



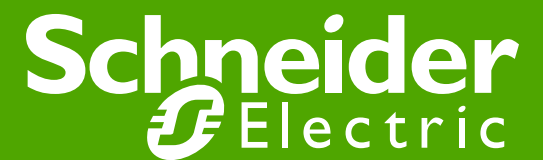
How can Oregon Community Colleges implement sustainability initiatives within already stretched budgets?

OCCA Annual Conference 2011
Council House C

Agenda

- Introduction
- Sustainability
- Energy Conservation
- Strategies for Implementation
 - Plan
 - Prioritize
 - Partner
 - Party!

So who is Schneider Electric, anyway?



Schneider Electric has relationships with over 1/2 of all US colleges and universities



Schneider Electric and Sustainability: What We Do

- Assistance in assembling sustainability plan
- Carbon inventories
- Metering and monitoring
- Coordination of possible funding opportunities
- Expertise to rearrange current expenses to complete effective capital improvements
- Delivering effective energy conservation measures with minimal capital
- Renewable energy development, financing, and operation
- Specialize in energy distribution and control

Vision

A world where we all can **achieve more while using less** of our common planet.

Mission

Help people **make the most of their energy**, while providing added value through building services for energy and security.

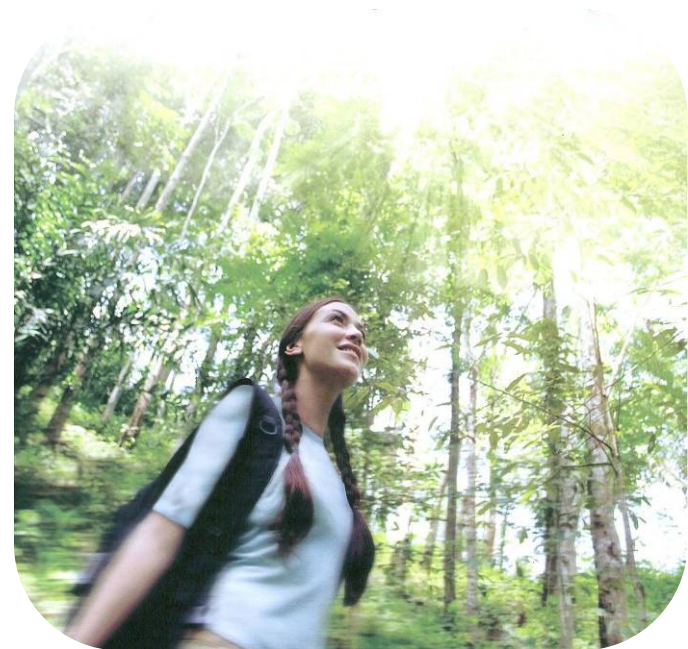
Flip Chart – Group Activity

- How do YOU define sustainability?
- How does your College define sustainability?

EPA definition of Sustainability:

Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations.*

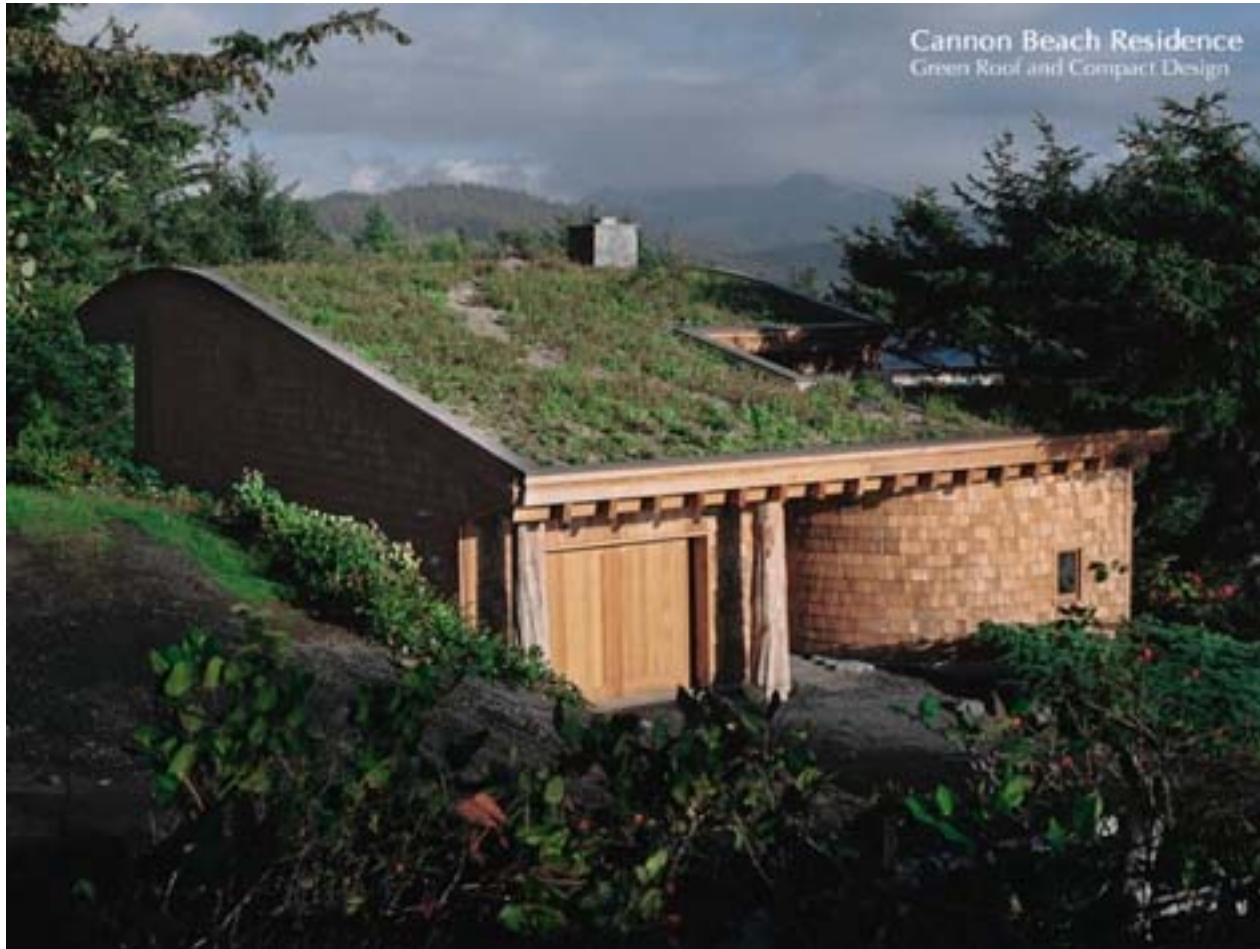
**<http://www.epa.gov/sustainability/basicinfo.htm>*



But are we this committed?



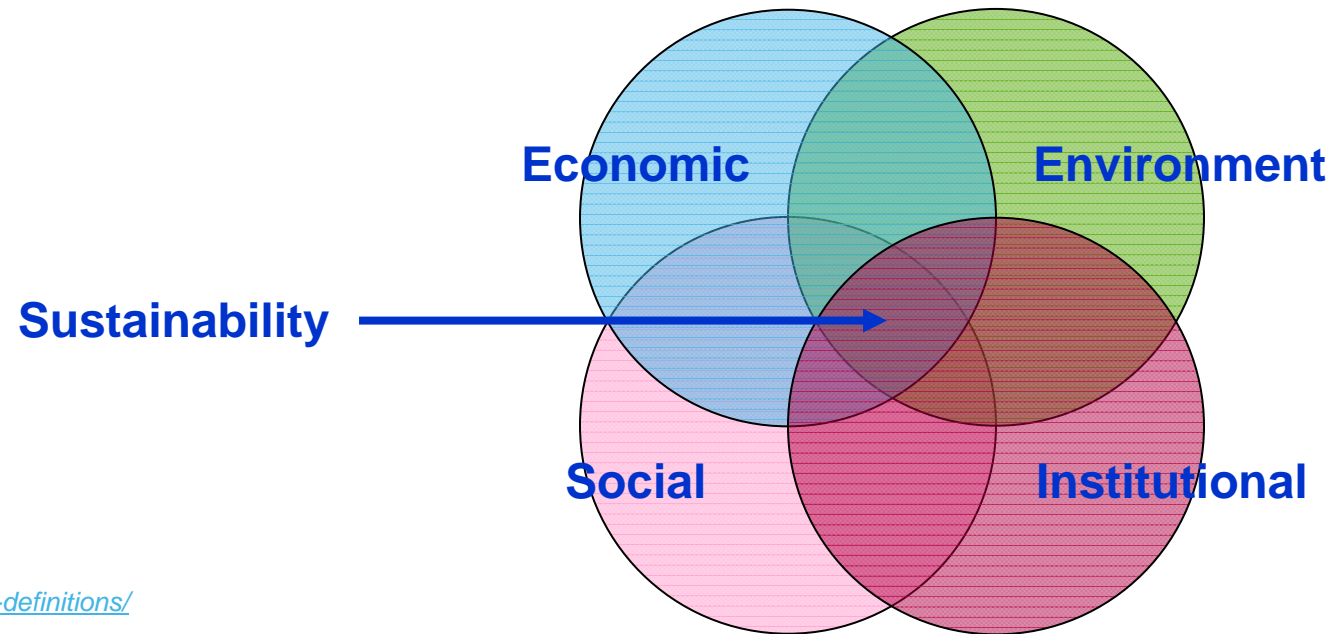
Maybe...



