Data Centers

Attracting Data Centers to Your Market

A Presentation for: ECG serving community-owned utility systems

Presented by: Wendy McArthur, CB Richard Ellis

- Introduction
- Qualify Requirement
- Site Selection
- Cost
- Marketing

INTRODUCTION

Profile

- **WENDY MCARTHUR,** Vice President CB Richard Ellis
  - Assists clients with the acquisition and disposition of data centers
  - A Practice Leader in CB Richard Ellis' Technology Practice Group & Member of AFCOM (Leading Association for Data Center Professionals)
- **CB RICHARD ELLIS (CBRE)**
  - Largest Commercial Real Estate Company in the World
  - Wide array of service lines touching nearly every industry type and support services such as Facilities Management and Project Management
- **TECHNOLOGY PRACTICE GROUP (TPG)**
  - Seasoned CBRE professionals around the world specialize in the data center industry uniting their expertise, relationships and market intelligence in one powerful group – TPG (150 members in 75 Global Markets)

What is a Data Center?

- A physical place that houses a computer network's most critical systems, including back-up power supplies, air conditioning, and security applications.
- Data Centers are about equipment – not people.
- “Bunker” type construction; Power, Fiber & Security are Critical

QUALIFY REQUIREMENT

Partial Checklist of Criteria

- Type of Data Center
  - Primary or Back-up / Disaster Recovery (DR)
  - Desired “Tier” Rating
- What’s Driving the Need for this Data Center – Relo, New, Consolidation, etc.
- Anticipated Power Requirement - Load
- Has a Program been Developed?
- Is a Team in Place?
- How will the Project be Funded?
- What’s the Timing – for Site Selection & for Occupancy?
- Any Preferred Fiber Provider(s)

Tier Ratings

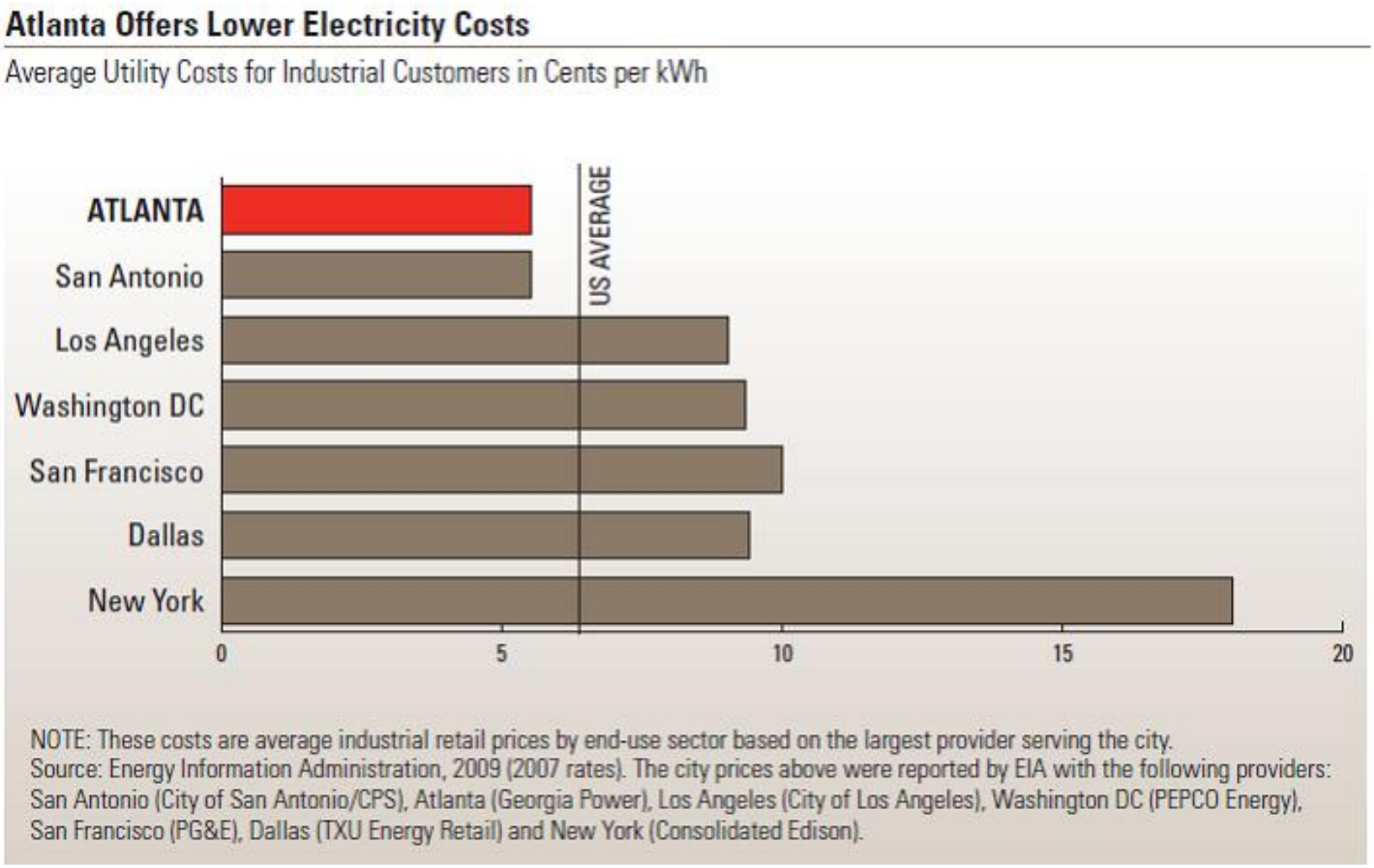
- Created by the Uptime Institute, the Tier Rating System is widely accepted as the de facto industry standard, to provide a consistent means to compare typically unique, customized facilities to each other from the perspective of expected site infrastructure availability, or uptime. The Tier Classification System is a benchmarking system to effectively evaluate data center infrastructure in terms of business requirements for uptime.
- **Tier 1:** Basic Infrastructure – 99.67% Availability
- **Tier 2:** Basic Infrastructure w/ Redundancy – 99.75% Availability
- **Tier 3:** Concurrently Maintainable – 99.98% Availability
- **Tier 4:** Fault Tolerant – 99.999% Availability (The five 9's)

