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Emerging Alternative Energy Risks and How to Manage Them

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Keith Kennedy, Director of Risk Management, FPL Group

Scott Sink, Senior Executive Vice President, McGriff, Seibels & Williams

Patrick Stumbras, Senior Vice President, GCube Insurance Services, Inc.

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Emerging Alternative Energy Risks and How to Manage Them

Keith S. Kennedy

Director, Risk Management

Florida Power & Light Company

Topics

- FPL and alternative generation
- Overview of insurance markets for wind and solar generation
- Large company approach
- Peculiar insurance issues in wind and solar
- Project financing issues

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FPL and Alternative Energy

- FPL Group has two primary subsidiaries
  - FPL – a fully regulated integrated Florida utility
    - FPL is constructing 110 MW of new solar generation in Florida
  - NextEra – a wholesale generator in 26 states generating about 17,000 MW
    - NextEra is the leading US generator of wind generated power with 6,300 MW in 16 states and Canada
    - NextEra operates the largest solar facility in the US (310 MW)

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Insurance Markets

- Specialized insurers; e.g., G3, Ascott, etc.
- General insurers; e.g., AEGIS, AIG, etc.
  - AEGIS is probably the largest insurer through its participation in the industry and its support of G3

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Large Company Approach

- FPL acquired its first wind farm in 1989 and it was simply included in the portfolio
- All FPL Group (non-nuclear) assets are covered in a single large program – renewable represents about 17-18% of FPL's total MW's
- Larger deductibles than stand-alone owners ($500,000 in wind and $1 million in solar)
- Deductible buy-down through captive to satisfy financing arrangements

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Insurance Issues

- Lack of solid loss information on developing technologies
  - Larger wind turbines
  - Larger blades
  - Serial loss potential with new technologies
  - Lack of cat loss damageability data makes this a difficult / potentially expensive issue

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Insurance Issues

- Major potential BI issues
  - Potential impact of transformer loss
  - Long lead times on transformers
  - Lack of available cranes due to construction ramping up
  - Rapid obsolescence raises spare parts (and extended BI) issues

Alternative / Renewable Energy Insurance Market Update

Scott Sink
Senior Executive Vice President
McGriff Seibels & Williams, Inc.

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Renewable Markets
Property

- GCube – 100% Lloyd's
- AEGIS
- Powerguard – Ascot / Arch support
- AIG – "Windsure"
- Renewco (division of Ascot Underwriting Inc.)
- FM Global
- Swiss Re
- Munich Re

Alternative / Renewable Market Update

Property – points of note

- Project underwriting elements
  - Location (proximity to NWS / quake)
  - Time period / duration
  - Size of project
  - Technology (i.e., hydrothermal solar vs. PV)
  - Availability of spare parts (suppliers)
  - Contractor selection

Typical Retentions / Limits Structure

- Property
  - Expect staggered deductible structures
    - $50,000 – $250,000 for Property Damage with 2-5% for CAT
    - 15 – 45 days Business Interruption (BI)
  - Limits driven by lenders, corporate property program, or other factors (MFL, MPL studies)
  - CAT exposure / limit will drive the overall premium
  - CAT limit depends on location and willingness to pay for CAT capacity

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Issues Related to Windpower Assets

- Production Tax Credit (PTC) protection
- Turbine technology
- Transportation coverage with turbine supplier
- Property / time element coverage
  - Force majeure
  - Serial failure of component parts
- Contingent business interruption

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Issues Related to Windpower Assets

- Landowner concerns
- EPC and subcontractor surety protection
- Lender requirement compliance
- Permitting and / or licensing delays
- Insurance related hedge protection products and services
- Seamless coverage from construction through operation

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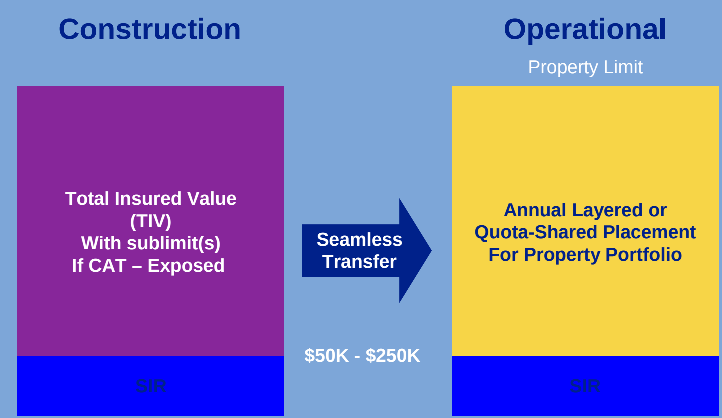
Property Program