<http://www.bergersonwindow.com/projects/other/net-zero-residence-cannon-beach-or/>

Concept of Sustainability:

Sustainability is a systemic concept. It relates to the relationships between economic, social, institutional and environmental aspects of human existence...*



[*www.riandesign.com/terms-definitions/](http://www.riandesign.com/terms-definitions/)

Flip Chart – Group Activity

- How are you pursuing sustainability at your college?

Components of College Sustainability

- **Travel/Behavior (short-term and low cost)**
 - Less resources used
 - Less pollution
 - Voluntary compliance
- **Consumables and hard goods (medium-term and medium cost)**
 - Local (reduce transportation impacts)
 - Manufactured from recycled or easily renewable resources
 - Recycling and composting waste
- **Buildings (long-term and highest cost) ← generates least resistance**
 - Sourcing of materials in buildings
 - Landscapes (native and low maintenance)
 - Minimize impact (light pollution, etc)
 - Energy use (conserving and generating)

Flip Chart – Group Activity

- Why are you pursuing sustainability at your college?

Sustainability - Why

● Reasons

- Logical – why keep using resources in a way that they'll run out?
- Local – why spend money for resources outside our community if they're available within?
- Climate – if there's a chance we are negatively impacting nature, why not do what we can to minimize our impact?
- Constituents – students, staff, and the community like to know sustainability is being considered
 - 63% of college applicants say a college's commitment to the environment could affect their decision on whether to attend



Sustainability and Energy Conservation

- Not the same thing
- You cannot have one without impacting the other
- ENERGY CONSERVATION CARRIES THE MOST FINANCIAL BENEFIT OF ALL OF THE COMPONENTS OF SUSTAINABILITY
- So...what do people think when you say “sustainable” and “energy conservation” near each other?