SITE SELECTION
REGION/ CITY

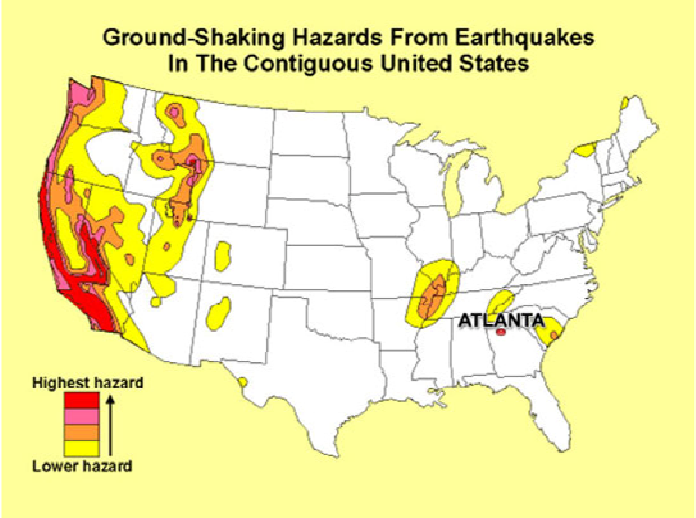
Partial Checklist of Criteria

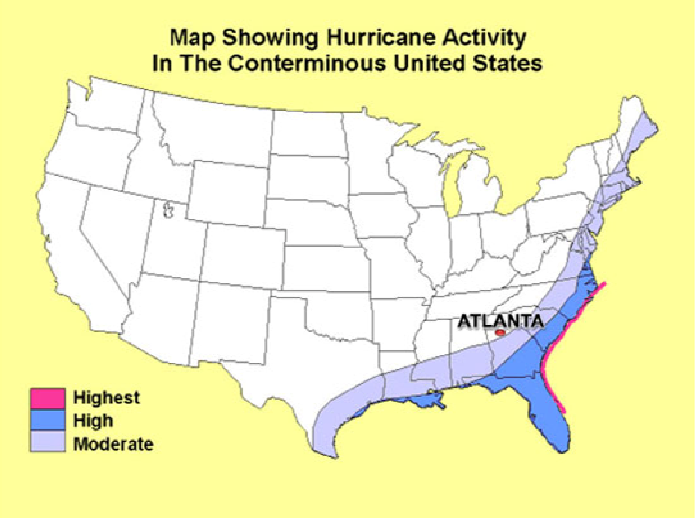
- Cost & Availability of Electricity
- Risk Avoidance – Natural Disasters
- Access to Telecommunication / Fiber
- Real Estate – Availability & Affordability
- Access to City and to Facility
- Access to Technical Labor Pool
- Incentives

