



Cleveland Public Library

DBOOM Solution for Chilled Water Supply

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Cleveland Public Library – Topics for Discussion

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Ingenuity for life



- Overview of Siemens ‘DBOOM’ Solution
 - ‘DBOOM’
 - Value Proposition
 - Business Model
- Initial Results Comparison to Cleveland Thermal
- Q&A

DBOOM Financing: Addressing Your Objectives



D Siemens collaborates with you to *design* the energy solution

B We *build* and commission the energy solution and validate performance

O Siemens will *invest in and own* title to the asset, *you contract for output from the asset*

O Long-term, Siemens *operates* and has responsibility for performance metrics

M Siemens *maintains* asset(s), ensuring a high level of performance

Value Proposition for Our Cleveland Public Library



No Upfront Capital Investment

- CPL does not pay until DES asset is operational



Investment estimated at \$5.1 M per Osborn Study

Asset Ownership & Operations is Siemens Responsibility

- CPL has no long-term responsibility for O&M resources and expertise—Siemens will implement and operate



CPL avoids ~\$2.5 M in lifecycle O&M costs and uncertainty.

Replace/Offset Existing Utility Bills/Cost

- CPL payment is similar to current Cleveland Thermal bills and simply lowers those bills/ costs



15-year Savings from ~\$1.5 - \$4 M when compared to Cleveland Thermal

Siemens Solution and Alignment – Contract Direct with Siemens

- Siemens provides a complete turnkey + lifecycle solution (Development, Technical, Financial, Performance without seams to CPL including controls integration)



Siemens can utilize tax benefits of ownership to lower cost to CPL

Initial Summary of Lifecycle Savings – Across Scenarios



Scenario Comparisons:	<u>Year 1 CHW Pricing</u>	<u>Year 1 Costs</u>	<u>Average Lifecycle Pricing</u>	<u>Lifecycle Costs</u>
	\$/Ton-Hour	\$'s 000's	\$/Ton-Hour	\$'s 000's
#1: Contract Costs to Cleveland Thermal - Status Quo	0.40	\$846	0.45	\$14,322
#2: Contract Costs to Cleveland Thermal - Future Rate	0.36	\$750	0.41	\$13,045
#3: Contract Costs to Cleveland Thermal+Contribution	0.31	\$654	0.37	\$11,600
Siemens DBOOM Solution	0.23	\$483	0.25	\$7,738
Electric and Utility Costs	0.06	\$130	0.07	\$2,341
Siemens Solution: ALL-IN Cost to CPL	0.29	\$613	0.32	\$10,079
Savings Estimates - Across Scenarios:	<u>Year-1 Savings</u>	<u>Year 1 - \$ Savings</u>	<u>Lifecycle Unit Cost Savings</u>	<u>Lifecycle Savings</u>
	\$/Ton-Hour	\$'s 000's	\$/Ton-Hour	\$'s 000's
Siemens vs. Scenario #1	-0.11	\$233	-0.13	\$4,243
Siemens vs. Scenario #2	-0.07	\$137	-0.09	\$2,966
Siemens vs. Scenario #3	-0.02	\$41	-0.05	\$1,520

15-Year Lifecycle Term

Tax Legislation Incentivizes Clean Energy and Utility Infrastructure Investment

Federal Tax Incentives:

Utility infrastructure (boilers, chillers), Cogeneration and Solar specifically addressed in legislation:

- Year 1 Bonus Depreciation – depreciate entire investment in the first year
- Investment Tax Credits – Tax credit available at completion – 10% for cogeneration, 30% for solar
- Result is ~ 25-50% of investment is paid by federal government in the form of tax savings (IF you are a taxable entity).

Optimal Time: for Tax Exempt customers to collaborate with private sector (taxable) to maximize the tax benefits and solve infrastructure and campus utility infrastructure needs.