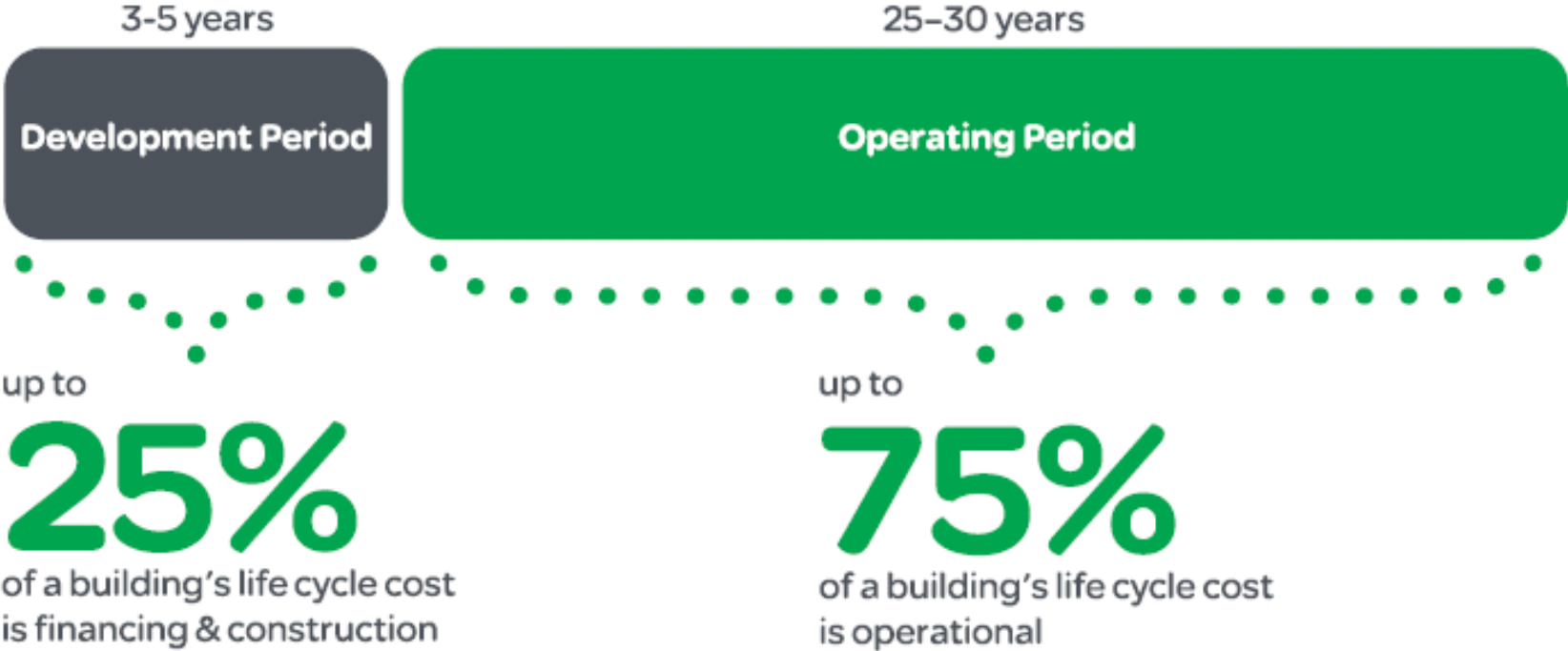
LEED

- Leadership in Energy and Environmental Design (LEED) has become a major component of new institutional construction
- LEED is a scorecard, with points awarded based on several categories:
 - Sustainable Sites (26 pts possible)
 - Water Efficiency (10 pts possible)
 - Energy and Atmosphere (35 pts possible)
 - Materials and Resources (15 pts possible)
 - Indoor Environmental Quality (15 pts possible)
 - Innovation in Design (6 pts possible)
 - Regional Priority (4 pts possible)
- Scoring (110 pts total possible)
 - Certified (40-49 pts)
 - Silver (50-59 pts)
 - Gold (60-79 pts)
 - Platinum (80+ pts)

LEED

- Sustainable construction over traditional methods
- NOT necessarily optimal energy performance
- Buildings, LEED or not, still need careful management and monitoring to ensure resources are not used unnecessarily

The Life Cycle Cost of a Building



Buildings' Impacts

Environmental

- Existing buildings in the U.S. account for:
 - 36% of total energy usage
 - 65% of total electricity usage
- Existing buildings in the U.S. make up:
 - 30% of greenhouse gas emissions
 - 30% of total waste output = 136 million tons annually

Financial

- U.S. Department of Energy: 25%+ of the \$6 billion colleges/universities spend annually on energy could be saved through conservation

We could save \$1,500,000,000??

States are cutting budgets

- The projected cumulative **budget deficit** for all 50 states and Washington DC in 2011 alone is **\$142 billion**.
- (As of February 2010) 34 states have already been forced to **cut spending** at their colleges and universities, resulting in furloughs, layoffs, and tuition increases.¹
- **Public colleges are in peril**: (in March 2010) lawmakers approved a 6.9% midyear cut for higher education, in addition to a **24% cut in state funds** the system had already been dealt.²

¹ University of California – Berkeley, February 2010 Report

² *The Chronicle of Higher Education*, March 2010

Cost containment options

- **Tactics used by higher ed leaders to cope with budget shortfalls:**¹
 - Energy management (83%)
 - Hiring freezes or restrictions (80%)
 - Postponed capital spending (48%)
 - Across-the-board budget cuts (41%)
 - Layoffs of part-time faculty members (22%)
 - Reductions in academic programs (21%)
- **Private universities are streamlining staff, consolidating offices and programs, and turning to environmentally friendly systems to lower energy consumption.**²



Energy management is the single most relied upon cost containment source at **83%**.³

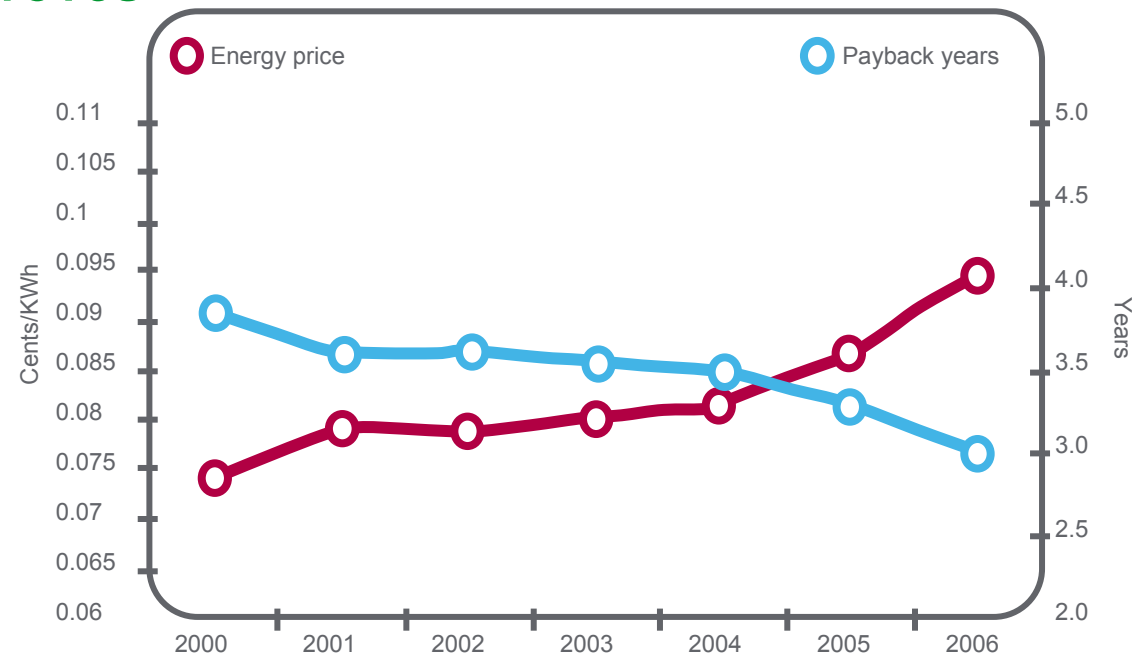
¹ The Chronicle of Higher Education, April 2009 Survey

