



Monday, October 25
11:00am-12:30pm

209 - Consumer Power Project

Dawn Anaiscourt

Senior Attorney

Southern California Edison Company

Marc Luesebrink

Attorney

Southern California Edison Company

Amish Shah

Counsel

Sutherland Asbill & Brennan LLP

Douglas Whiting

Subcontracts Manager

Foster Wheeler USA Corporation

Faculty Biographies

Dawn Anaiscourt

Dawn C. Anaiscourt is a senior attorney at Southern California Edison Company. Her practice focuses on providing legal support for the procurement of renewable and conventional electric energy, natural gas and related financial products, including pro forma development, preparation and management of product solicitations, and contract negotiation and drafting.

Prior to joining SCE's law department, Ms. Anaiscourt practiced corporate and securities law with Katten Muchin Rosenman LLP and Shaw Pittman LLP, both in Los Angeles, where she provided counsel to public, private and entrepreneurial entities for venture capital and M&A transactions, large-scale IP due diligence management, 1934 Act reporting and other corporate matters.

Ms. Anaiscourt is a member of the State Bar of California and the Los Angeles County Bar and, currently serves on the ACC Energy Committee as a program chair.

Ms. Anaiscourt received her BA from Harvard University and a JD/MBA from the School of Law and the Anderson School of Management at University of California, Los Angeles.

Marc Luesebrink

Marc Luesebrink is an attorney in Southern California Edison's Environmental and Licensing Section, where he provides legal counsel on environmental, health and safety issues and on the licensing/CEQA process for new transmission lines and substations.

Prior to coming to SCE, Mr. Luesebrink worked as environmental and land use attorney in private practice and as deputy attorney general in the Land Use Section of the California Office of the Attorney General.

Mr. Luesebrink is secretary of ACC's Energy Committee.

Mr. Luesebrink has a law degree from UCLA, a masters from Yale University, and a BS from the University of California at Berkeley.

Amish Shah

Amish Shah is a member of Sutherland, Asbill & Brennan's Tax Practice Group and Renewable Energy and Climate Change teams. His practice involves advising clients on the tax consequences of acquisitions, dispositions and other restructurings involving both domestic and foreign entities and advising clients on tax aspects of contractual and other

agreements. Mr. Shah also advises energy and other industry clients on matters involving domestic and international tax planning and tax controversy. He also counsels clients on other tax aspects of financing, structuring and operating renewable energy projects and has been involved in obtaining IRS rulings on energy tax credit matters.

Mr. Shah started his career as a CPA, working in the tax division of a Big 6 accounting firm. Mr. Shah has significant experience advising clients with respect to federal, state and local incentives for investments in, and production of, renewable and alternative energy, including production and investment tax credits, manufacturing tax credits and the Treasury grant program.

He received his JD, with honors, from the George Washington University Law School where he was a member of the George Washington Environmental Lawyer Law Journal, and received his BS from the University of Maryland.

Douglas Whiting

Douglas B. Whiting currently serves as subcontracts manager for Houston-based Foster Wheeler USA Corporation, a large international engineering, procurement, and construction contractor for the energy industry. He is primarily responsible for negotiating contracts required to support Foster Wheeler activities in the US and overseas -- Foster Wheeler's parent company is based in Switzerland. He also provides legal support for other Foster Wheeler activities.

Mr. Whiting served as general counsel of a publicly-traded oilfield services conglomerate and as assistant general counsel for affiliates of Entergy, Southern California Edison, Ahlstrom Pyropower, and Foster Wheeler. He also provided legal and energy consulting for various power project developers and equipment suppliers in the US and abroad. Prior to law school, his business activities focused on sales, marketing, and real estate development.

Mr. Whiting recently completed his service as president of The Woodlands (Texas) Bar Association and as president of the Houston chapter of the J. Reuben Clark Law Society. He has also served as the chair of ACC's International Energy Committee and vice chair of ACC's Energy Committee, as well as a board member of ACC's Houston chapter.

