June 2013

# Financing Combined Heat & Power

CHP Opportunities & Incentives in Massachusetts Conference



### Municipal Alternative Energy Franchise

Citi's energy efficiency and renewable structuring expertise spans a variety of transaction structures, legislative parameters and sectors

#### **Structures**

- Citi will structure transactions as:
  - Power Purchase Agreements
  - Leases
  - Partnership Flips
  - Traditional Municipal Ownership

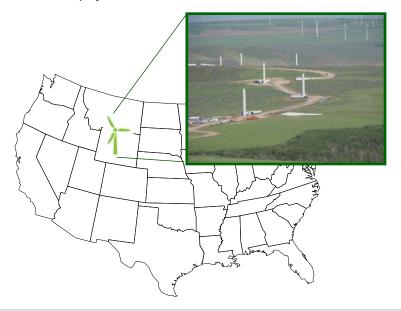
#### **Citi Deal Experience**

<b>L'AMPS</b>	Equity & debt investor in UAMPS's 57MW wind farm
SMUD	Equity investor in SMUD's 128MW CA wind farm
NELLIS	Equity investor in Nellis AFB's 14MW solar project
	Structured/equity investor in LACCD's 7MW distributed solar project
	Structuring advice / equity investor in Somerset NJ's 31 site solar project
KAISER PERMANENTE	Structuring advice / equity investor in Kaiser Permanente's 15MW distributed solar project
Energize Delaware	Priced and closed the SEU's inaugural \$67mm energy efficiency revenue bond

### Citi Case Study: Utah Associated Municipal Power System

Off-Take:	UAMPS	
MW Capacity:	57.6 MW	
Structure:	Prepaid PPA	
Technology	<b>Utility Wind</b>	
Project Size:	32 Turbines	

- UAMPS makes prepayment for 65% of the capital cost of the project by issuing tax-exempt bonds
- No upfront capital expenditure
- UAMPS will hedge future energy prices in a fixed 20-year contract with a fixed price purchase option at 6 and 10 years
- Facilities are owned by Citi, with 100% of off-take to UAMPS on a take-or-pay basis. Involvement of 25 cities





### **CHP Financing Structures**

There are three basic financing structures that can be applied to CHP projects: (i) Municipal self-financed; (ii) Lease; and (iii) PPA. Each approach has pros and cons to consider

Description	<b>Municipal Owned</b>	Lease	PPA
Financing Structure	Tax-Exempt Debt	Sponsor Equity 3 <sup>rd</sup> Party Taxable Debt	Sponsor Equity Tax Equity  3rd Party Debt / Municipal Prepayment
Leverage	No	Yes	Yes
Municipal Ownership	Yes	Subject to FMV buy-out option	Subject to FMV buy-out option
Municipal Financing	Yes	No	Potential, if prepayment
Municipal Control of Project	High	Medium	Low
Transparency	High	Medium	Low
Tax Benefit Monetization	No	Yes	Yes



## **Comparison of Financing Options**

CHP projects have the option of accessing the tax-exempt or traditional taxable debt markets for financing with each structure having various benefits and considerations

	Non-Profit Tax-Exempt Financing	Traditional Taxable Financing
	Project utilizing an administrative non-profit with tax- exempt debt	Traditional project financing - long-term financing with taxable debt and equity
Description	Tax-Exempt Sr. Debt Non-Profit Entity PPA Pmts Offtaker	Tax-Exempt Service Sr. Debt  ITC & Depreciation Sponsor Equity  PPA Pmts Offtaker  Offtaker
	▲ Lower permanent cost of capital	▼ Higher permanent cost of capital
Benefits / Considerations	<ul> <li>▲ Potential share of excess revenue</li> <li>▼ Cannot monetize depreciation benefits and tax</li> </ul>	<ul><li>✓ Limited, if any, share of excess revenue</li><li>▲ Can monetize depreciation benefits and tax credits</li></ul>
	credits	



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Citi works with its clients in greenhouse gas intensive industries to evaluate emerging risks from climate change and, where appropriate, to mitigate those risks.

efficiency, renewable energy and mitigation

