Electric Transmission Investment Considerations

Energy Capital Partners
Core Areas of Investing

- Fossil Generation
- Midstream Gas
- Renewable Generation
- Electric Transmission
- Environmental Services
### Private Equity Investments Made Over the Past Five Years

#### FOSSIL POWER GENERATION

- **635 MW combined cycle gas turbine (CCGT)** constructed in Rensselaer, New York. Plant came online in September 2010. ~80% of output hedged through April 2015

- Formed in early 2010 to acquire fossil power generation facilities in the Northeast U.S. Acquired three New England gas-fired power plants (1,244 MW) in May 2010. Milford Power (548 MW) added in January 2011. Recapitalization completed in late January 2011, adding $425 million 7-year term loan (~50% leverage)

- **Odessa Power** 1,000 MW gas-fired power plant located in Odessa, Texas

- **FirstLight** 96 MW new build gas-fired peaking facility located in Southwest Connecticut. Project purchased in 2007 prior to ground breaking. Sold in December 2008 with the FirstLight portfolio. Facility came online in July 2009

- Development team formed to procure 10-year capacity contracts and build gas-fired power plants to support intermittent renewable resources in western U.S.

#### HYDRO POWER GENERATION


#### SOLAR AND RENEWABLE GENERATION

- $5 billion of utility-scale, technology-neutral solar construction projects in the southwest U.S. Pipeline included three signed PPAs (570 MWs); construction began late 2010. Sold to First Solar in July 2010

- Thin-film solar manufacturer in pre-commercial operations stage. Minority investment included valuable below market cost panel purchase option held at NextLight

- Platform formed to acquire and develop baseload renewable (geothermal, biomass, waste-to-energy) and solar assets

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**Note:** Fund II has executed a purchase agreement to acquire Liberty. The transaction is expected to close on or before year end 2011.
### Private Equity Investments Made Over the Past Five Years

#### Electric Transmission
- 500-mile transmission line development project to move wind power from New Mexico to Arizona. Sold ownership position in October 2010 (earn-out associated with future milestones)
- Transmission development platform formed to develop multiple lines, including several dual circuit 500kV transmission lines connecting renewable power to Southern California load centers

#### Transmission Construction and Oilfield Electrical Services
- Roll-up of fragmented transmission construction firms servicing electric utilities. Positioned to capitalize on new transmission projects and upgrades to existing grid. One thousand person team now executing heavy backlog of transmission and storm damage projects as well as hook-ups to remote oil and gas drilling sites

#### Environmental Products and Services
- Activated carbon production facility contracting with utilities to remove mercury emissions from coal-fired power plants. Construction and online operations completed during Energy Capital ownership
- Leading environmental controls, NOx reduction company
- Accumulating portfolio of carbon and renewable energy credits
- $2 billion Illinois coal gasification development project with backing from state legislation supporting above market fixed price gas sales to utilities

#### Energy Efficiency
- Nighttime ice production to shift air conditioning electricity demand from peak periods
Private Equity Investments Made Over the Past Five Years

**NATURAL GAS STORAGE**
$1 billion portfolio of contracted gas storage facilities located in the Southeast U.S. (Louisiana and Mississippi). Two facilities currently operational.

**NATURAL GAS GATHERING**
Formed to acquire and develop midstream infrastructure assets in key production basins and import centers. Developed and constructed DFW Midstream, a 130-mile contracted gas gathering system in Dallas-Fort Worth. Pending acquisition of large contracted gathering system in the west.

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**Power Line Services**

**Investment Thesis**
- Macro trends in the transmission sector will require significant construction work, and as projects get larger, the financial strength of construction firms will become more important.
- $180 billion of proposed transmission projects (connecting remote renewables and upgrades to existing lines).

**Business Units**

**SUN-ELECTRIC**
High-voltage transmission construction and maintenance services for both national utilities and regional cooperatives.

**TESSCO**
Provider of electrical construction and maintenance services to the electric utility and oil and natural gas markets including well electrification.

**AIR2**
Helicopter-assisted construction, maintenance and inspection services to the electric utility industry. Especially useful in storm damage repair.

**ROGER SERVICES INC.**
Provides drilling and installation of large diameter drilled-shaft foundations for a variety of structures.