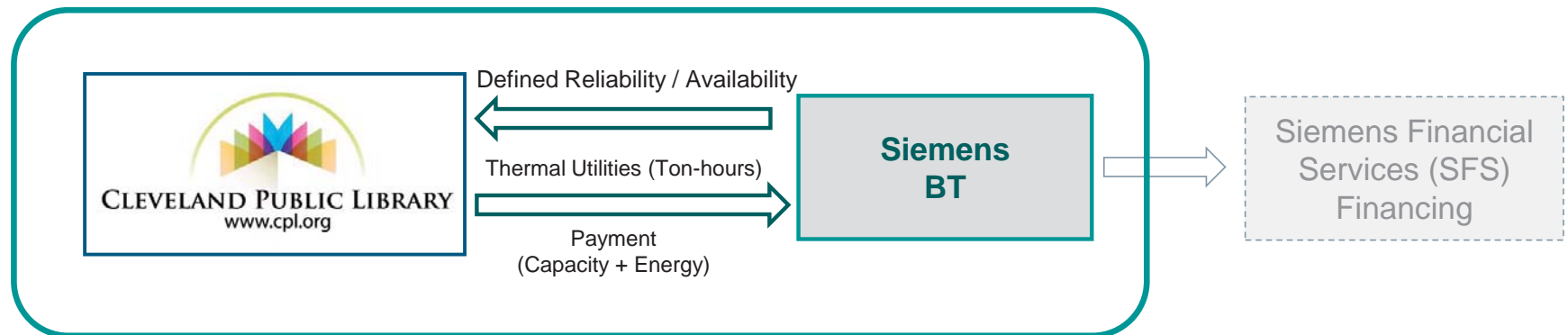
The value is substantial



DBOOM Execution Model: Energy Supply Agreement (ESA) Contract Structure



Entering Into Long-term Services/Delivery Agreement



- **ESA Agreement** (Directly Between Siemens BT and CPL)
 - ESA defines operating performance, O&M obligations, commercial terms, payment obligations, end of term options etc.
 - Siemens BT is Designing, Building, Owning, Operating and Maintaining the Chiller Plant assets
 - Customer is responsible for contracting for electricity and water supply
 - Customer does not have responsibility to pay until asset is operational
 - Site Lease required for premises access and right to build and operate

ESA

DBOOM – Energy as a Service Business Model Can Be Applied to All Distributed Energy Technologies



Combined Heat & Power, Central and/or Distributed Boiler and Chiller Plants,
Solar PV, Battery Storage and/or Micro-grid Solutions

The collage illustrates various distributed energy technologies and their monitoring. It includes photographs of industrial plants, a schematic of a gas turbine system, solar panels, battery storage units, and a Siemens dashboard showing real-time system performance and energy management data.

