail
- PPA contract overview
- Alternative revenue models (coming soon)

RENEWABLE ENERGY PROJECT FINANCE MODELING

COSTS

- Typical costs for wind and solar projects
- Major maintenance accounts
- Other common reserve accounts
- Model common fixed and variable costs
- Understanding an O&M Agreement
- EPC costs

WATERFALL AND CASHFLOW SUMMARY

- Typical waterfall structure vs cashflow statement
- Global differences in calculating the waterfall
- Accounts required and the role of the administrative agent
- Develop cashflow forecasts for P50 and P99
- Develop data tables for scenario and sensitivity analysis

DEBT SERVICE RESERVE ACCOUNT (DSRA)

- Requirement of (and implementation of) a DSRA
- Impact of the DSRA on debt ratios
- The debt service facility as an alternative
- Develop model checks to ensure compliance with loan documents

CONSTRUCTION PHASE

- Review of an EPC term sheet
- Completion testing required
- Sources and uses
- Model construction costs and understand funding challenge
- Calculate total funding required
- Discuss alternative drawdown orders
- Comparison of costs to the Levelized cost of energy (LCOE)

DEPRECIATION AND TAX

- Straight line, reducing balance, life of asset, and MACRS depreciation
- Model from EBITDA to EBT
- Tax losses carried forward
- Tax credits (US only)
- State and local taxes (coming soon)
- What happens when tax is ahead of CADS
- International tax considerations (i.e. WHT, tax treaties)
- Complete post tax valuations

TAX EQUITY

- Inefficient versus efficient taxpayers
- Incentives for tax equity investors, including the ITC and PTC
- Deal and flip structure
- Back-leverage overview
- Tax equity sizing considerations

RENEWABLE ENERGY PROJECT FINANCE MODELING

RETURNS

- Returns required for lenders, equity, and developers
- Cap rate compression
- The value in selling your project
- Calculating terminal values
- Back-leverage and holdco debt to increase returns (and risk)
- Typical valuation comparables

CORE OUTPUTS

- Comparison of accounting and tax depreciation
- Developing an income statement and balance sheet
- Converting quarterly calculations to annual outputs
- Calculating working capital
- Add deferred taxes to your model
- Outputs required for an investment decision

MODELING QUALITY CHECKS

- Model checks required
- How do I review a model?

OPTIMIZING A DEAL MODEL

- Solve the price required to achieve a hurdle rate
- Size the debt required in operations and construction
- Introduction to VBA for project finance
- Running scenarios with VBA
- Simplifying alternatives to avoid VBA
- Summary of core risks with analysis

RENEWABLE ENERGY PROJECT FINANCE MODELING

THE PIVOTAL180 DIFFERENCE

Pivotal180 does not just advise on transactions and walk away, we build institutional capacity, transferring critical skills and knowledge to our clients in the fields of infrastructure, energy, transportation, mining, agriculture, manufacturing and services. Every engagement is structured to include significant coaching and mentorship. We don't conduct analysis, develop policy or close deals for you. We do it with you. We insist that our clients are actively engaged as a part of the team, taking ownership of analysis and decision making.

We provide full transparency, exposure and explanation of the underlying concepts, documentation, tools and best practices. Our greatest goal is empowering government ministries to break the cycle of dependency upon transaction advisors and foreign consultants. We don't want our clients to rely on us in the future. We want them to stand strong on their own.

Our team has decades of experience leading transactions as principal investors and advisors. We can advise and coach you on transactions and market structures, government policy and incentives, and asset management practices because we have done deals in the private sector. We are intimately familiar with the transaction execution process as well as how to view a transaction from the perspective of various parties to a transaction, including the developer, equity investor, lender, or government ministry.

DANIEL GROSS
PRINCIPAL

Lecturer, Yale University
Adjunct Professor, Columbia University

Qualifications:

Masters in Environmental Management, M.B.A. and B.A. (Phi Beta Kappa)
Yale University (USA), Fulbright Scholar

HAYDN PALLISER
PRINCIPAL

Lecturer, Yale University
Adjunct Associate Professor, Columbia University

Qualifications:

Bachelor of Engineering (Hons)
University of Canterbury (New Zealand)

Master of Applied Finance
Macquarie University (Australia)

PIVOTAL 180

WWW.PIVOTAL180.COM

405 Chrysler Building Lexington Ave. Suite 918
New York, New York 10174

Tel: +1 347-991-7400
Email: sales@pivotal180.com