



BENJAMIN S.

**CROCKER**

SYMPOSIUM 2009

# **INNOVATIVE METHODS FOR IMPROVING NOI AND ASSET VALUE IN CHALLENGING TIMES**

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- Adding value through improved NOI
- New construction/retrofitting
- Reducing costs
- Ancillary revenue sources
- Funding/financing/governmental incentives
- Quantification of costs/benefits (investment/payback options)

- Building performance can drive design
- Smart materials, products, communication/utility systems
- Efficient space design
- Automation possibilities (e.g. parking, security/access, etc.)
- Ancillary income generators (e.g. retail, concierge, roof top rentals, billboard/signage, vending machines)
- Integrate with public transportation and traffic patterns
- Optimize offsite/onsite parking

- More expensive than initial construction/design (but possible to improve NOI of existing buildings)
- Identify potential savings opportunities
- Calculate cost/benefit (payback) parameters
- Develop and implement retrofitting plan

- Quantify costs/benefits
- Federal/state incentives (subsidies, rebates, tax credits, feed-in tariffs, other governmental “stimulus” programs)
- Accelerated depreciation/amortization
- Governmental/private financing options
- Do-it-yourself versus partnering/outourcing
- Negotiated landlord/tenant deals
- Green buildings add signature/asset value
- Creative leasing opportunities
- Proven/new technology issues

- Developing a building refurbishment program  
Jonathan Smithers
- Solar parks – using your roof as an asset  
Lou Kwiker
- Traffic and parking optimization  
Paula Reddish Zinnemann/Don Shoup

- Basic Concepts
  - Retrofitting/retro-commissioning
  - Operational/energy audits
  - Measurement techniques
  - Benchmarking
- Developing a plan
  - Conduct assessment/operational & energy audit
  - Ascertain owner objectives/future plans
  - Compare to other buildings
  - Identify potential cost saving opportunities
  - Analyze cost/benefit
  - Determine approved retrofitting/retro-commissioning program
  - Implement

# Energy Cost Savings Opportunities

- **Equipment Efficiency**
  - **Operational Practices**
    - **Utility Supplies**





