Performance Contracting for Energy Services in the Caribbean Hotel Industry

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Agenda

- Energy Use in the Caribbean Hotel Sector
- Characteristics of the Caribbean Hotel Market for Energy Products and Services
- Profile of the ESCO Industry (North America)
- Outlook for Performance Contracting in the Caribbean Hotel Sector
- Conclusions and Next Steps

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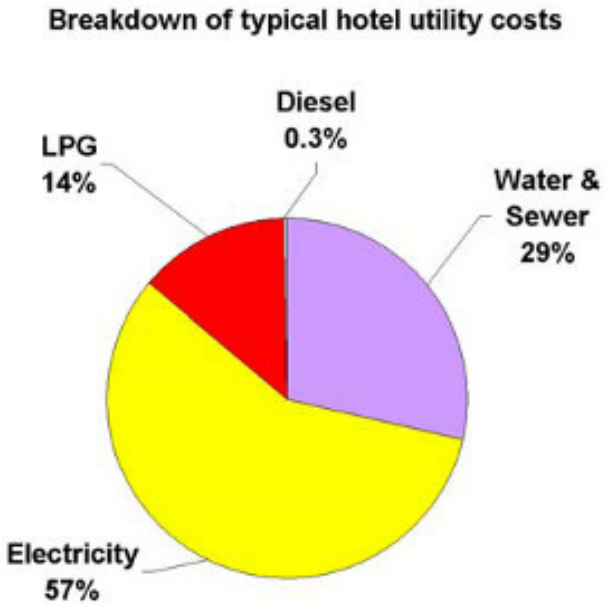
Hotels and Electric Utilities in the Caribbean

Hotels depend on electric utilities:

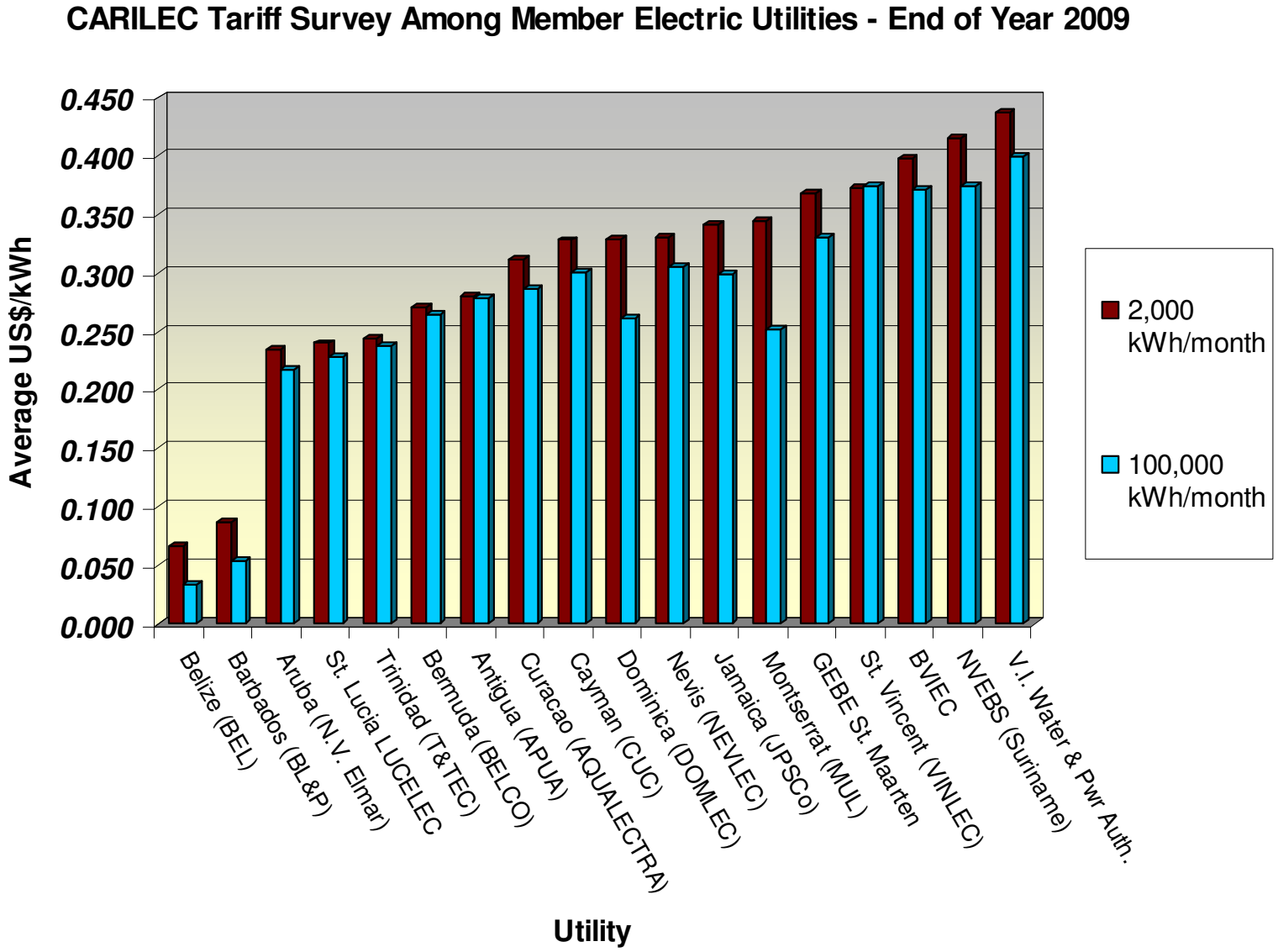
Utility (electricity and water) costs can make up to 10-20% of the hotel's operating costs, with electricity representing up to 70% of energy costs