² David L. Warren, President, National Association of Independent Colleges and Universities

³ American Association of State Colleges and Universities and SunGard Higher Education, April 2008 Survey

Energy management benefits

- Unlike other alternatives, energy management **improves educational quality**.¹
- Energy is the largest **controllable** operating expense.²
- Energy management **pays for itself** over time.

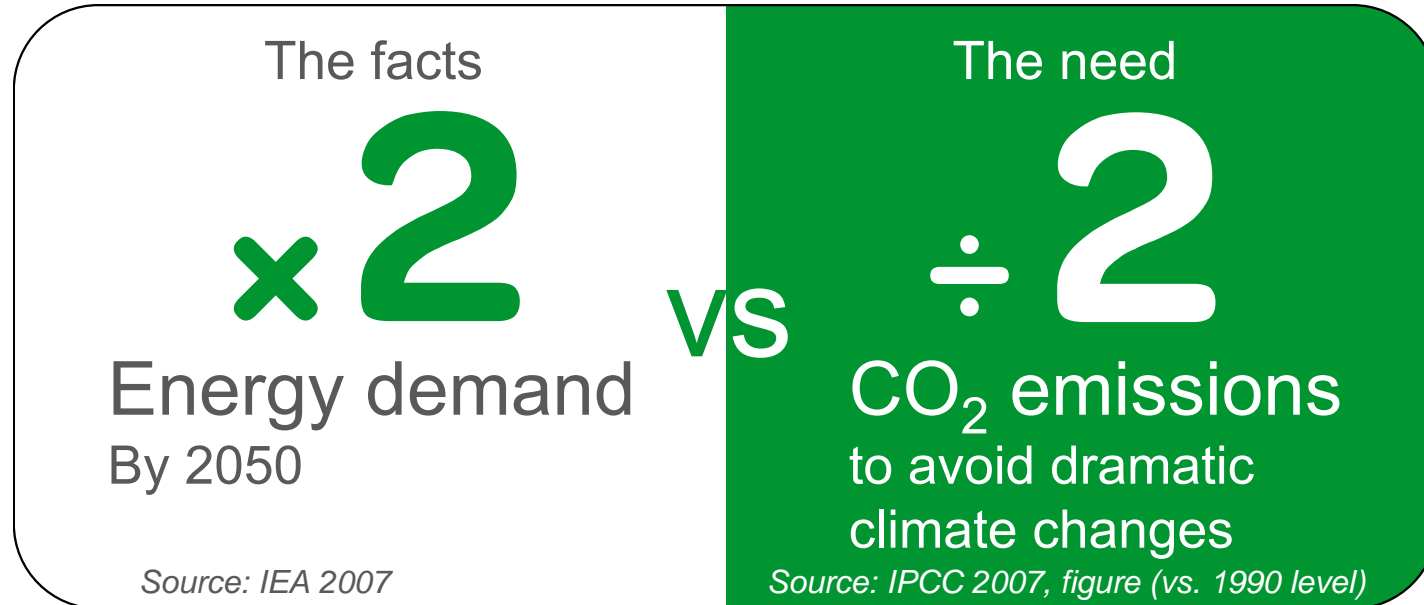


¹ International Centre for Indoor Environment and Energy, Technical University of Denmark

² Building Owners and Managers Association International

³ Example Based on Cost of Electricity 1993 through 2007

The Energy Dilemma Is Here to Stay



Energy management is the key
to address the dilemma

Green strategy

Energy efficiency and conservation *first*

- More effective energy usage can deliver the greatest cost savings
- Improving building efficiency lowers the amount of renewable energy generation necessary
- Ensure buildings will perform prior to making a large investment
- Savings can be used to offset the cost of the improvements

Flip Chart – Group Activity

- Who makes the recommendations on how to implement sustainability?
- Who is charged with implementation?
- How do these measures get funded?