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Transmission Construction Expenditures for Investor-owned Utilities, 1960-2020
Investment Criteria

<table>
<thead>
<tr>
<th>Rate of Return</th>
<th>Venture Capital</th>
<th>Private Equity</th>
<th>Mezzanine Debt</th>
<th>Infrastructure Equity</th>
<th>Public Equity</th>
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<th>Infrastructure Equity</th>
<th>Public Equity</th>
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<tr>
<td>30%</td>
<td>Early stage, technology risk, greenfield development risk</td>
<td>Defined product, business, and growth plan, positive EBITDA, mature business</td>
<td>12 – 14% debt with equity upside; some current cash flow, asset security, and upside growth potential</td>
<td>Highly certain and contracted operating cash flows</td>
<td>Mature business with seasoned business performance</td>
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Transmission projects aim to evolve from high development risk projects to highly levered contracted or rate based situations

Investment Grade Debt – Secured debt backed by high asset values and cash flows

Investor Sentiment Towards Transmission

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
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<tr>
<td>Regulated rate of return or contracted stability</td>
<td>High development capital needed over a long time horizon with uncertainty to achieve contracted / rate based operating facility</td>
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<tr>
<td>FERC incentive premium returns</td>
<td>Long and uncertain permitting timelines</td>
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<tr>
<td>Return based on imputed capital structure</td>
<td>Barrier to creation of viable independent transmission sector</td>
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<tr>
<td>Sometimes CWIP approval – providing return on capital in pre-operations phase</td>
<td>Playing field tilted in favor of regulated incumbents</td>
</tr>
<tr>
<td>Highly leverageable given operating cash flow stability</td>
<td>ROFR cloud</td>
</tr>
<tr>
<td>Low operating risk and minimal maintenance capital expenditures</td>
<td>Uncertain renewable development projects add great risks to transmission development</td>
</tr>
<tr>
<td>Little commodity price variability or competitive threats</td>
<td>Unclear federal / state regulatory approval / cost allocation policies</td>
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<td>High growth from renewable hook-ups</td>
<td>Introduces delays and high project failure risks</td>
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<td>Texas CREZ spend is large and predictable</td>
<td>Relatively small project equity check for significant development time and resources (those projects that are built can be largely funded with debt)</td>
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<td>Shorter lines with shorter development time have less capital required</td>
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Would Common Renewable / Transmission Ownership Model Alleviate Development Uncertainty?

- Hard to finance transmission line with no locked-in revenue source
  - True merchant projects would be built in areas with congestion, but if the line is large enough to clear congestion, the project’s economics erode themselves
  - From a societal perspective, it makes sense to build a large enough line to clear congestion, therefore the regulated rate of return model is needed to incentivize development

- Hard to develop a renewable project if no transmission line is certain to be developed

- Project finance banks want to see certainty on both sides of the transmission/renewable development

- A joint development project may reduce costs, risks, and project uncertainty

Do We Need Independent Transmission?

- Are there parallels and lessons from the creation of the “IPP” power generation sector?

- Do regulated utilities and RTO / ISOs have sufficient checks and balances in place to ensure the most cost-effective transmission project?
  - Would competition have reduced the $15 million / mile cost of SDG&E’s Sunrise Powerlink project?
  - What is FERC’s role in protecting ratepayers and the economic effectiveness of transmission?

- Is there sufficient validity in reliability concerns to advantage regulated utility ownership, or is transmission more like power generation where a competitive model can select low cost ownership?

- What are the lessons from the Texas CREZ process of awarding lines?
  - Competitive process to award the development of the new lines – lowest cost, best proposals selected
  - Comprehensive transmission plan which enables renewable development
  - Texas CREZ is a better model than the large generator interconnection model that is currently being used in California
## Cost Allocation Issues – The “Who Pays?” Conundrum

<table>
<thead>
<tr>
<th>User Pay</th>
<th>Spreading Costs Across Entire System</th>
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<tbody>
<tr>
<td>• How do we tag electrons and account for who actually benefits from a new line?</td>
<td>• Why should a customer pay for power being shipped out of state?</td>
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<tr>
<td>• A line paid for solely by renewable generation has not reached financial close, however, many are under development</td>
<td>• FERC Order 1000 seemed to do little to give definition and guidance on how benefits and cost allocations are determined and applied</td>
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<tr>
<td>• Non-utility independent transmission developers are working on multi-state lines to ship renewable energy</td>
<td>• Strong economic pull to generate the cheapest resource irrespective of state lines; California surrounded by attractive out of state renewable resources</td>
</tr>
<tr>
<td>• Merchant: Very few true merchant transmission options. GE Linden VFT is one example</td>
<td>• Is it a viable model, or is a regulated rate of return rate base model easier to administer?</td>
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<td></td>
<td>• Utilities are sticking with rate base model to spread costs to RTO / ISO or retail ratepayer</td>
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<td>• Neptune offers an example of independent transmission paid for by a long-term utility contract (LIPA)</td>
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