But, utilities depend on hotels:

Hotel consumption is an important part of electric utilities' sales. In Barbados, the tourism sector accounts for nearly 30% of total electricity consumption.

Cost of Electricity in Caribbean Region



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Resource and Energy Consumption Indices

Resource and Energy Consumption for Luxury Serviced Hotels in Tropical Climate				
Energy Consumption (kWh/m2 serviced space)	Excellent	Satisfactory	High	Excessive
Electricity	<190	190 - 220	220 - 250	>250
Other energy	<80	80 - 100	100 - 120	>120
TOTAL	<270	270 - 320	320 - 370	>370

Source: IFC / World Bank Group

The IFC indices are among the first generic data available to compare energy operations among different hotels.

- Indices are high relative to today's audit data.
- kWh/room night or guest night, are much more useful data, and are readily available from the hotels
- All energy and water should be included in the indices.
- PA is developing these indices and will use them to project audit results across the Caribbean region.

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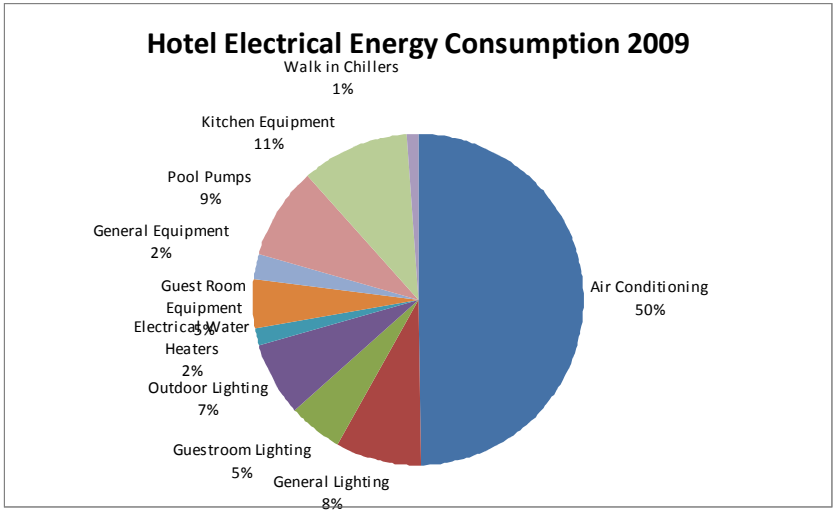
Characteristics of the Caribbean Hotel Market for Energy Products and Services