Mr. Whiting holds a law degree and an MBA from the University of Utah and a BS from California State University, Long Beach.

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October 25, 2010

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Goal of Program

- Introduce some of the technical, financial and legal issues associated with consumer power projects
- Use board presentation role play to broaden perspective on consumer power project
- Provide additional background information not typically included in board presentation

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Scenario

- Large company, Retail Co., established a "Green Retail Program," including an "Energy Component"
- Energy Component objective is to "increase the sustainability of Retail Co.'s energy use"
- Project manager is seeking approval from Board of Directors for pilot phase of Energy Component
- Legal counsel will be providing additional information to the board

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Meeting Agenda
Retail Co. Board of Directors Meeting

- Goals of Energy Component of Green Retail Program
- Pilot Project Alternatives
- Legal Issues Related to Energy Production and Sale
- Project Details
- Financial Incentives
- Question and Answers
- Recommendation to Board

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Goals of Energy Component of Green Retail Program

- Environmental Commitment
 - Reduce Use of Nonrenewable Resources
 - Reduce Greenhouse Gas Emissions (Reduce "Carbon Footprint")
 - Reduce Emissions of Criteria Air Pollutants
 - Implement Innovative Renewable Technologies
- Reputation Enhancement
- Energy Cost Savings
- Energy Reliability and Independence

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Pilot Project Alternatives

- Options Considered
 - Energy Conservation and Efficiency
 - Cogeneration Unit (with standby electrical service)
 - Rooftop Installation of Solar Photovoltaic (PV) System
- Solar Rooftop Project provides best fit for program objectives

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Legal Issues Related to Energy Production and Sale

- Pre-1978 Law
- Public Utilities Regulatory Policies Act of 1978 (PURPA)
- Energy Policy Act of 1992
- Energy Policy Act of 2005
- Current Law

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Pre-1978 Law

- Unlawful to produce power and sell to anyone at wholesale or retail unless regulated as a utility
- Public Utility Holding Company Act (PUHCA) limited activities of multi-state utilities and transactions
- Exceptions: self-generation and supply to tenants

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Public Utilities Regulatory Policies Act of 1978 (PURPA)

- Facilitated a new segment of the electrical power industry; certain types of technologies allowed to produce power and sell excess to utilities
- Intended to reduce reliance on foreign oil, not to de-regulate the electric power industry
- Limited utilities to 50% ownership
 - Cogeneration
 - Efficiency requirements for oil/gas power plant
 - Renewable Resources (birth of new industry)
 - Solar, wind, hydro, geothermal, biomass, "waste" sources (including pet coke, waste coal)
 - 80 MW size limit

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Energy Policy Act of 1992

- “Electric Wholesale Generators” permitted to sell power to any utility
 - Prohibition on retail sales to end-users
 - Amendments to PUHCA limited its scope
 - Allowed utilities to compete in each others’ service territories
- Deregulation of state-regulated utilities met with varying degrees of success
 - E.g., California deregulated electric utilities in 1996 through AB 1890

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Energy Policy Act of 2005

- Requires utilities to offer net metering for renewable resources
 - Implementation left to the states; still lots of unanswered questions
 - Customer generation in excess of instantaneous demand is typically fed back to the utility distribution system, causing the customer’s meter to effectively “run backward”
 - Current state net metering standards typically allow renewable generation and sometimes allow other favored technologies, such as fuel cells, to qualify

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Current Law

- Unlawful to produce power and sell to anyone at wholesale or retail unless regulated as a utility or otherwise exempted
- Historic exceptions for self-generation and supply to tenants still exist
- “Net metering” has been deemed to be an accounting tool and not a sale of power

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Summary of Energy Legal Issues