# Energy Solutions ARUP

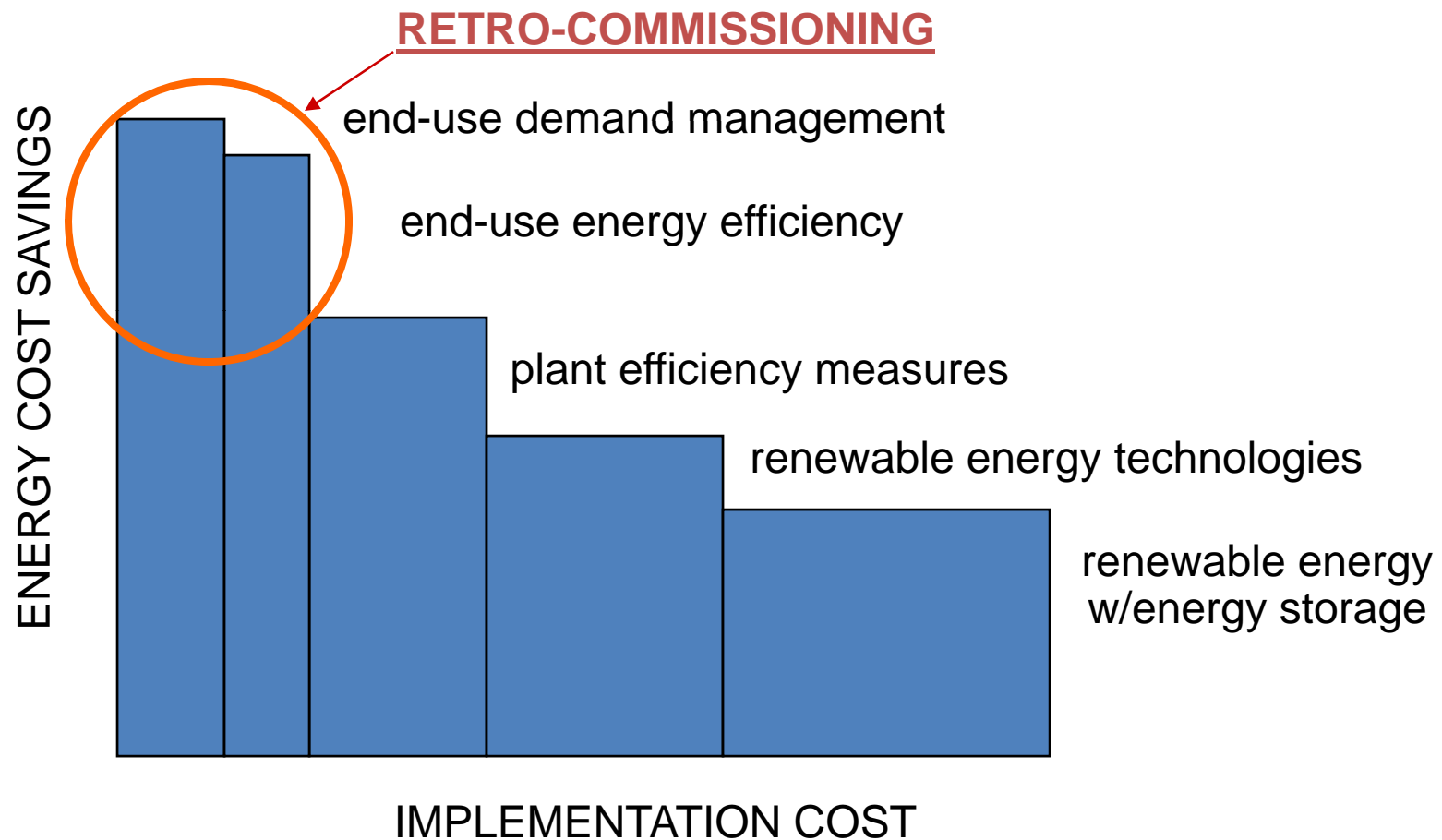


- Employee Owned
- Social Purpose
- Global
- Integrated
- Multidisciplinary

- 10,000 employees
- 82 networked offices
- 37 countries



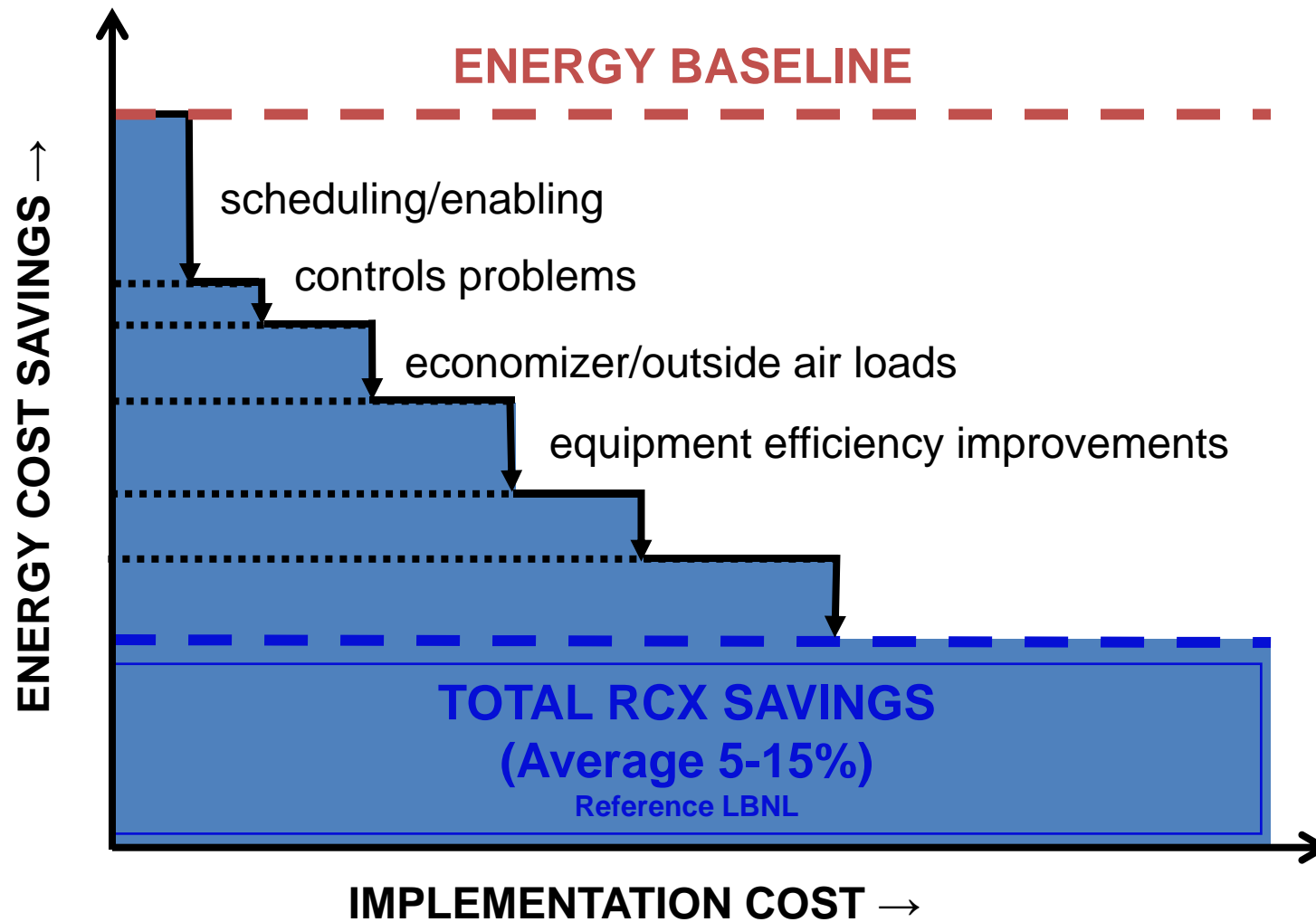
- 1. PRELIMINARY ASSESSMENT**
- 2. BENCHMARKING** – compare usage to industry standards
- 3. IDENTIFY COST SAVING OPPORTUNITIES**
- 4. PERFORM COST/BENEFIT ANALYSIS**
- 5. DEVELOP PROGRAM**
- 6. IMPLEMENT**
- 7. FOLLOW-UP/M&V** – to ensure *SAVINGS PERSISTENCE*



