



Opportunities & Challenges Private Equity in North America

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Dramatic Changes in Generation Ownership

Federal regulation aimed at fostering competitive wholesale power markets created \$25B+ secondary market and \$50B+ primary market

1996

Utility Generation: 706,111 MW (98%)
IPP Generation: 12,964 MW (2%)



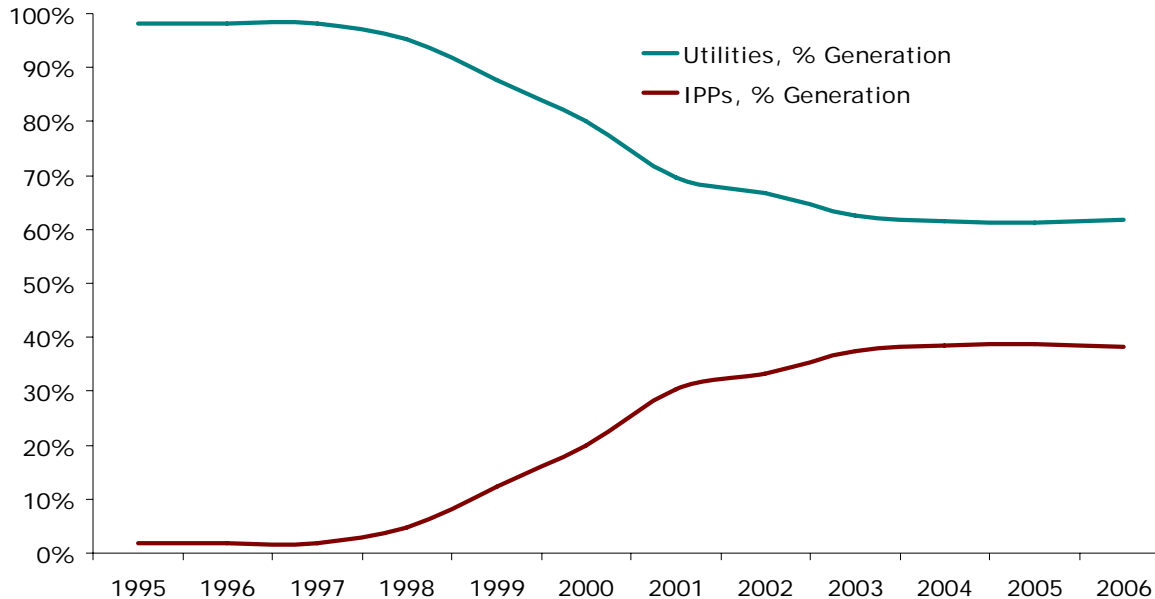
2006

534,000 MW (53%)
469,000 MW (47%)



2008+

(50%)
(50%)



Source: EIA



Robust Secondary Market For Utilities

Utilities: \$37B in 2007 T&D: \$5.5B in last twelve months

Date	Acquiror	Target	Purchase Price	Transaction Value
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M&A - Integrated Electric Companies

10/26/2007	Macquarie & Consortium	Puget Energy	\$3,200	\$6,600
2/26/2007	KKR & TPG	TXU Corp.	\$32,000	\$44,900
2/7/2008	Great Plains	Aquila	\$1,700	\$1,760

M&A - T&D Companies

2/15/2008	Unitil Corp.	Northern Utilities & Granite State Gas T	\$160	\$160
1/14/2008	PNM Resources	Cap Rock Holding Company	\$203	\$203
10/31/2007	AEI	Chilquinta Energia & Luz del Sur (PSEG)	\$685	\$885
9/17/2007	Statkraft Norfund Power Invest	Electroandes (PSEG)	\$284	\$390
6/25/2007	Iberdola	Energy East Corp.	\$4,530	\$8,133