- Self-generation
 - Fewer legal issues if all power generated onsite is used onsite
 - Sales to utilities still permitted under PURPA
 - Sales to end-user customers may be permitted in some states
- Purchase from utility or any other permitted supplier of retail electricity
 - If utility sells "green" energy, might address objectives without legal complications
- Pursue "net metering" arrangements to minimize legal complications
 - Solar, wind and other renewable projects are typically not cost effective without the benefit of tax incentives
 - Not clear that production at the locations selected for the pilot program would have significant amount of energy available for sale

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Program Details

- Solar Rooftop Project
- Siting Issues
- Key Solar PV Terms
- Energy Production Per Site
- Sample Insolation Information
- View of Solar Rooftop System
- Other Issues

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Solar Rooftop Project

- Pilot phase will include solar PV installations on rooftops of four of Retail Co.'s stores
- Each store has a rooftop area of approximately 200,000 square feet
- Each solar rooftop installation will consist of an array of solar PV panels installed on either a rack or ballast system
- Wiring from solar PV panels would be routed through the rooftop conduits to one or more inverters to convert direct current (DC) to alternating current (AC)

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Siting Issues

- Location Options
 - Insolation for region
 - Ability to connect to grid (whether transmission/generation capacity exists adjacent to site)
 - Near load or in remote area
- Wind conditions
 - Locations with wind potential of > 100 mph require additional ballasting
- Rooftop Conditions
 - Age and condition of rooftop
 - Existence of skylights
- Equipment Upgrade Costs

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Key Solar PV Terms

- **kW of Array:** Manufacturer's estimate of photovoltaic (PV) output from a panel under "standard test conditions" multiplied by the number of panels in the array
- **System Factor:** Factor that adjusts output of array to reflect expected losses due to array temperature, wiring efficiency, inverter efficiency, panel soiling, etc.
- **Insolation:** Quantity of electromagnetic energy incident to a surface location; varies depending on latitude, time of day, etc.; usually expressed as the average number of "noon hours" per day

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Energy Production Per Site

- 200,000 square feet (sq ft) per rooftop
- 150,000 sq ft usable area (building code and access requirements reduce the area by ~25%)
- 4600 panels installed on rooftop ("array" or "system")
- 200 watt DC nameplate rating for each panel
- 920 kilowatts DC (peak instantaneous output of array) for each site under "standard test conditions"
- "System Factors" (e.g., inverter efficiency, temp, wiring efficiency, panel soiling) reduce peak system output to ~ 644 kilowatts AC

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Energy Production Per Site (Cont'd)

- Expected Daily Energy Production (AC) = peak array output (DC) x System Factor x Average Insolation (for region)
- 4600 panels rated at 200 watts DC each, installed at a Retail Co. site in Los Angeles with an insolation value of 5.6 "noon days" (for a panel tilted to Latitude) with a System Factor of 0.7 would generate approximately 3,606 kilowatt-hours (kWh) AC per day and 1,316 megawatt-hours (MWh) AC per year

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Sample Insolation Information

Los Angeles, CA
 TYPICAL METEOROLOGICAL YEAR (TMY) DATA FOR 2010
 LOCATION: Los Angeles, CA
 ELEVATION: 280 ft
 SOURCE: NREL (2008)

Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Insolation (kWh/m²)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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View of Solar Rooftop System

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Other Issues

- Environmental
- Energy Efficiency
- Working with Local Utility
- Consultants
- Zoning
- Local Building and Safety and Fire Codes
- Benchmarks/References

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Financial Incentives

- Production Tax Credit
- Investment Tax Credit
- Treasury Grant
- Depreciation Benefits
- Statutory Tax Incentives
- Negotiated Tax Incentives

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Budget

- Solar panels/Inverters/Bracings/Rooftop Preparation
- Installation
- Operation and Maintenance Costs
- Outside Consulting and Engineering
- Tax Credits (offset)
- Miscellaneous

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Recommendation to Board

- Recommendation

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Questions and Answers

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- Marc Luesebrink
- Amish Shah
- Douglas Whiting

Amish M. Shah
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**Consumer Power Projects:
 Financial Incentives**

WHY NOW?

