

## **RENEWABLE ENERGY PROJECT DEVELOPMENT AND REGULATION**

**Adjunct Professor Mark Safty**  
**University of Denver Sturm College of Law**  
**Spring 2012**

Overview: Continuing a policy trend that has gathered momentum for several years, the federal, state and local governments have strongly but erratically and inconsistently encouraged renewable energy development in the United States to address important strategic objectives, including (i) reducing the threat of climate change, (ii) providing energy security to the United States, and (iii) spurring the economy out of recession. President Obama has announced the ambitious goal of doubling the production of renewable energy in the United States over the next three years, and a national renewable energy standard is under discussion. Many states have already established progressive renewable portfolio standard targets, and just about everyone has something to say about the new “green economy.” Renewable energy will play a very important global role in the years to come, and practitioners who wish to master the law of renewable energy will need to speak the language of renewable energy fluently.

This course will examine the broad range of legal topics that a renewable energy lawyer must understand in order to practice effectively. We will examine the structure, regulation, and functioning of the electric energy industry in the United States. We will explore in detail the law applicable to the development, ownership and operation of renewable energy projects across the spectrum of technologies. Significant emphasis will be placed on the practical “real world” issues encountered in developing, financing and operating these projects. While the primary focus of this course is the regulation and development of renewable energy projects, we will also explore the renewable energy policy arena and its implications, and the mechanics and issues associated with financing energy projects. Finally, the course will also address legal, policy and economic and financing issues associated with the expansion and improvement of the transmission grid to support renewable energy development.

Course Materials: The principal written course materials will consist of a compilation of project development documents, articles and Federal and State Laws, regulations and procedures. These materials will be provided to you electronically in advance of each class. The compilation includes:

- Materials related to the Federal Power Act and the role of the Federal Government and the Federal Energy Regulatory Commission (“FERC”) in electricity markets
- State statutes and regulations related to the role of State Government and Public Utilities Commissions (“PUCs”) in electricity markets
- Siting, land use and permitting statutes and regulations
- FERC-published materials
- Various transmission-related materials
- Wind lease/option agreements
- Power purchase agreements
- Construction agreements
- Large generator interconnection agreements
- Operation and maintenance agreements
- Financing documents

Specifically, we will review the materials and documents listed in the Weekly Class Agenda set forth below.

Class Participation and Attendance: Please prepare for each class by reading the assigned materials, then attend and participate in class. If you cannot attend class regularly, please let me know in advance. If

you are not prepared for class, please let me know in advance and I will not call on you. I encourage questions—they make the class more interesting and enable me to adjust the course to address students' interests.

Grading and Exam: Grades will be based on both a final exam consisting of 6-8 short-answer questions (worth 1/3 of your grade) and a final paper (worth 2/3 of your grade). The exam will be “take home” and “open book.” The length of papers will vary based on the topic selected (by the student with my input), but will generally be 12-15 pages. All assigned reading and everything covered in class may be tested on the exam.

## **FINAL PAPERS AND FINAL EXAMS ARE DUE BY MAY 17, 2012.**

Contact Information: While no formal office hours are available, I will be available following each class session for questions, or I can be reached via e-mail at [msafty@hollandhart.com](mailto:msafty@hollandhart.com), or via telephone at 303-295-8549. Assisting with this course is Ashley Wald, who can be reached by email at [akwald@hollandhart.com](mailto:akwald@hollandhart.com) and by telephone at 303-295-8092.

Reading Assignments: We will follow the course outline set forth below, although I may change the order (or accelerate or slow the pace) depending upon the schedules of occasional guest lecturers and feedback from the class regarding pace or topics of interest. I will distribute weekly reading assignments electronically.

Class Outline: Each topic below will be covered over multiple classes.