# Equity Office Retro-Commissioning A Case Study

- Retro-Commissioning Measures:
  - Optimize heating systems
  - Optimize air handler static pressure
  - Optimize air handler temperatures
  - Improve economizer operation and control
  - Convert water systems from constant to variable flow
- Energy Conservation Measures:
  - Convert air handler from constant to variable volume flow
  - Upgrade major BMS systems to incorporate new supervisory controller





## Equity Office Retro-Commissioning Case Study Findings

- At least \$430,000 in annual energy cost savings
- Reduce electricity usage by 10% and gas usage by 22%
- Most energy measures have a less than one year payback period





## Creating Solar Opportunities for Property Owners

- The Goal
  - Enhance NOI and property value
  - Install/purchase solar systems at lowest possible cost
  - Reduce or eliminate electricity costs
- Purchasing Options
  - Purchase with no financing
  - Purchase with traditional bank financing
  - Utilize a Power Purchase Agreement
- Different incentives for commercial/residential properties
- Landlords and tenants can collaborate and negotiate mutually beneficial deals

## Power Purchase Agreement Key Deal Elements

- Solar electricity cost is lower than utility rates
  - Government incentives
  - Declining solar panel costs
  - Increasing electricity rates
- 3<sup>rd</sup> party investor or property owner who can leverage:
  - 15%-25% California cash rebate for commercial and single family residential system owners
  - 30% Federal Investment Tax Credit (ITC) or cash rebate for commercial system and ITC for residential system owners
  - 5-year MACRS depreciation for commercial system owners
- In-house or outsourced facilitator of transactions for property owner or major tenant



- For electricity users (property owners/tenants)
  - Take advantage of a new solar system with no up front costs
  - Reduce electricity costs by 5%-15%
  - Pay outside investors for solar electricity delivered to users
  - Property owners and tenants can create win/win outcomes by sharing benefits and cost savings
- For outside investors:
  - Own a valuable asset
  - Generate an ongoing income stream
  - Take advantage of financial benefits from government incentives
  - Earn 8%-11% profit (or more)

## Reasons to Creatively Focus on Parking to Improve NOI

- Parking requirements limit entitlements
- Often cities require more parking than developers would voluntarily supply
- Parking increases development costs
- Parking affects vehicle travel and emissions
- Effective approaches to parking make buildings more efficient, and user and tenant friendly, for increased asset value