Sustainability at Community Colleges

- Drafting a sustainability plan (low/no cost, point to measure results against)
 - Carbon inventory
 - Energy benchmarking
 - Opportunities to improve
- Implementing “easy” measures (low/no cost, hard to measure impact)
 - Behavior
 - Similar-cost sourcing of available materials
- Installing infrastructure improvements (medium/high cost, easier to measure)
 - System upgrades
 - New equipment
- Purchasing “green tags” or on-site renewable systems (highest cost, easiest to measure)
 - Little to low return on investment
 - Substantial impact on carbon footprint of campus(es)

Sustainability at Community Colleges

- COMMUNITY
- COLLEGE
- DISTRICTS

Sustainability at Community Colleges

- CONSERVE
- CONVERT
- DEVELOP

A Path Forward



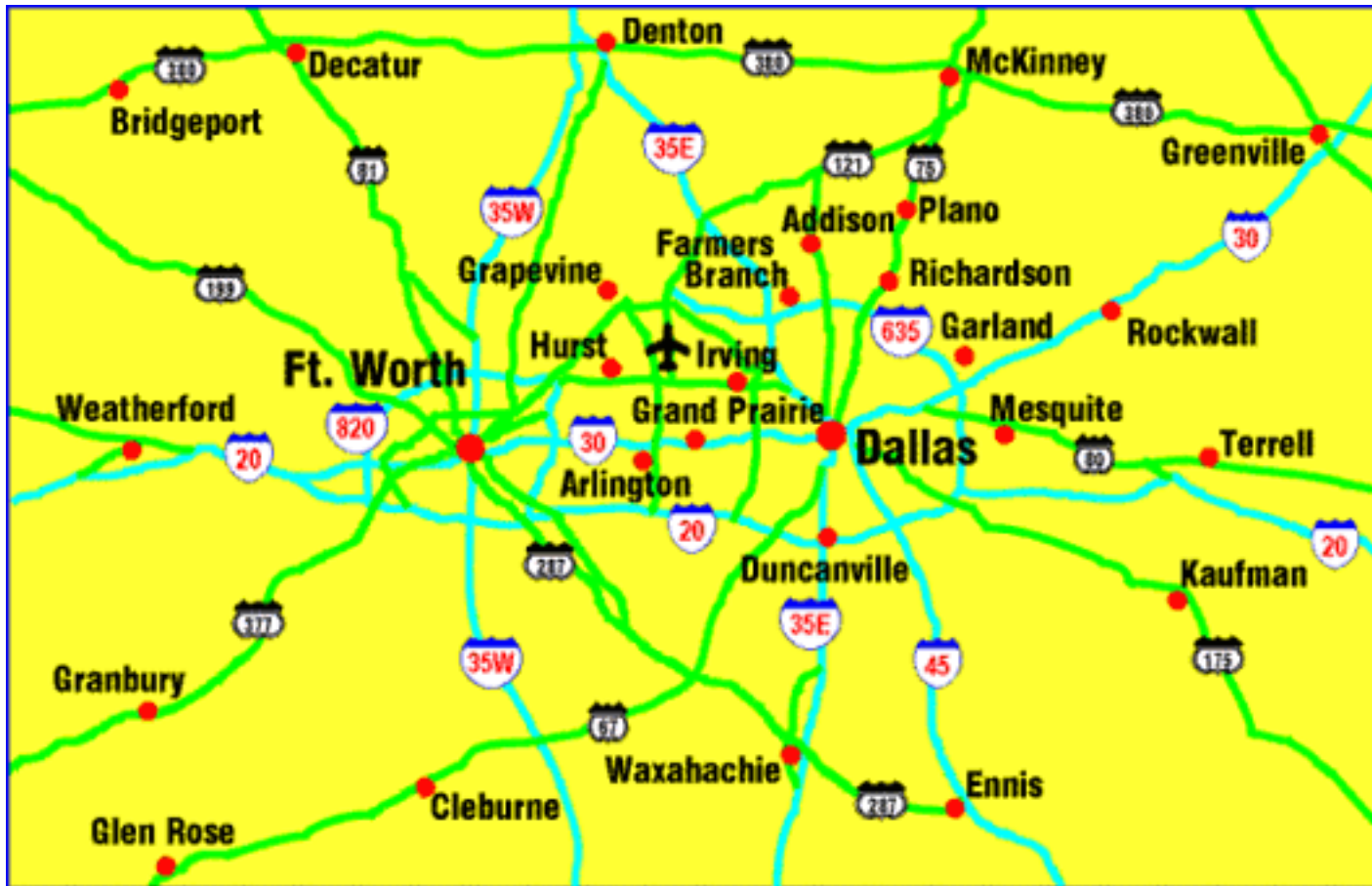
Assemble Your Team

- Successful adoption is facilitated by all stakeholders
 - Students
 - Faculty
 - Community
 - Staff
 - Administration/Board

A Path - Four Ps

- Plan
- Prioritize
- Partner
- Party

What makes a map useful?