Financial Innovation: Summary of Key Points



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Back-Up Material

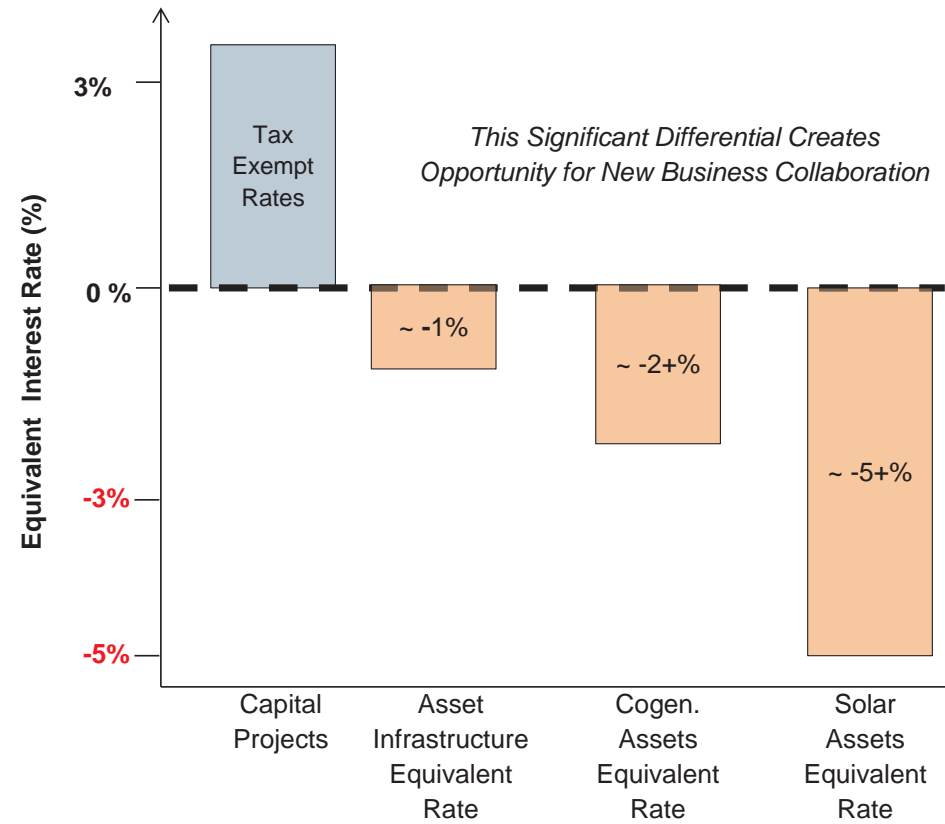
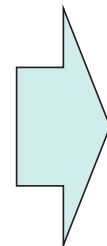
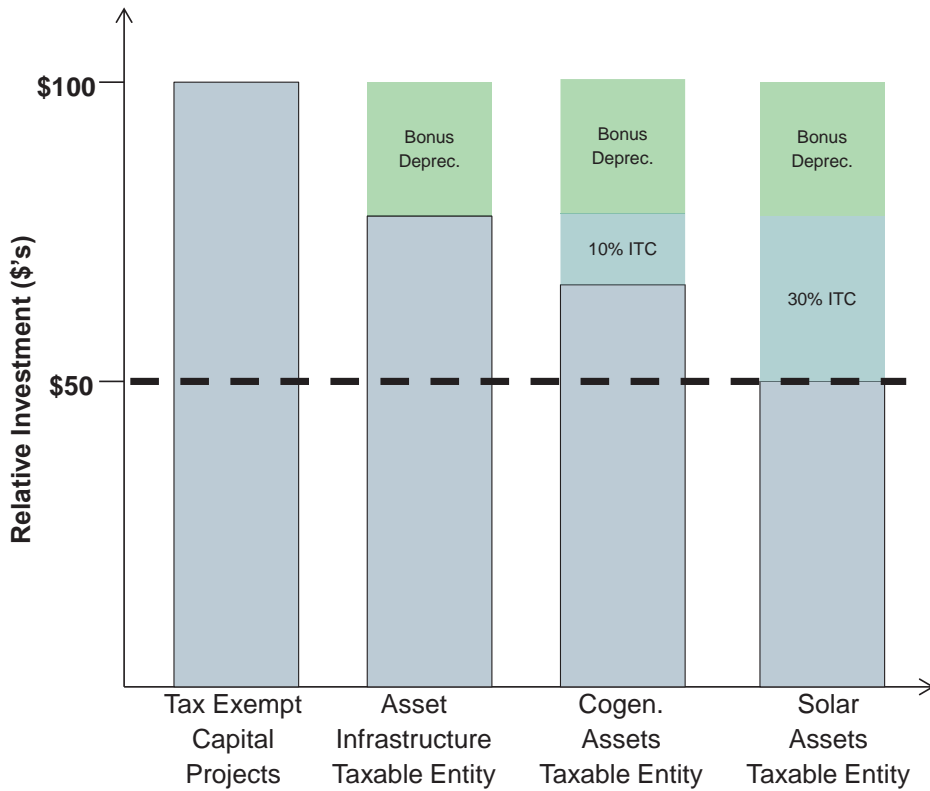
Financial Innovation

Key Risk Ownership – DBOOM Commercial Structure



Project Risks →	Customer Credit	Development	Technical	Construction Execution	Operating Performance	Contractual & Regulatory	Commodity Prices	Force Majeure
Siemens Building Technologies		X	X	X	X	X		X
Typical Risk Profile of Asset Owner w/ Responsibility to Meet Performance Expectations								
Siemens Financial Services	<div style="border: 1px solid orange; padding: 2px; display: inline-block;">X</div> Assuming ESA							
CUSTOMER						X	X	X
Notes			OEM equipment warranties, with Siemens as solution provider – no seams or pointing fingers	Customer does not pay until COD is achieved.	OEM warranties + Insurance supports long-term operating performance	Contract defines any change in law, regulatory changes that impact contract	Owner responsible for fuel and utility input costs, commodity risk	BT secures insurance (property and business interruption) to mitigate risks.

Tax Value Differential – Taxable vs. Tax Exempt



Understanding the customer's goals and requirements allows Siemens to structure the best financial solution



Customer Objectives

- What are the key objectives that are driving the project?
- What metrics define success?
- What timelines or milestones need to be kept to ensure success?
- Who are the key stakeholders and decision makers?