Source: JP Morgan



Active Trades Of IPP Generation Plants

Coal: \$1B in last twelve months

Nat Gas: CCGT \$4B in last five months; CT 3GW = est \$1B in last six months

Date	Seller	Acquiror	Asset Description	MW	Transaction Size
Generation - Coal					
5/8/2008	GE	J-Power USA Investment	Birchwood	120	NA
12/31/2007	Dynegy / LS Power	John Hancock	Plum Point	125	\$82
7/26/2007	National Power Corp.	AES Corporation	Masinloc	607	\$930
Generation - Combined Cycle (Gas)					
5/12/2008	Complete Energy Holdings	GSC Investment Corp.	Batesville	837	\$400
5/12/2008	Complete Energy Holdings	GSC Investment Corp.	La Paloma	1,022	\$900
4/21/2008	Reliant Energy	Sierra Pacific / Nevada Power	Big Horn	688	\$500
4/18/2008	NiSource	BP Alternative Energy	Whiting Clean Energy's plant	639	\$210
4/10/2008	Tenaska	Wabash Valley	Holland Energy	702	\$383
4/3/2008	Cogentrix	Tennessee Valley Authority	Southaven	904	\$461
3/4/2008	Competitive Power Ventures	Dominion	CPV Warren	610	NA
2/20/2008	TransAlta	Intergen	Plants in Mexico	511	\$304
1/28/2008	Calpine	First Energy	Fremont	707	\$404
1/21/2008	Kelson	OG&E and Consortium	Redbud Energy	1,230	\$852
Generation - Combustion Turbine (Gas)					
5/12/2008	Warburg Pincus & Tenaska	International Power	APT Generation	1,857	\$856
2/14/2008	Duke Energy	Tennessee Valley Authority	Brownsville	460	\$55
12/10/2007	Sumas Generation	Puget Sound	Sumas Energy 1	125	NA
12/17/2007	Tenaska	Tyr Energy	Chesapeake Generating Station	315	NA
11/12/2007	LS Power	Arcapita	Bosque County plant	549	NA

Source: JP Morgan



Accelerating Activity In Alternatives

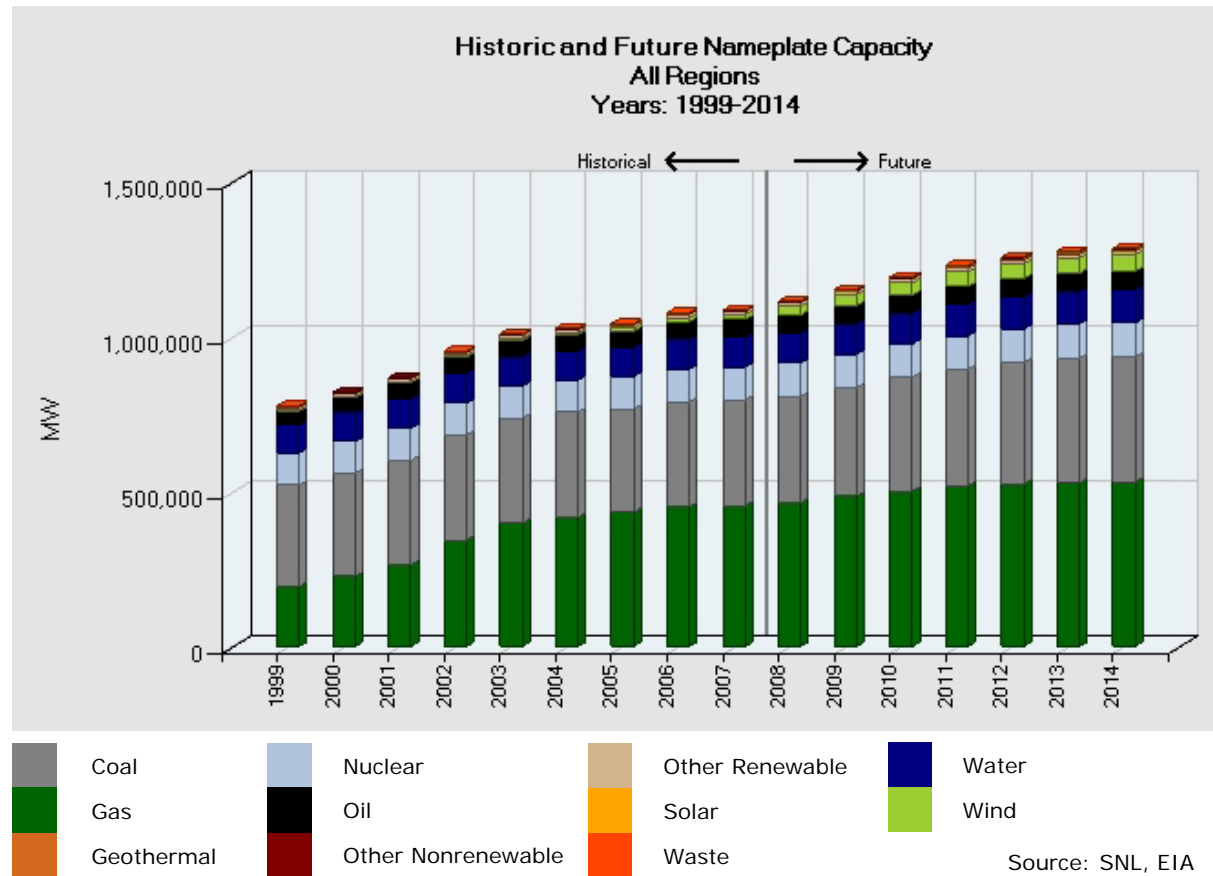
Date	Seller	Acquiror	Asset Description	MW	Transaction Size
Generation - Bundled Fuels					
4/30/2008	Black Hills	IIF BH Investment and Hastings	Portfolio of cogen plants	974	\$840
4/16/2008	Goodland Energy Resources	Energy Holdings Limited	Coal and waste fuel	25	\$42
4/15/2008	GE	Maxim Power	Pittsfield Generating Co	160	\$53
3/31/2008	National Grid	TransCanada	Ravenswood	2,480	\$2,800
12/10/2007	ConEd	North American Energy Alliance	1706 MW portfolio	1,706	\$1,477
Generation - Cogen					
3/26/2008	Williams Co	Lakeside Energy	Hazleton	172	NA
2/24/2008	Reliant Energy	Kelson Holdings	Channelview	918	\$468
Generation - Nuclear					
11/29/2007	Energy Alberta Corp	Bruce Power	Development opportunity	2,200	NA
Generation - Hydro					
12/21/2007	NRG	Brookfield Power	Itiquira Energetica (Brazil)	156	\$288
Generation - Wind					
4/22/2008	Wind Capital Group	Alliant's Wisconsin Power & Light	Bent Tree	400	NA
4/18/2008	Creststreet	FPL	Mount Copper	85	\$122
4/9/2008	Chermac Energy	Clear Wind Renewable Power	Portfolio	320	NA
3/26/2008	Creststreet	Enmax	Kettles Hill	63	\$163
3/14/2008	National Wind	Integrus	High Country Wind	150	NA
2/6/2008	Iowa Winds	Alliant's Interstate Power & Light	Whispering Willow	300	NA
1/24/2008	BP Alternative Energy	Dominion	Fowler Ridge	325	NA
1/22/2008	Distribution Generation Systems	Mass. Municipal Wholesale Electric	Berkshire Wind	15	\$4
1/15/2008	Gamesa Energia	Babcock	Portfolio	NA	NA
1/8/2008	Horizon Wind Energy	GE	Portfolio	600	\$600
Generation - Other Alternative					
4/11/2008	Sierra Pacific	Renegy	Biomass	20	\$13
4/10/2008	Undisclosed	Renegy	Biomass	18	\$5
4/9/2008	Undisclosed	US Power Fund & Enpower	Landfill gas	20	NA
4/1/2008	Empire Geothermal	US Geothermal	Geothermal	4	\$17