Transition from construction to operation is critical



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Casualty

Market overview

- Primary markets
  - Liberty (AEGIS alliance)
  - Chubb
  - ACE
  - Zurich
  - AIU

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Alternative / Renewable Market Update

Excess liability – points of note

- Casualty markets favor renewables compared to typical energy companies
  - No T&D
  - Favorable public outlook
  - Relatively simple project designs
- Lower retentions
- Lower rates
- Low excess liability limits (unless built into larger program)

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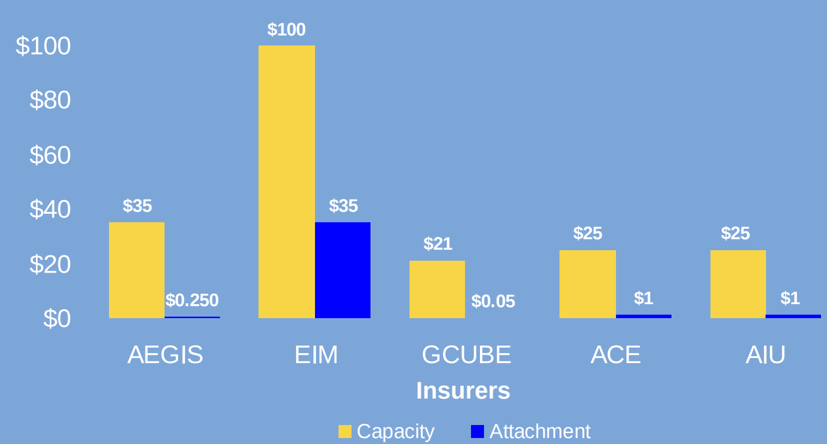
Alternative / Renewable Market Update

Key markets – excess liability
Millions USD



Alternative / Renewable Market Update

Key elements of a successful renewable insurance program

- Selection of correct coverage and limits
  - Often lender-driven
- Firm grasp and use of contractual risk transfer
  - i.e., transferring the liability to the IPP in the case of a utility
- Anticipate claims for successful claims resolution
  - Detailed review of insurance prior to binding
- Because many renewable projects often consist of multiple phases / years, partnering with the right insurers is critical

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GCube Insurance Services

Patrick Stumbras

Senior Vice President

GCube Insurance Services Inc.

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GCube

Who we are, what we do

- GCube is an underwriting agency that specializes in renewable energy business. The group underwrites on behalf of a consortium of Lloyds Syndicates, which includes AEGIS Energy Syndicate 1225.

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GCube

Who we are, what we do

- We underwrite six different renewable energy classes
  - Wind projects
  - Solar projects
  - Small scale hydro projects
  - Bio-fuels (ethanol and bio-diesel)
  - Wave projects
  - Tidal projects

GCube

Who we are, what we do

- Offer a single policy that covers all phases of a project's life: marine transit, construction, operational all risks, time element (ALOP, MDSU)
- Policy form is designed to wrap around warranties of the equipment manufacturers. This ensures no duplication of cover, and more importantly, no gaps, especially with respect to defects and time element cover.
- The majority of our portfolio is wind. The second largest class underwritten is solar.

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Who we are, what we do

- We have been involved in wind for nearly 20 years - as such we bring a unique blend of industry experience in the following areas
  - Claims adjusting
  - Loss control
  - Repair services

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Our partnership with AEGIS

- AEGIS 1225 currently participates on our property program and has a large percentage share of the entire portfolio
- In addition to the property business we also write a large liability / casualty portfolio in the US. We write primarily on behalf of AEGIS 1225 with reinsurance support from AEGIS Mutual. Together they provide 100% of our underwriting capital.