Customer Preferences

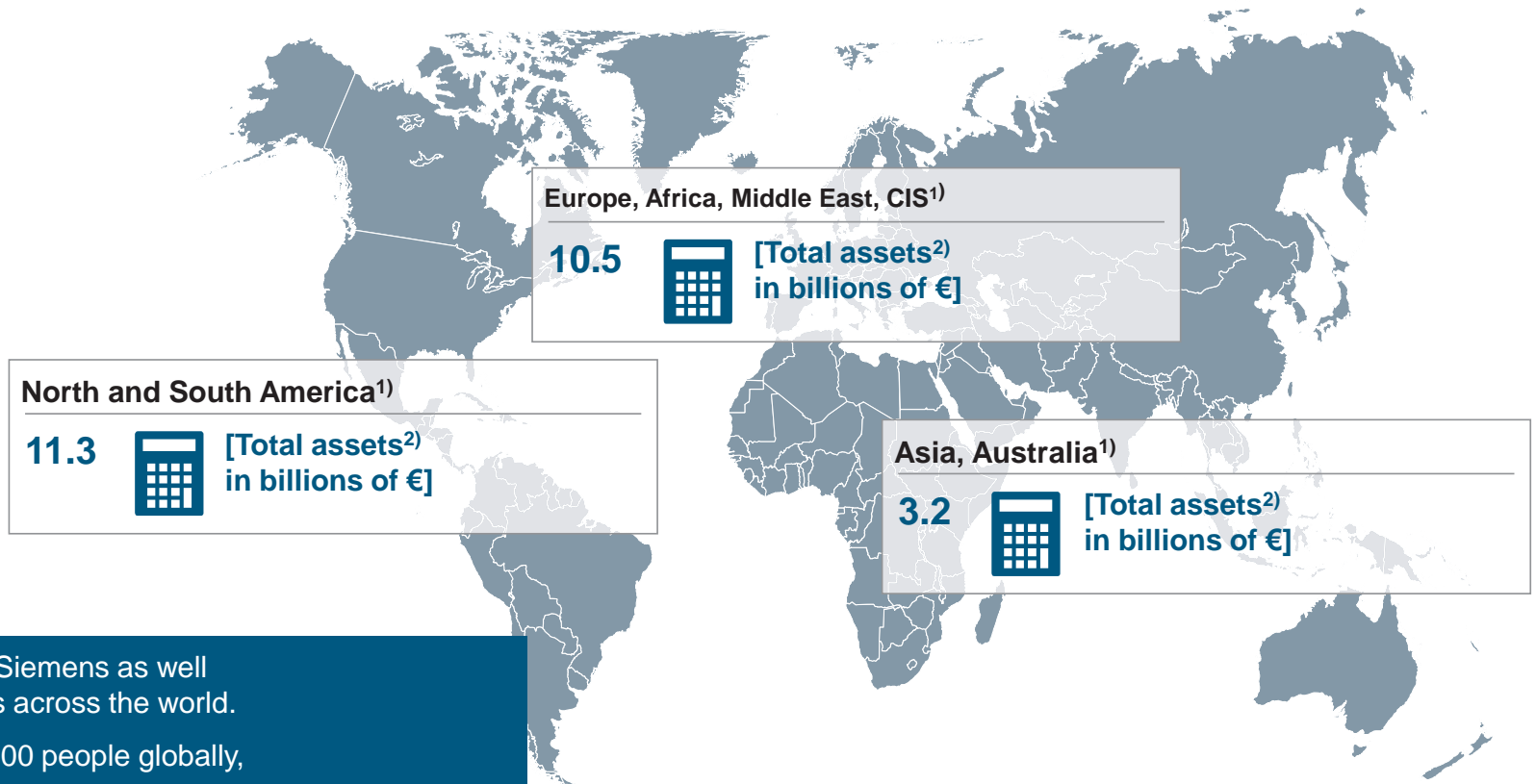
- What contractual structures/relationships have worked in the past?
- Do they apply to the current situation/opportunity?
- Potential Preferences or requirements:
 - Own
 - Operate
 - Outsource
 - Term length preference or limitations (x-years)
 - Retain debt capacity / avoid cash outlay
 - Potential off-Balance sheet treatment



Customer Credit

- What is the specific entity that will serve as counterparty?
- What is the credit rating?
- Are audited financials available?
- What constraints or financial metrics could influence decisions?
- Are there other stakeholders or relevant counterparties that are envisioned in considering financing options?

Siemens Financial Services: Global Presence



SFS provides capital for Siemens as well as for other organizations across the world.
Employing more than 3,100 people globally,

¹⁾ As of September 30, 2015 | ²⁾ Assets reported according to the Customer Domiciles