- Fixed Long-Term Energy Costs
- Public Relations Benefits of "Going Green"
- Tax Incentives & Grants
 - PTC
 - ITC
 - Grant
 - Depreciation
 - State

PRODUCTION TAX CREDIT

Requirements
 Must produce electricity:

1. using "qualified energy resources,"
 - Wind
 - Closed Loop Biomass
 - Open Loop Biomass
 - Geothermal Energy
 - Municipal Solid Waste
 - Qualified Hydropower
 - Marine & Hydrokinetic
2. at a "qualified facility"
 - Placed in service by either end of 2012 (wind) or 2013 (others)
 - Other requirements depending on type of facility
3. that is **sold by the taxpayer to an "unrelated person"** during the taxable year.
 - Sold for ultimate use by an unrelated person

PRODUCTION TAX CREDIT

Amount

- 2.2¢ or 1.1¢ per kilowatt hour (depending on resource used).
- 10 year credit period.
- Possible reduction (up to 50%) for use of certain government financing used.

Person Entitled to Credit

- Generally, owner(s) of the facility are entitled to the tax credit.
- Tax credit allocated in proportion to each owners' interest in the gross sales from the facility.
- Generally, no benefit from tax credit if a developer has no tax liability (i.e., no U.S. taxable income). However, tax credit may be monetized.
- Tax credit is nonrefundable, but may be carried forward or back.
- Purchaser of facility may claim PTCs.

INVESTMENT TAX CREDIT

Requirements

1. Must be "Energy Property"
 - Solar
 - Combined Heat and Power (CHP)
 - Qualified Microturbine
 - Qualified Fuel Cell
 - Qualified Small Wind
 - Geothermal
 - Section 45 Qualified Energy Property (Irrevocable Election Required)
2. Must be **Placed In Service** by particular date
 - Generally before 2017
 - Section 45 Qualified Energy Property before 2012 (wind), 2013 (others)

INVESTMENT TAX CREDIT

Amount

- 30% of cost (10% for CHP and Microturbine).
- No reduction for use of government financing.
- Reduction of property basis required.

Person Entitled to Credit

- Owner of facility on date that it commences operations.
- Tax credit allocated in proportion to each owners' interest in the gross sales from the facility.
- Generally, no benefit from tax credit if a developer has no tax liability (i.e., no U.S. taxable income). However, tax credit may be monetized.
- Recapture of ITC if facility sold within 5 years.

TREASURY GRANT

Generally

- Claimed in lieu of claiming PTCs or ITCs.
- Obtained from the Department of Treasury.

Requirements

1. Must be type of property for which PTCs or ITCs are available.
2. Must be completed before placed in service date required for PTC or ITC.
3. Either (i) the property must be placed in service during 2009 or 2010 or (ii) construction must "begin" in 2009 or 2010 and must be completed before the relevant placed in service date requirement.

TREASURY GRANT

Amount

- 30% of cost (10% for CHP and Microturbine).
- No reduction for use of government financing.
- Payments of grants are to be made within the later of 60 days following the date of application or the date that the property is placed in service.
- Grant non-taxable.
- 50% reduction in property basis.
- Possible complete or partial recapture of grant.

Person Entitled to Grant

- Owner of facility on date that it commences operations.
- Need to use blocker corporations for certain non-taxable entities.
- Cash payment, therefore no need for monetization structure.
- No recapture of grant if facility sold within 5 years to an eligible person.

DEPRECIATION BENEFITS

- Bonus depreciation
- Accelerated depreciation

STATE TAX BENEFITS- GENERALLY

Statutory Tax Incentives

- Available to taxpayers meeting certain predetermined criteria
- May apply to a broad range of businesses, or be specific to renewable energy
- Requires state tax analysis.

Negotiated Tax Incentives

- Negotiated with local tax officials for favorable property tax benefits or bond financing
- Must be commenced prior to announcement of project/investment for greatest benefit

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