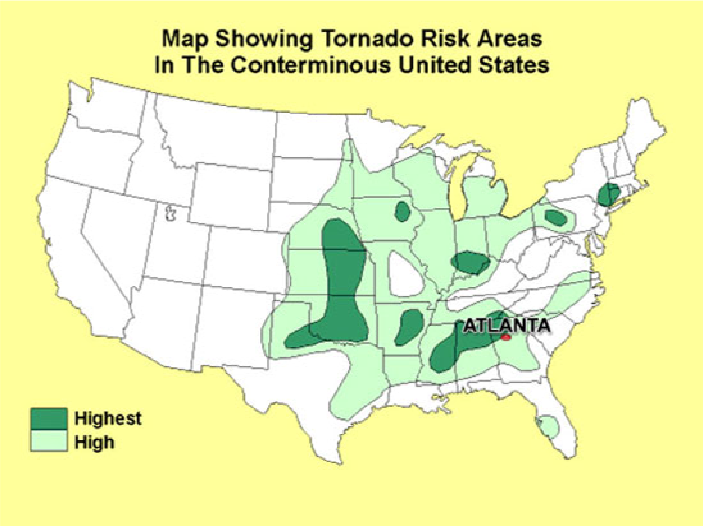
Electric Costs

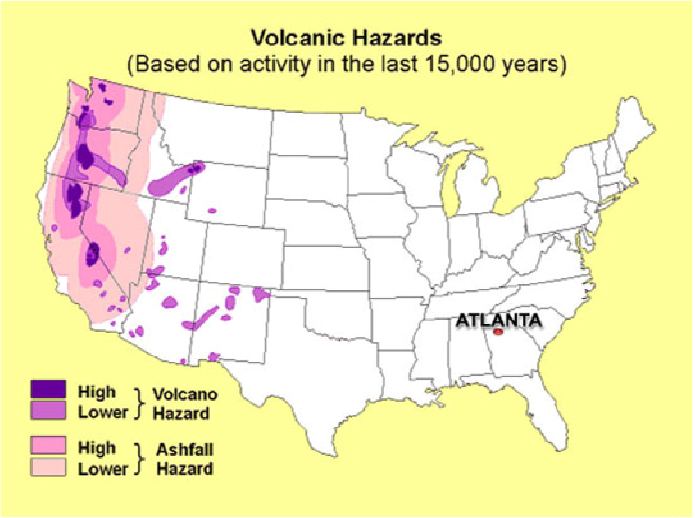


Natural Disaster Maps

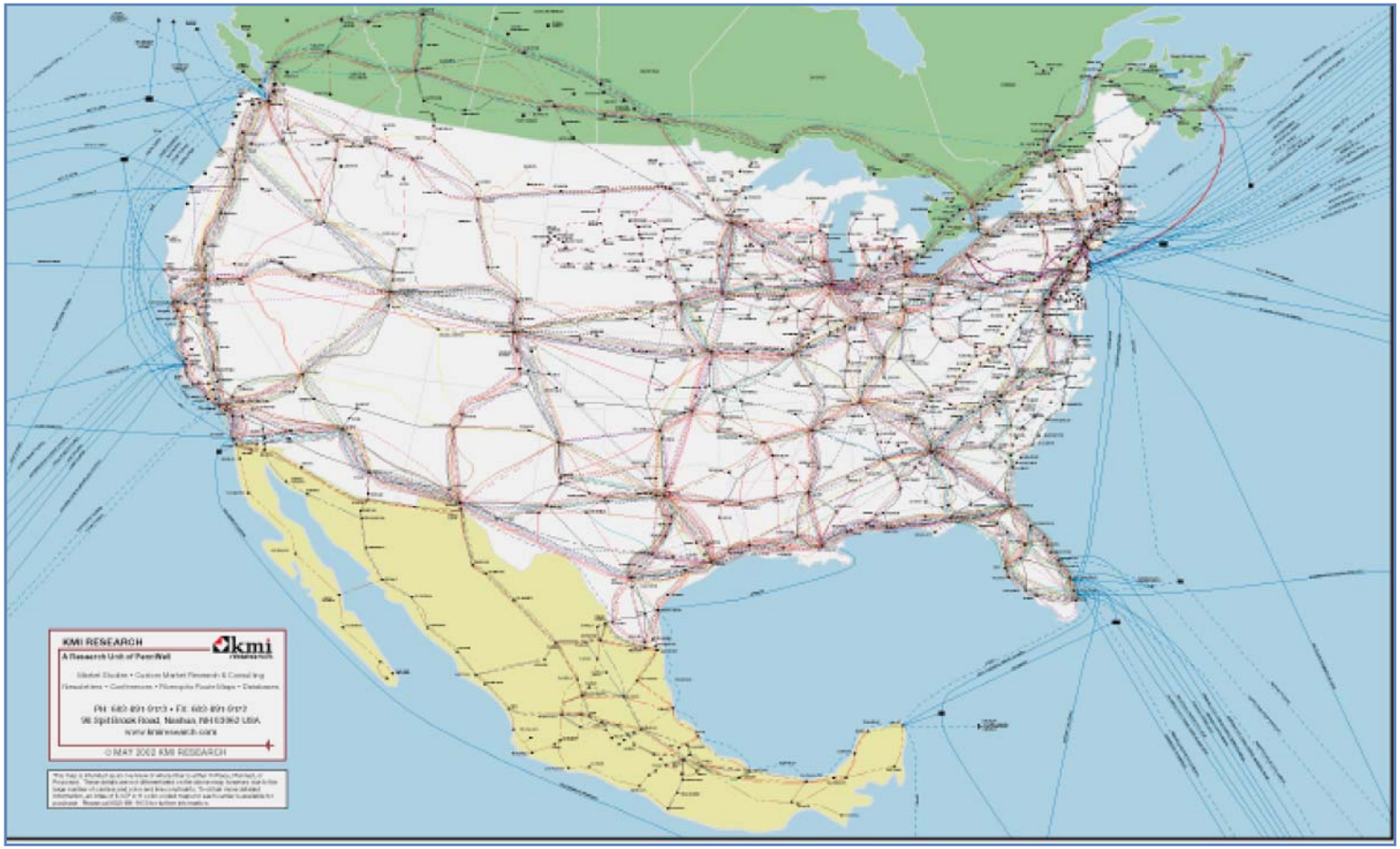








Fiber: North American & Regional Fiber Optic Long-Haul Routes



SITE SELECTON

SITE SPECIFIC

Partial Checklist of Criteria

- Distance to power feed
- Diverse power feeds available
- Distance to fiber path / carriers
- Distance to dark fiber / owner
- Location of nearest Fiber
- Distance to nearest CO / CLEC
- Fiber path to CO / points of vulnerability
- Miles to Airports / flight path
- Distance from hazardous waste
- Any prohibitive environmental conditions (e.g. seismic activity, floods, etc.)?
- Catastrophic explosion risks
- Access to municipal sewer system
- Distance from rail line / type
- Distance to police / fire station
- Area flood plain
- Soil / rock stability
- Local demographics (neighborhood characteristics)
- Local traffic issues / concerns

COST

What Type of Requirement?