Key energy and water consumption issues of hotels:

- Share of hotel operating expenses
- Lack of in-house engineering capacity
- Focus on “greening” and hotel certification programs, but insufficient link to energy
- Efficiency improvement represents opportunity to improve profitability under low occupancy periods
- Analysis and tracking of consumption is the first step towards controlling it.



Characteristics of the Caribbean Hotel Market for Energy Products and Services

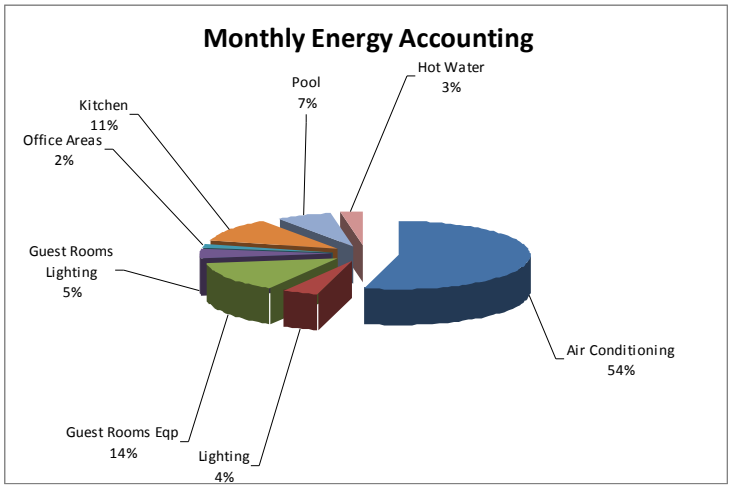
Key energy measures occurring in the audits:

- Lighting (always)
- Control systems (pool pumps, room AC, thermostats, programs for night operation, etc.)
- Variable refrigeration volume system (centralized compressors)
- Water use efficiency improvement

Caribbean Hotel Market for Energy Products and Services

Hotel energy audit results to date – estimate of the market:

- Hotel rooms in the Caribbean region (CHTA):
  - 125,500 rooms
  - 30 million room nights per year @ 65% occupancy
- Average energy and water cost:
  - US$ 20/room night
  - = US$ 600 million/y in energy/water
- Average savings of 20%
  - US$ 120 million/y
- For average payback period of 3 years:
  - US$ 360 million in investment



Caribbean Hotel Market for Energy Products and Services

Hotel energy audit results to date:

- Renewable energy investment potential
  - 33% of energy efficiency investments
    - Concentrating solar thermal, vacuum tube
    - Solar PV, small wind
  - US$ 120 million
- Total investment potential, EE/RE:
  - US$ 480 million

Total EE/RE investment potential in the Caribbean over the next several years is estimated at US$ 0.5 billion.

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Energy Services Companies (ESCOs)

ESCO: any company that offers energy services, including: efficiency improvement, maintenance, financing, energy project design, etc.

However, the ESCO has become synonymous with one or more of the following concepts:

- Performance contracting: putting own capital or profits at risk to guarantee or share client savings
- Multi-year contracting
- ESCO or third-party financing

The concept of ESCO has been around for 30 years, successful in large countries but limited experience in small markets.