Source: JP Morgan

Primary Market Is 2007+ Story

Drivers: steady population, economic and demand growth; technology and fuel obsolescence; RENEWABLES

- ◆ 16,680 MW of new generation proposed in the U.S. during last twelve months
- ◆ 275 new generators producing 13,152 MW of nameplate capacity added since 2006, of which 72% were natural gas fired plants and 22% were renewables





Huge Investment Opportunity

Over \$237 billion of estimated energy infrastructure investment in U.S. over the next 3 years = ~ 10% of current generation base

Power Plants



Year	Total Announced Capacity (MW)	Total Construction Capacity (MW)	Total Planned Capacity (MW)	Estimated Construction Cost (\$000)	% of Total Planned Capacity (MW)
2008	13,242	14,068	27,310	32,804,258	8.75
2009	19,172	17,905	37,077	145,681,199	11.88
2010	28,646	11,735	40,381	51,988,846	12.94
2010 +	193,250	14,117	207,367	337,269,924	66.44
Total	254,310	57,825	312,135	567,744,227	

Transmission Projects



Completed	Projects	Total Announced Miles	Total Under Construction Miles	Total Planned Miles	Estimated Construction Cost (\$000)
2008	27	630	751	1,380	1,319,785
2009	25	659	44	703	1,442,000
2010	23	1,719	262	1,981	4,074,000
2011	13	737	25	762	2,962,260
2011 +	44	8,343	-	8,343	19,728,099
Total	132	12,087	1,081	13,169	29,526,144