- **Lease or Purchase Existing Data Center**
  - Keep apprised of any existing Data Center Inventory
  - Understand the level of infrastructure
- **Convert a Building to a Data Center**
  - Know which buildings have the most potential for conversion – those with some level of Data Center "Centric" attributes (close to substation, access to fiber, bunker type construction, etc.)
  - Have an understanding of Cost to Convert
- **Construct a New Data Center**
  - Know which sites are best located for a Data Center (close to substation, access to fiber, affordably priced, away from freeways and rail lines, etc.)
  - Have an understanding of Cost to Build

Converting a Building to a Data Center

PROPOSED BUDGET ROM	
Electrical Costs: Option A: 100w/sf	$ 5,000,000
Mechanical Costs: Option A: 100w/sf	$ 2,373,160
Building Shell w/ Site Work	$ 4,537,918
Design Fees	$ 2,100,000
Construction Management Fees	$ 445,472
Project Contingency	$ 618,000
All Other Costs & Fees (including Commissioning)	$ 220,000
ROM Budget	$ 15,294,550

Cost of Land.....$3,000,000

Approx Total.....$19,000,000

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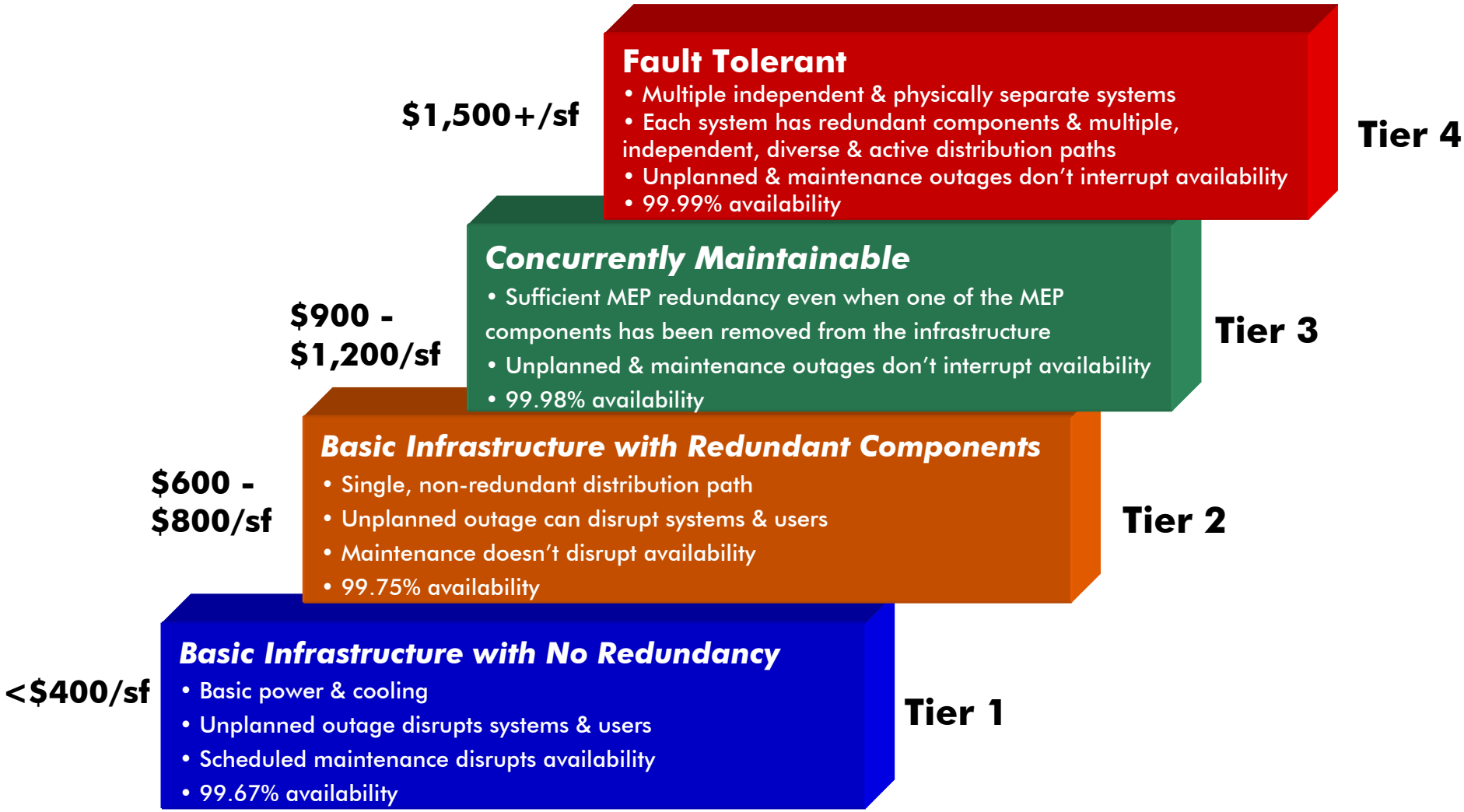
Building a New Data Center – Cost Ranges