Profile of the ESCO Industry (North America)

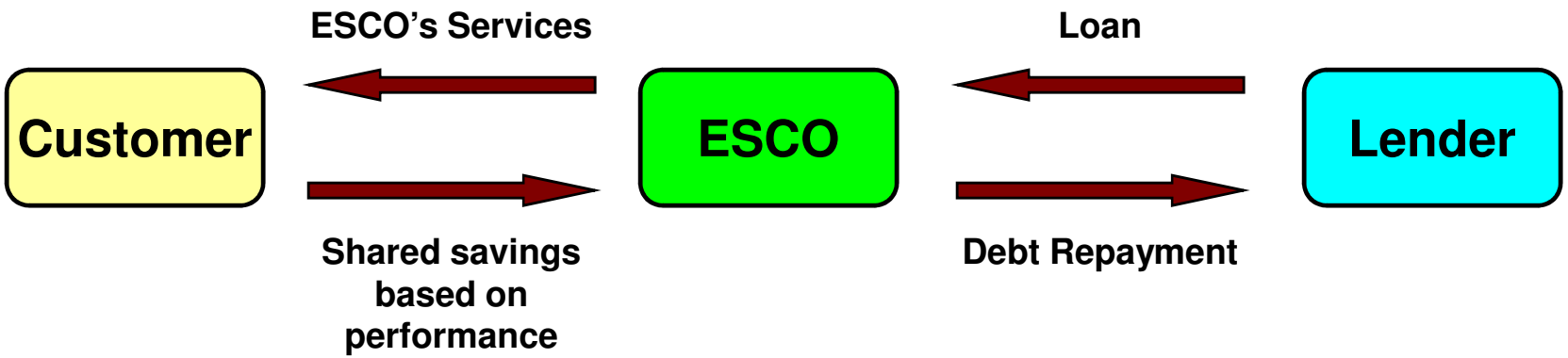
The U.S. ESCO industry began in the late 1970s in response to rising energy prices, and has installed more than $20 billion in projects to date.

- 2006 revenues: $3.6 billion
- Fast growing industry
- Diverse Corporate and Ownership Structures: Subsidiaries of large building equipment and control manufacturers; oil/gas companies; regulated electric and gas utilities; non-regulated energy suppliers; engineering firms; independent companies
- Range in size from small regional or local businesses to large national or even global companies

Energy Performance Contracting (EPC) is an arrangement where the remuneration of a project promoter (ESCO) is defined by the results of the projects developed and implemented. There are 2 major types:

- Shared Savings Contract
- Guaranteed Savings Contract (most popular approach in North America)

Performance Contract Types – Shared Savings



ESCO provides financing from its own resources (equity and debt) or from different types of leasing arrangements.

Advantages:

- Customers with low credit ratings can participate
- Off-balance sheet financing for the customer

Disadvantages:

- Few ESCOs have sufficient funding available.
- Few ESCOs have the capability to provide collateral for a loan

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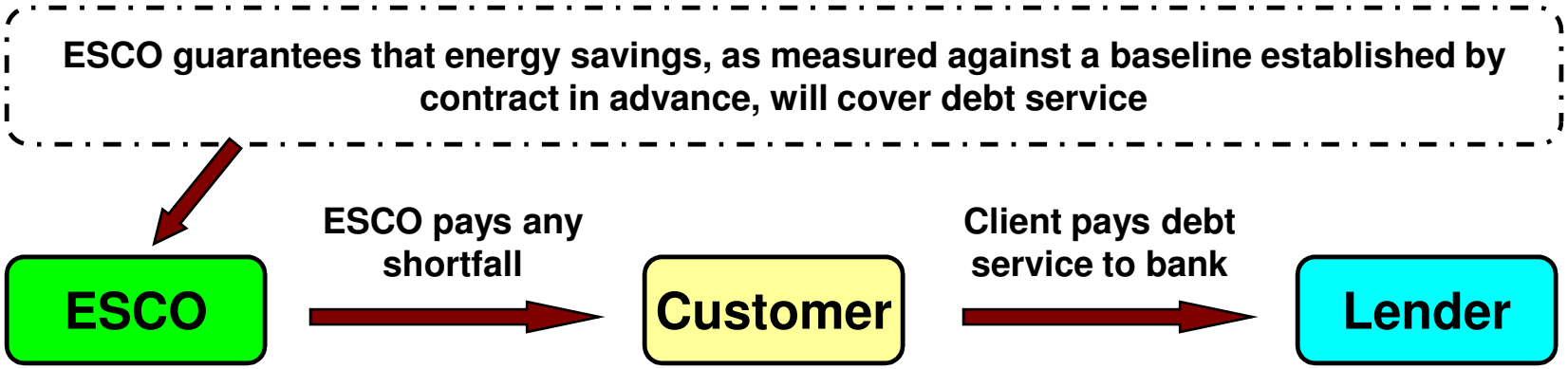
Performance Contract Types – Guaranteed Savings