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Emerging alternative energy risks

- Catastrophic exposures
  - Gulf of Mexico windstorm
  - Solar in wind-exposed locations
  - Solar in hail-prone locations

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Emerging alternative energy risks

- Offshore wind
  - Additional coverage
    - Watercraft
    - Cost of hiring vessels
    - Extra expense
  - Limited historical data
  - Time to repair can be extremely lengthy – weather / time of year major factors
  - Property rates will be 4 to 5 times that of onshore projects

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Emerging alternative energy risks

- Offshore wind
  - Europe loss – almost six months to replace turbine damaged by lightning
  - Satisfying lender requirements will be a major hurdle

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Emerging alternative energy risks

- Contractual issues - historically
  - Past three years have been a 'sellers market'
  - Turbine manufacturers have been able to dictate terms
  - Resulted in warranties reduced from five to two years
  - Availability guarantees reduced from 97% to 95% (in some cases to 90%)

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Emerging alternative energy risks

- Contractual issues – the future
  - Turbine supply is now being freed up
  - Manufacturers not willing to transfer warranties to 'secondary market'
  - Risk is being transferred to insurers

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Emerging alternative energy risks

- Technology
  - Redeployment of turbines to long term storage
  - Potential electrical and electronic component issue post-installation
  - New equipment coming into market attempting to compete with top five manufacturers
  - Top five manufacturers continually changing original design specifications
  - Imperative to stay on top of design changes – lessons learned from the 80's

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Emerging alternative energy risks

- Financial / political support
  - Strong advocacy by Obama administration
  - ITC, cash grant of 30% of project value, PTC extended to 2011
  - The American Recovery and Reinvestment Act has caused considerable uncertainty in the lending community

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Emerging alternative energy risks

- Financial / political support
  - Need to keep a watchful eye on the ‘gold rush’ to cash in on projects while incentives remain. Potential exists to short-cut design or not follow proper construction processes.
  - Streamlined federal siting approval processes likely to be adopted at state and local levels

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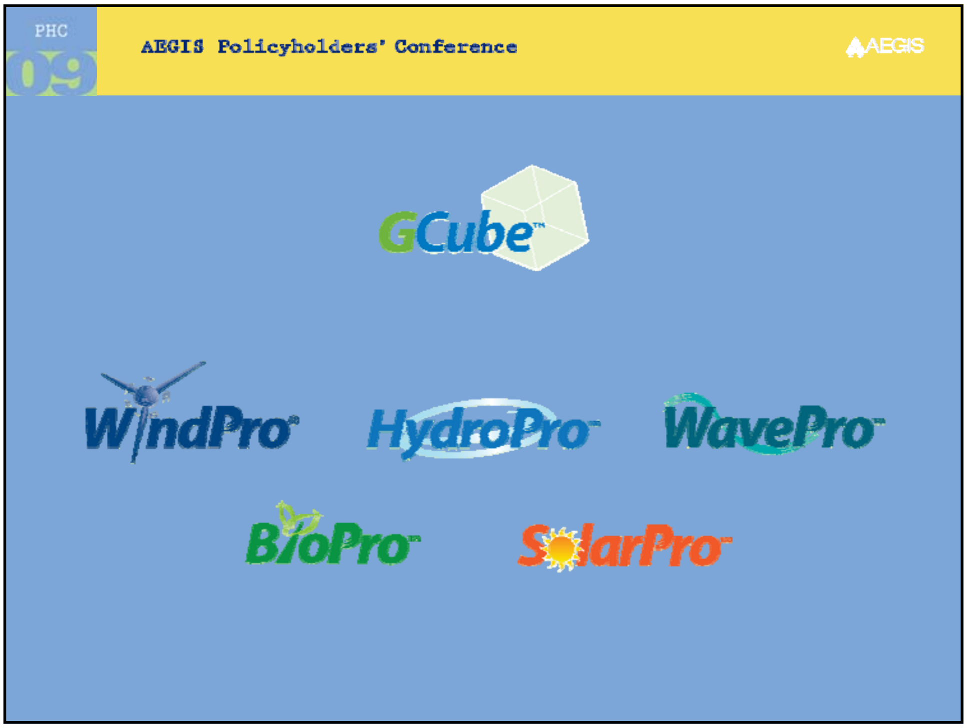
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