## **Solution #1: Reduce Parking Needs**

- Integrate with alternative transportation (public transit, bicycles, electric refueling, etc.)
- Take advantage of legally mandated parking/cash out programs
  - State law requires municipalities to reduce minimum parking requirements for developers who offer parking cash out programs
  - Applies to new construction or retrofitting
  - Permits higher entitlements and more productive use of rentable space
- Utilize adaptive reuse ordinances where available (e.g. LA ARO)
  - Streamlined review process
  - Exemption from minimum parking requirements
  - Generated approximately 8,000 new housing units in L.A. from 2000-2006

## L.A. Adaptive Reuse Ordinance Parking Supply Reductions

	<b>Bldgs</b>	<b>Units</b>	<b>Parking Required spaces per unit</b>	<b>Parking Supplied spaces per unit</b>	<b>Parking Reduction percentage</b>
<b>Condos</b>	30	4,490	2.25	1.2	-47%
<b>Rental: &gt; 50 units</b>	8	269	1.5	1.2	-20%
<b>Rental: &lt; 50 units</b>	14	1,991	1.75	1	-43%

## Parking Reforms Related to AB 32

AMENDED IN SENATE APRIL 13, 2009

**SENATE BILL**

**No. 518**

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**Introduced by Senator Lowenthal**

February 26, 2009

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*An act to amend Section 76360 of the Education Code, to add Section 2117.5 to the Streets and Highways Code, and to amend Section 22508 of, and to add Division 19 (commencing with Section 43000) to, the Vehicle Code, relating to vehicles.*

## Parking Reforms Required by SB 518

MEASURE	POINTS
<b>PARKING REQUIREMENTS AND ZONING</b>	
Eliminate minimum parking requirements citywide or within the unincorporated county.	20
Reduce average minimum parking requirements for all general office, general retail, general commercial, and similar development citywide or within the unincorporated county to:	
Less than 3 spaces per 1,000 square feet	2
Less than 2 spaces per 1,000 square feet	5
Less than 1 space per 1,000 square feet	10
<i>Reduce minimum parking requirements for residential uses to:</i>	
<i>1 uncovered space per zero- or one-bedroom unit</i>	
<i>1.5 uncovered spaces per two-bedroom unit</i>	
<i>2 uncovered spaces per three-bedroom or larger unit</i>	5
<i>Reduce minimum parking requirements for all sizes of residential units below 1 uncovered space per unit.</i>	10
Eliminate minimum parking requirements for projects in transit intensive areas.	10

## Parking Reforms Required by SB 518

Remove restrictions against mechanized and mechanical “lift” parking, including counting mechanized spaces toward minimum requirement, if any.	2
Establish a shared parking ordinance and requirements for interconnection of parking in all commercial areas.	2
Remove or increase <i>50% of</i> allowable density limits and floor area ratios (FAR), allowing infill development on existing parking lots.	10

## **Solution #2: Create More Parking in Space Available**

- Efficient conventional parking design
  - Maximize parking spaces in conventional parking facilities
  - Efficient striping (compact vs. larger autos, SUVs, etc.)
  - Accommodate bicycles, mopeds, smart cars, etc.
  - Other conventional parking efficiencies
- Automated parking
  - Increase parking available in the same amount of space
  - Reduce amount of space needed for same amount of parking



## Automated Parking A Closer Look



## Automated Parking Typical Financial Advantages

- Space requirements reducible by 50%
- Increased development entitlements
- Reduced construction/operational costs + user friendly design
- Additional user friendly safety/health/environmental benefits
- Reduced energy requirements plus “green” savings
- Personal property vs. real estate depreciation/amortization
- Optimize site use for most profitable rentable purposes and add other income streams
- Partnering/outsourcing/BOT alternatives

## Automated Parking Case Study (200 Cars)

- Hybrid new/retrofitting via new construction on excess land
- 17,000 vs. 50,000 sq. ft. footprint for conventional parking
- Additional cubic square foot savings (lower ceiling heights, bay widths, etc.)
- 132,000 sq. ft. of concrete and steel savings
- Construction time and excavation cost savings
- 60% energy savings plus added green elements
- CO2 emission savings (equal to planting 67,000 trees)
- Safety/health benefits (only ground access required for users)
- Ameliorates usages of existing building for staff, visitors, etc. (and reduces other parking demands)
- Tax benefits (depreciation/amortization, etc.)

What the future holds...

# Performance Drives Design





# Photovoltaics in Action



# A Major Retrofitting Pays Back in 3 Years!



# Ancillary Income Generation





# Turning a Negative Into a Positive