Advantages:

- Many ESCOs can participate in this, since they don't need significant financial backing.
- More common, well-known, greater experience
- Simpler contractually
- Usually lower interest rate

Disadvantages:

- On-balance sheet financing for the customer (equity, debt, leases)
- Loan conditions depend more on the customer creditworthiness than on the quality of the energy project

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ESCO ownership can be classified into four categories:

Independent ESCOs – ESCOs that are "independent" in the sense that they are not owned by electric or gas utility, and equipment/controls manufacturer, or energy supply company. Many independent ESCOs concentrate on a few geographic markets and/or target specific customer market segments.

Building equipment manufacturers – ESCOs owned by building equipment or controls manufacturers. Many of these have an extensive network of branch offices that provides a national (and international) footprint, with sales forces and national offices that package energy efficiency, renewables and distributed generation "solutions" to customer market segments.

Utility companies – ESCOS owned by regulated U.S. electric or gas utilities. Many of these concentrate on regional markets or focus on the service territories of their parent utilities; and

Other energy/engineering companies – ESCOs owned by international oil/gas companies, non-regulated energy suppliers, or large engineering firms.

ESCO Industry Revenues by Technology/Project Type

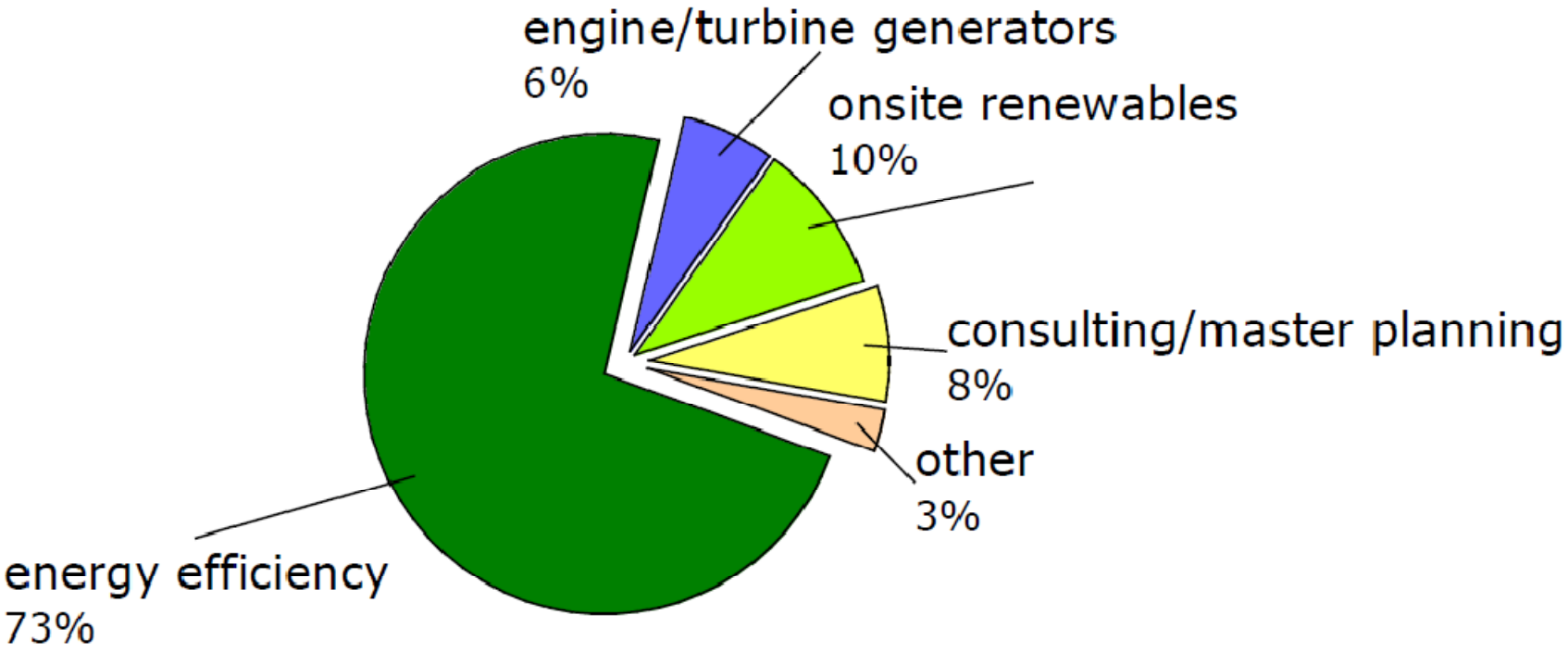

Figure 1. 2006 ESCO Industry Revenues by Technology/Project Type
Source: "Introduction to Energy Performance Contracting."

Historical ESCO Performance

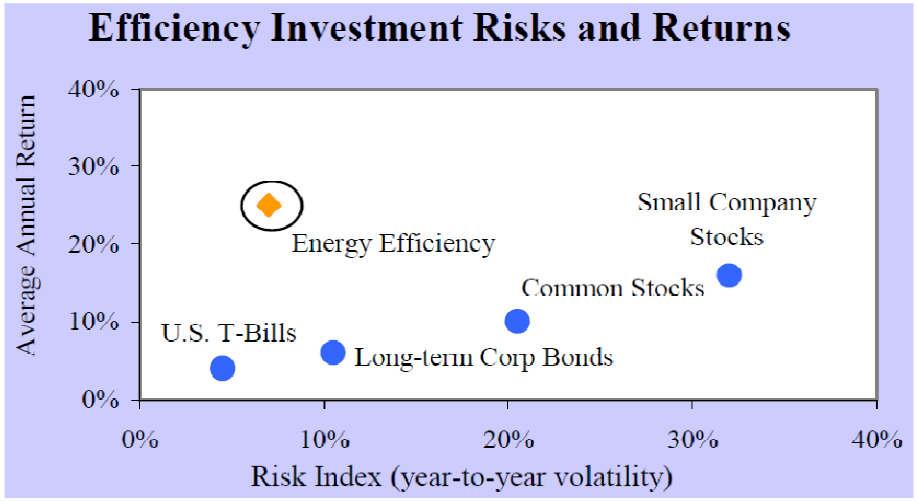

Figure 2. Source: Ehrhardt-Martinez, Karen and John "Skip" Laitner, "The Size of the U.S. Energy Efficiency Market: Generating aMore Complete Picture." Washington, DC: American Council for an Energy-Efficient Economy. May 2008, p. 29.