Source: SNL



Private Equity Firms - Active Participants



Select New Build Under Construction or Recently Operational

Company	Plant	Status	Net Summer Capacity (MW) / Investment
Natural Gas			
Florida Power & Light	West County Energy Center	Under Construction	4,092
Arclight	Hobbs Generating Station	Under Construction	550
Starwood Energy Group	Starwood - Midway	Under Construction	120
Geothermal			
Ormat Technologies	Brawley Project	Under Construction	50
EIF	EIF Hot Sulphur Springs	Under Construction	32
Nuclear			
Tennessee Valley Authority	Watts Bar Nuclear	Operating / Repowering	1,270
Solar			
Epuron	Exelon - Epuron Solar Energy Center	Under Construction	3
Acciona	Nevada Solar One	Operating (June 2007)	64
Wind			
Clipper Windpower	Eclipse Wind Farm	Under Construction	200
BP / Dominion	Fowler Ridge Wind Farm	Under Construction	750
Transmission Projects			
Commonwealth Edison	West Loop Project	Under Construction	345 kV, \$345m
Starwood Energy Group / EIF	Neptune Regional Transmission System	Operational (July 2007)	500 kV, \$600m

Source: SNL

Renewable Energy is Gaining Momentum

State Renewable Portfolio Standard (RPS) requirements mandate significant new development

Annual Demand Growth Rate*	Renewable New Build as a % of Total New Generation
1.00%	49.96%
2.00%	36.89%
3.00%	30.45%

* Demand Growth Rate Sensitivity assumes an annual 1% decrease in supply without new build



Source: Starwood

Utilities Need IPPs And Private Equity

Utilities are seeking new renewable generation at rate of 5 GW per annum; IPPs already own 64% of renewables

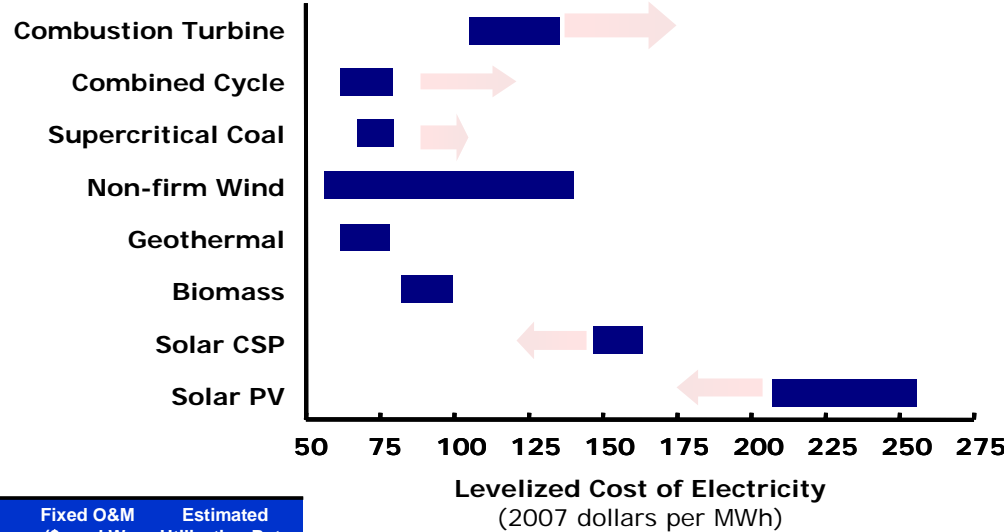
Recent Renewable Requests for Proposal

Date	Utility	Resource	Size
6/5/2008	Arizona Public Service	Renewable	> 35,000 MWH
5/28/2008	Columbus Southern Power	Renewable	300 MW
5/16/2008	Pacific Gas & Electric	GHG Reduction Projects	--
5/2/2008	Seminole Electric Coop	Renewable	250 MW
4/22/2008	Long Island Power Authority	Solar Photovoltaic	50 MW
4/18/2008	Southwestern Electric Power	Renewable	65 - 100 MW
4/15/2008	East Kentucky Power Coop	Renewable	200 - 300 MW
4/11/2008	Detroit Edison	Renewable	25,000 - 50,000 RECs
4/10/2008	Modesto Irrigation District	Renewable	150 MW
4/1/2008	American Electric Power (Ohio)	Renewable	100 MW
3/13/2008	Southern California Edison	Renewable	Unspecified
3/10/2008	San Diego Gas & Electric	Renewable	Unspecified
2/29/2008	Commonwealth Edison	Renewable	796,040 MWH
2/29/2008	Pacific Gas & Electric	Renewable	Unspecified
2/14/2008	Delmarva Power & Light	Wind	300 MW
1/31/2008	PacifiCorp	Renewable	200 MW
1/22/2008	Idaho Power	Geothermal	50 - 100 MW
1/21/2008	El Paso Electric	Renewable	Unspecified
1/11/2008	Xcel / Public Service of Colorado	Solar	25 MW



Renewable Gen Is Becoming Competitive

Renewable generation production costs are approaching conventional fuels ...