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Some of the Data Center Cost Components


Structure


Raised Floor


Electrical


Security


Chilled Water


Fire Suppression


Cooling System


Water Storage


Fuel Storage


Dual Feeds


High Reliability


Generators


UPS System


Cooling Tower


Switch Gear

MARKETING

- **Be Realistic**
  - Do you have the attributes to compete with other markets to attract out-of-market data center users or should you focus locally?
- **Be Prepared**
  - Get Plugged into the data center community. (IT Contacts, Data Center Association, CIO's, Data Center Vendors, etc.)
  - Know your market. (Sites and Owners, Power & Fiber Infrastructure, Vendors, etc.)
  - Develop marketing materials. (Flyer / Brochure, Website, Site Information, etc.)
- **Be Proactive**
  - Reach out to corporations, brokers and vendors. (don't wait on them to find you)
  - Push informative information to prospective data center users. (Industry Trends, Cost Information, etc)

Sample Site Spec Sheet

Criteria	Description / Comment
LOCATION	
Address / Description	Edison Drive / near interstection of GA 400 & Windward Pkwy
County	Fulton County
Accessbility	Accessible via Georgia 400 (state highway)
Natural gas	Yes, Atlanta Gas Light
Water	Yes, Fulton County
Distance from expressway	> than 5 miles from Interstate Highway
Distance from railroad	Greater than 5 miles
Distance from substation	Windward substation - 1.2 miles
General description of area	Corp office / data center environment with mix of retail
Other data centers in the vicinity	Yes
Any bio chemical facilities in the area	greater than 5 miles
Neighbors & uses	McKesson
SITE	
Size / acreage	75 acres
Zoning	
Notable topography characteristics	Significant topograpical characteristics
Ingress / Egress	
Soil	Soil Report
POWER	
Power Company	
Distance from substation	
Served by two substations?	Potential for dual substation feeds
Type of feed (network, loop, etc)	
Underground or overhead service	Underground
Cost of power / rate structure	
Service capacity available	
FIBER	
Fiber Providers	
Dark Fiber	AGL