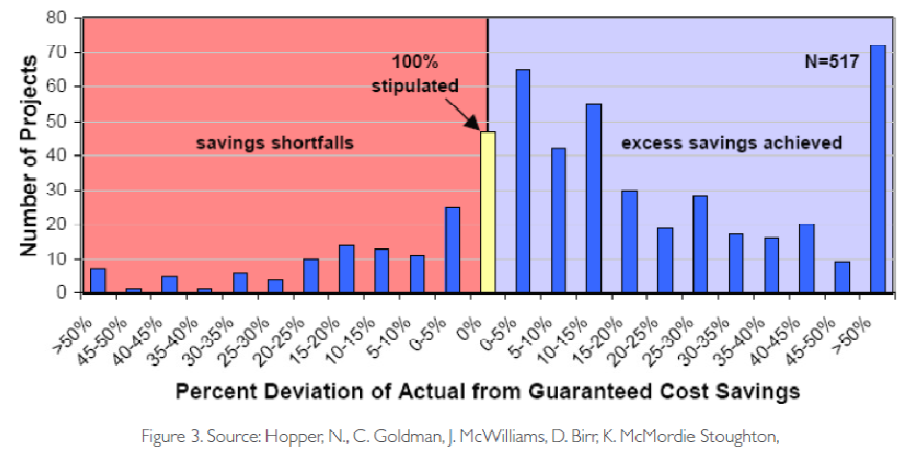

Figure 3. Source: Hopper, N., C. Goldman, J. McWilliams, D. Birr, K. McMordie Stoughton, "Public and Institutional Markets for ESCO Services: Comparing Programs, Practices and Performance." Ernest Orlando Lawrence National Laboratory, University of California Berkeley, 2005. p. xviii.

- Energy efficiency projects can generate competitive returns
- A 2005 study of ESCO services found 72% of projects reported greater savings than guaranteed.

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Outlook for Performance Contracting in the Caribbean Hotel Sector

Positive Aspects…

- Big and growing market
- High and rising energy prices
- Short-payback projects (< 5 yr)
- Well-known technologies for EE
- Limited in-house energy engineering capability
- Convergence of interest in /availability of renewable energy

Negative Aspects

- Relatively small market for experienced ESCOs
- Small individual project size
- High diversity of countries, islands
- Questionable creditworthiness of hotels and tourism companies
- Uncertain (untested) legal and regulatory framework

Outlook for Performance Contracting in the Caribbean Hotel Sector

Client Perspective (hotels)

- Energy and water costs are a significant portion of expenses
- Maintenance is generally less than perfect
- Often take a short-term view (minimize investment costs)
- Would like a simple and total solution, no worries
- There are hundreds of hotels with similar energy end-uses.

This seems to be a perfect entry point for ESCOs…

Energy Efficiency Perspective (everywhere)

- Attractive paybacks, but little implementation
- Barriers include: difficulty of obtaining financing; lack of technical capability; not in line with the hotel business; import duties; utility monopolies

Again, ESCOs seem like a logical solution.

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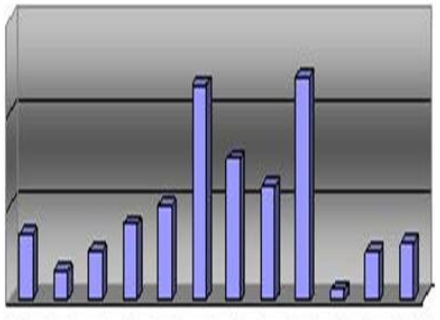
Conclusions

The ESCO concept appears to be well-suited to address some of the energy challenges faced within the Caribbean:

- Need to facilitate financing to make EE investments
- Need for technical expertise to implement EE measures
- Need for maintenance contracts to maximize value of the equipment operation
- Need to replicate savings in hundreds of hotels.



However, the challenges are significant:

- High transaction costs for small projects
- Unfamiliarity to conventional financing sources
- Reluctance of hoteliers to sign long term (>5-year) contracts
- Lack of confidence in the contracts and protection under the law.

Next Steps

The ESCO concept cannot take off quickly.

Rather, a slow, deliberate approach to ESCO involvement in clean energy projects is fundamental:

- Continue audit work; develop the pipeline of projects; link EE and RE opportunities
- Improve understanding of type of projects, technologies, contracts, and financing options
- Expand size of Caribbean ESCO market to include government buildings and facilities thereby attracting international companies
- Look for opportunities to support ESCO project implementation
  - Interest from donors and multilaterals (IDB, IFC)
  - Partnerships with established Caribbean EE/RE industry
  - Synergies with CDM Program of Activities – additionality, registration, and monitoring and verificaiton
- Carry out proof of concept; install pilot projects; document performance levels in Caribbean applications
- Link to national and regional institutions (energy policies/incentives, regulations, standards, rules)
- Teach and train concepts of both EE and ESCOs.

Thank you…

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