Source: CERA

	Capital Cost (\$ per kW)	Heat Rate (Btu/kWh)	Variable Production Cost (\$/MWh)	Fixed O&M (\$ per kW-year)	Estimated Utilization Rate (percent)
Conventional Generation Options					
Combustion Turbine	500-600	10,500	67	14	15
Combined Cycle	800-1000	7,000	44	24	85
Supercritical Coal	2,300-3,000	8,900	17	68	85
Renewable Generation Options					
Wind	1,900-2,000	NA	NA	49	20-40
Geothermal	3,500-4,500	NA	15	70	80
Biomass	2,500-3,500	12,500	35	100	85
Solar—Photovoltaic	5,200-6,500	NA	NA	30	27
Solar—Concentrating	3,750-4,250	NA	NA	55	30

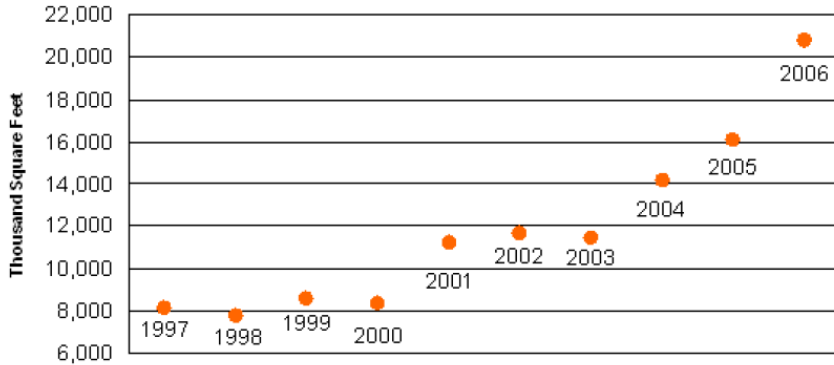
Source: CERA



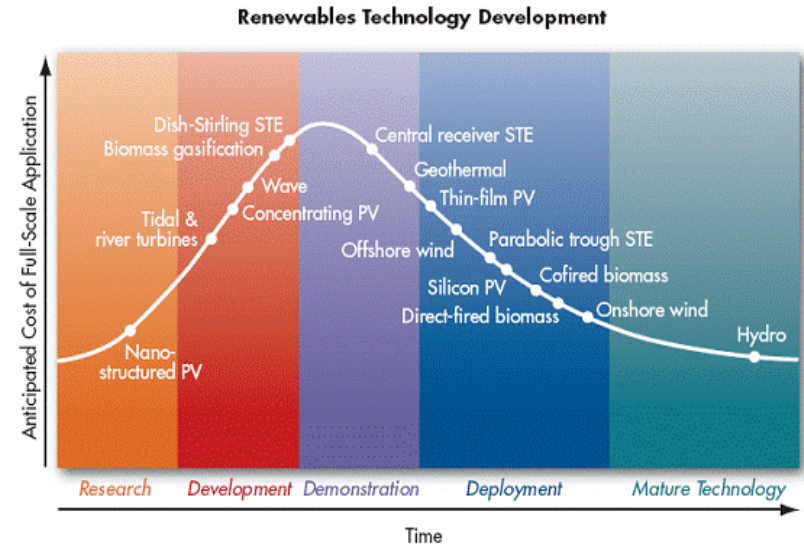
Technological Innovation

technological innovation and maturity continues to drive down costs

Figure F1. Total Solar Thermal Collector Shipments, 1997-2006



Source: Energy Information Administration, Form EIA-63A, "Annual Solar Thermal Collector Manufacturers Survey."



Source: NREL



So, What Are The Risk?

- Regulatory/policy risk at both Federal and State level
 - Carbon
 - Tax Incentives
 - Market design
- Effective risk management
 - Development
 - Operational
 - Energy commodity
- Exit – how and to whom do I exit?