Plan

- Measure “current state”
 - Carbon Emissions
 - Energy Use
 - Resources Consumed
 - Current Involvement/Interest/Awareness
 - Other factors
- Oftentimes faculty are interested in championing gathering data
- Outside resources are available to quantify and verify

Plan

- Determine Goals
 - Carbon neutrality?
 - % reduction?
 - Sustained improvement?



Prioritize

- No/Low Cost

- Behavior
- Purchasing (ie, recycled paper, green cleaning)

- Low/Medium Cost

- Purchasing (ie, higher efficiency, recyclable/compostable, policy for future)
- Minor upgrades (metering, automation)

- Medium/High Cost

- Replacing existing infrastructure with better
- Renewable energy

- Students can provide research on costs/impacts

- Outside resources are available to quantify and verify

Partner

- Private sector wants to help – share your goals and let them help!
 - Sourcing – tell your vendors your goals
 - Consulting – tell your consultants your goals
 - Planning – you get the picture...
- Low cost access to subject matter experts
- Expertise – an outside perspective
 - What are other organizations doing?
 - What have your partners done?
 - What funding resources have they seen used?

Partner – funding resources

- Incentives

- Are there resources for making changes?
- Grants available?
- Partnerships which benefit the partner and the college?

- Different Thinking

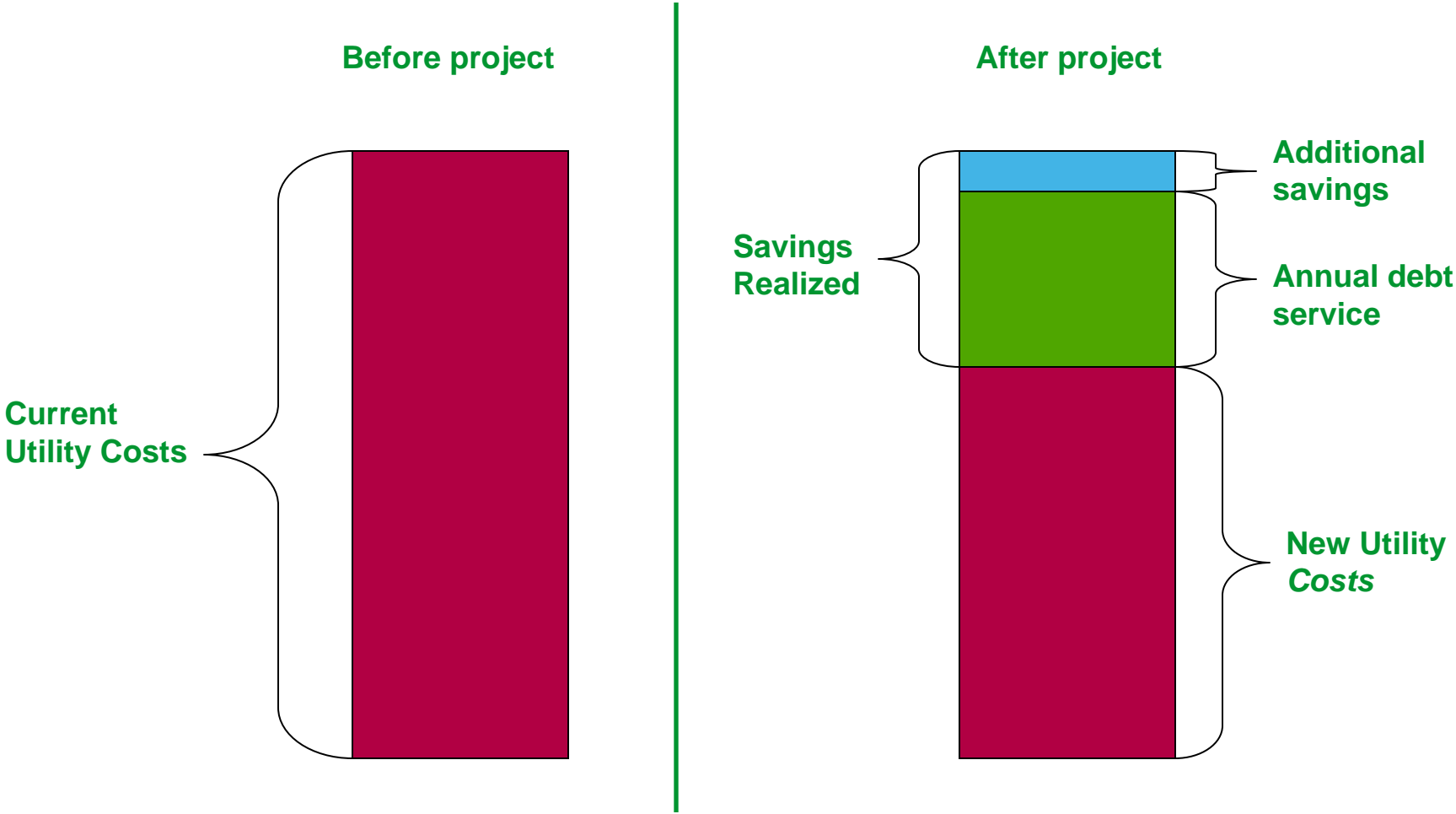
- Shared ownership
- Joint ventures
- Energy Savings Performance Contracting (ESPC)