### 1. Overview.

a. An overview of the electric energy industry in the United States, including relevant governmental agencies, statutes, and regulations (Renewable Portfolio Standards, the 2009 American Reinvestment and Recovery Act, etc). Discussion of the relationships between central generation, transmission, distribution, distributed generation and load.

b. An overview of renewable energy technologies, and a primer on renewable energy terminology (capacity factors, intermittency resource planning, etc). Discussion of the policies and issues that have contributed to the growth of renewable energy in the United States. Review of tax incentives and tariff structures.

c. An overview of the project development process, from the earliest stages of site acquisition and control and its relationship to funding and financing mechanisms. Discussion of the implications of decision-making at the earliest stages on future project completion, financing and exit strategies.

### 2. Obtaining Site Control. Comprehensive review and discussion of a form of wind lease and solar site control documents. Overview of landowner and developer issues and tensions between renewable energy project developments, environmental endangered species and avian concerns (e.g. sage grouse protection), rural development and other considerations.

### 3. Site Development. Discussion of the various state and federal processes for obtaining the permits required to build, own and operate a renewable energy project.

4. Power Purchase and Sale. Analysis of the power purchase agreement (“PPA”), sometimes referred to as an “offtake” agreement. Renewable energy projects also generate renewable energy certificates (“RECs”), which represent a separate element of value that can be “bundled” with electricity or “unbundled” and sold separately. We will discuss these as well.
5. Interconnection and Transmission. One of the biggest challenges in renewable energy is getting energy from the place where the resource is greatest (e.g., North Dakota or Wyoming in the case of wind, or the American Southwest in the case of solar) to the “load” – the place that can use it. Along those lines, we’ll discuss interconnection agreements, the interconnection queue process, transmission arrangements, federal regulatory issues, and the nagging problems of “intermittency” and “integration” of renewable resources.
6. Project Construction. Once a developer has assembled a land position, permits, and other key project documents, the next task is to build the project. We’ll discuss the legal and contractual issues commonly encountered in major equipment procurement and construction contracts, and we will discuss how the project is generally structured (what parties are involved and how they are involved).
7. Project Operations and Maintenance. Analysis of the parties their responsibilities, liabilities and functions in the long-term ownership, operation, maintenance and legal compliance of projects.
8. Project Finance. The developer might want to build the project and continue to own and operate it—but how does the developer come up with the financing to pay for the enormous capital cost of a large renewable energy facility? We’ll discuss various options for balance sheet, debt and tax equity financing, including the use of credit enhancements. We will distinguish between other forms of financing and traditional project finance, discuss the principal risks at various stages of the project’s development and how those risks are allocated, and address other issues related to the structuring of, and ownership of, a project, including how tax benefits, grants and government guarantees fit into the process.
9. Sale of Project. When a project reaches a certain point, the developer may want to sell it. We’ll review a Membership Interest Purchase Agreement for a wind energy project to develop a better understanding of the legal and business issues that buyers and sellers should be thinking about when conveying a renewable energy project to another party.
10. Special Considerations for Certain Renewable Technologies. Geothermal, solar and biofuels projects raise special issues that we’ll discuss in this segment of the course.

Questions, Feedback: I welcome your questions, comments, and suggestions and encourage you to get in touch with me throughout the semester.

**RENEWABLE ENERGY PROJECT DEVELOPMENT AND REGULATION**  
**ADJUNCT PROFESSOR, MARK D. SAFTY**  
**UNIVERSITY OF DENVER STURM COLLEGE OF LAW**  
**SPRING 2012**

~ WEEKLY CLASS SCHEDULE/AGENDA ~

**I. ELECTRIC ENERGY INDUSTRY IN THE UNITED STATES**

Classes 1 and 2 (January 11 and January 18)<sup>1</sup>

- The physical structure and functioning of the electric utility system in the United States: what are its components, how does it work, what are the challenges, who are the actors?
- Overview of the general legal framework of laws and regulations governing the generation, transmission and distribution of electric energy in the US
- What is “renewable energy,” why is it important, how does it work, what are the opportunities/challenges?
- Renewable energy – the global perspective

Reading:

- ✓ Glossary of Terms: <http://www.eia.gov/tools/glossary/index.cfm?id=renewable>
- ✓ *Energy and Environmental Project Finance Law and Taxation*, Chapter 6, Overview of the Development and Financing of Renewable Energy Projects by Karen Wong and Allan Marks
- ✓ *The Quest: Energy, Security, and the Remaking of the Modern World*, Chapter 17, Alternating Currents, and Chapter 27, Rebirth of Renewables by Daniel Yergin

**II. REGULATION OF THE ELECTRIC INDUSTRY**

Classes 3 and 4 (January 23 and January 25)

- Detailed review of Federal and State Regulation of the Electricity Industry
- State Regulation of Utilities (Guest lecturer Mark Davidson, Partner, Holland & Hart LLP on January 23)
- FERC Regulation of Interconnection, Transmission, Pricing and Sales of Facilities subject to FERC jurisdiction
- Non-jurisdictional and unregulated entities: municipal utilities and coops

Reading:

---

<sup>1</sup> All class dates are approximate and subject to change depending on how long it takes to cover the materials.

- ✓ ABA Journal of Natural Resources and Energy Law, Twenty-five Years of Electricity Law, Policy and Regulation: A Look Back by Jeffrey S. Dennis
- ✓ Mountain States Telephone & Telegraph Co. v. Public Utilities Commission, 513 P2d 721 (1973)
- ✓ Consumer Council v. Public Utilities Commission, 786 P2d 1086 (1990)
- ✓ Electricity Transmission: A Primer, National Council on Electricity Policy (June 2004)

### III. RENEWABLE TECHNOLOGY AND INCENTIVES

#### Classes 5 and 6 (January 30 and February 1)

- Renewable energy technologies and systems – current technologies and challenges
- Renewable energy policies and incentives – feed-in tariffs, federal tax incentives, state and local incentives, Renewable Portfolio Standards

Reading:

- ✓ Energy and Environmental Project Finance Law and Taxation, Chapter 1, The Global Challenge for Energy and Environmental Assessment by Peter C. Fusaro
- ✓ DSIRE Maps available at: <http://www.dsireusa.org/summarymaps/index.cfm?ee=1&RE=1>

### IV. TRANSMISSION DEVELOPMENT AND SITING

#### Class 7 (February 6)

- The development process for transmission lines; siting issues

Reading:

- ✓ Coordinating Interstate Electric Transmission Siting: An Introduction to the Debate, published by the National Council on Electricity Policy, available at: [www.ncouncil.org/resources.htm](http://www.ncouncil.org/resources.htm) (see “transmission”)
- ✓ Energy and Environmental Project Finance Law and Taxation, Chapter 9, An Overview of Transmission and Interconnection Issues Affecting Renewable Energy Projects by Mark D. Safty and Giji M. John
- ✓ National Association of Regulatory Utility Commissioners Publication: Competitive Procurement of Retail Electricity Supply: Recent Trends in State Policies and Utility Practices Funded by the U.S. Department of Energy (July 2008)

**V. INTRODUCTION TO RENEWABLE ENERGY PROJECT DEVELOPMENT, LEASES AND COMPETITIVE POWER PROCUREMENT**

Classes 8 and 9 (February 8 and February 13)

- Development and financing of Renewable Energy Projects – Overview
- Overview of the phases of development
- Market Identification and Site Control
- Site Acquisition

Reading:

- ✓ [Re-read] *Energy and Environmental Project Finance Law and Taxation*, Chapter 6, Overview of the Development and Financing of Renewable Energy Projects by Karen Wong and Allan Marks
- ✓ *An Overview of Renewable Energy Project Development Issues* by Mark D. Safty
- ✓ Pisauro, Michael L., Jr., *Renewables and Land Use Law, Natural Resources and Environment*, Vol. 23, Number 1, Summer 2008, pp. 39-51
- ✓ Form of Site Lease