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Sample Brochures

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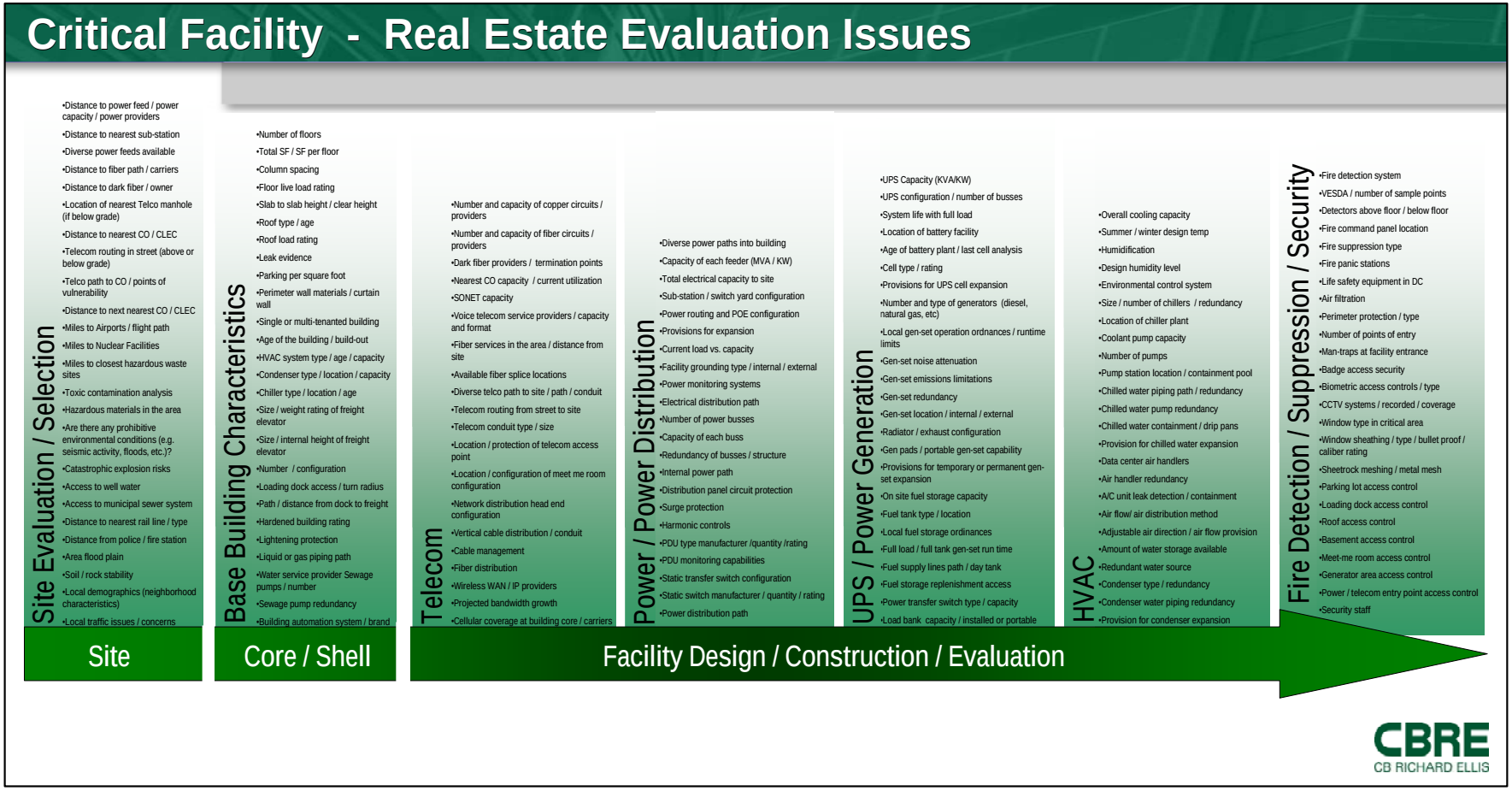
Sample Informative Piece



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Data Center Incentives

March 2010

Data Center Incentives

- **State Incentives**
  - Sales Tax Exemption
  - Job Tax Credits
  - Quality Jobs Tax Credits
  - Retraining Tax Credits
- **Local Incentives**
  - Property Tax Abatements
  - Accelerated Depreciation

Sales Tax Exemption Qualified NAICS

- 334413
- 334611
- 51121
- 51331
- 51333
- 51334
- 51421
- 52232
- 54133
- 54171
- 54172
- 513321
- 513322
- 514191
- 541511
- 541512
- 511513
- 511519

Job Tax Credit

- **Processing - Establishments that are both primarily engaged in providing data processing services and included in NAICS 518210**
- **Job Tax Credit $750 - $3,500 depending on tier level plus joint development authority and/or existing industry bonus if community is eligible**
- **Credits may be used to offset 50% - 100% state corporate income tax liability**

Quality Job Tax Credit

- **Qualifying criteria:**
  - At least 50 net new jobs
  - Each job paying at least 110% of county average wage
  - 50 jobs must be created within 12 months of first qualified job
- **Based on percent paid above average county wage**
- **Tax credit first used to offset 100% state corporate income tax. Remaining credits may be applied against payroll withholding.**

Retraining Tax Credit

- Data centers are an eligible business for the credit
- Up to $1,250 annually
- $500 maximum for a single training program
- Significant training

Local Incentives

- **Real and Personal Property Tax Abatements**
  - Typically done through a bond issue
  - How to incorporate future computer expenses
- **Accelerated Depreciation**
  - Equipment becomes obsolete quickly
  - Used 24 - 7 - 365

Data Center Incentives

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