**VI. RENEWABLE ENERGY PROJECT DEVELOPMENT: PERMITTING AND ENVIRONMENTAL ISSUES; INTERCONNECTION AND TRANSMISSION**

Classes 10 and 11 (February 15 and February 20)

- Permitting and Environmental Assessment (Guest lecturer: Elizabeth Mitchell, Partner, Holland & Hart LLP)
- Interconnection and transmission issues and procedures

Reading:

- ✓ Guest lecture materials to be provided
- ✓ Form of LGIA
- ✓ Review OATT/form of Transmission Service Agreement

**VII. RENEWABLE ENERGY PROJECT DEVELOPMENT: PRINCIPAL PROJECT DOCUMENTS**

Classes 12, and 13 and 14 (February 22, February 27 and February 29)

- Competitive Power Procurement Procedures, Requests for Proposals (“RFPs”)
- Power purchase agreements (“PPAs”)

- REC Agreements

Reading:

- ✓ Southern California Edison Form of PPA; 2011 Request for Proposal Documents:
  - <http://www.sce.com/EnergyProcurement/renewables/2011-request-for-proposal.htm>, see 2011 SCE RFP Procurement Protocol; Appendix B-1, 2011 SCE RFP Pro Forma Agreement (Word)
  - [http://asset.sce.com/Documents/Shared/2011\\_SCEBiddersPresentation.pdf](http://asset.sce.com/Documents/Shared/2011_SCEBiddersPresentation.pdf)
- ✓ *Energy and Environmental Project Finance Law and Taxation*, Chapter 20, *Contract Techniques for Renewable Resource Power Purchase Agreement Offtakers*, by Jeremy Weinstein
- ✓ Form of REC Agreement

Classes 15 and 16 (March 5 and March 7)

- Construction and Equipment Supply
- O&M Agreements

Reading:

- ✓ Turbine Supply Agreement and Balance of Plant (“BOP”) Contract
- ✓ Form O&M Agreement

**\*\*\*Note - Paper outlines due via email by close of business (5:00 p.m.) on March 9\*\*\***

Class 17 (March 12)

- Discussion of Paper Topics

Class 18 (March 14)

- Renewable Energy in the News

Reading:

- ✓ Articles to be distributed prior to class

\* \* \* \* \*  
**Spring Break**  
 \* \* \* \* \*

## VIII. BUYING AND SELLING RENEWABLE ENERGY PROJECTS

### Classes 19 and 20 (March 26 and March 28)

- Purchase and Sale of Renewable Energy Projects
- Due diligence process
- Term Sheets, Letters of Intent and Purchase and Sale Agreements

Reading:

- ✓ Selected transaction documents

## IX. RENEWABLE ENERGY PROJECT FINANCE

### Classes 21 and 22 (April 2 and April 4)

- Project Financing – Overview of the structure, rationale and purposes of project finance in the renewable energy industry

Reading:

- ✓ Hoffman, Scott L., A Practical Guide to Transactional Project Finance: Basic Concepts, Risk Identification and Contractual Considerations, *The Business Lawyer*, Vol. 45, Nov. 1989, pp. 181-232

### Classes 23 and 24 (April 9 and April 11)

- The Financing Agreement

Reading:

- ✓ Form of Financing Agreement

### Class 25 (April 16)

- Security Agreements, Mortgage or DOT, Security Agreement, Pledge Agreement, Assignments and Consents

- ✓ Selected security documents, consents and estoppels certificate

### Class 26 (April 18)

- Monetization of tax credits and benefits

Reading:

- ✓ *Energy and Environmental Project Finance Law and Taxation*, Chapter 27, Tax Equity Financing for Wind Projects by Edwin F. Fee and Simon Friedman

**X. CASE STUDY; RECAP AND REVIEW**

Class 27 (April 23)

- Case study: Fire Island Wind Project

Reading:

- ✓ TBD

Class 28 (April 25)

- Last day of class -- recap and review

5340211\_2.DOC