Budget Reallocation

- Commute 70 miles and back daily (140 miles/day)
 - 10 mpg, \$3/gallon for fuel
 - F350 = \$840/month in fuel
-
- Subaru Outback = 25 mpg
 - Outback = \$336/month in fuel
 - Payment = \$400/month
 - Total amount for Outback = \$736
 - Monthly savings of \$104



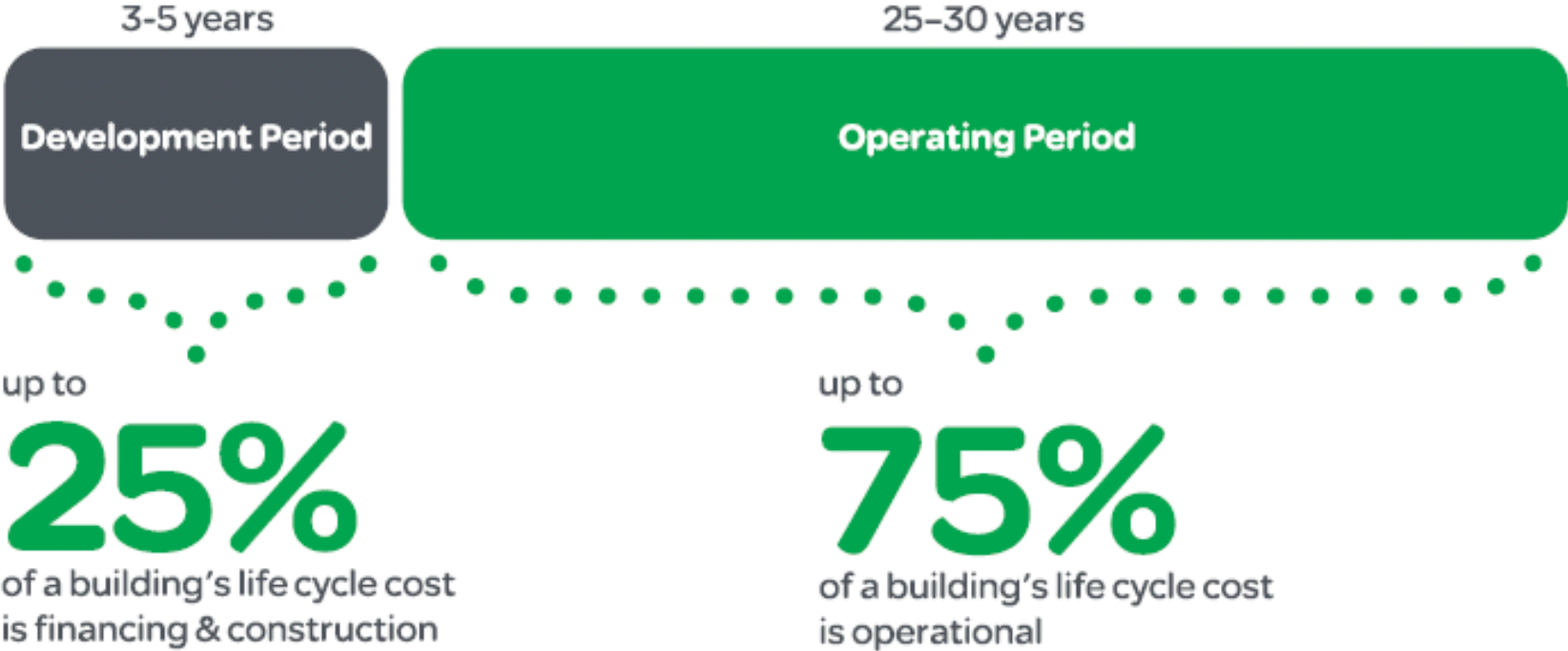
The core of ESPC: Budget Reallocation



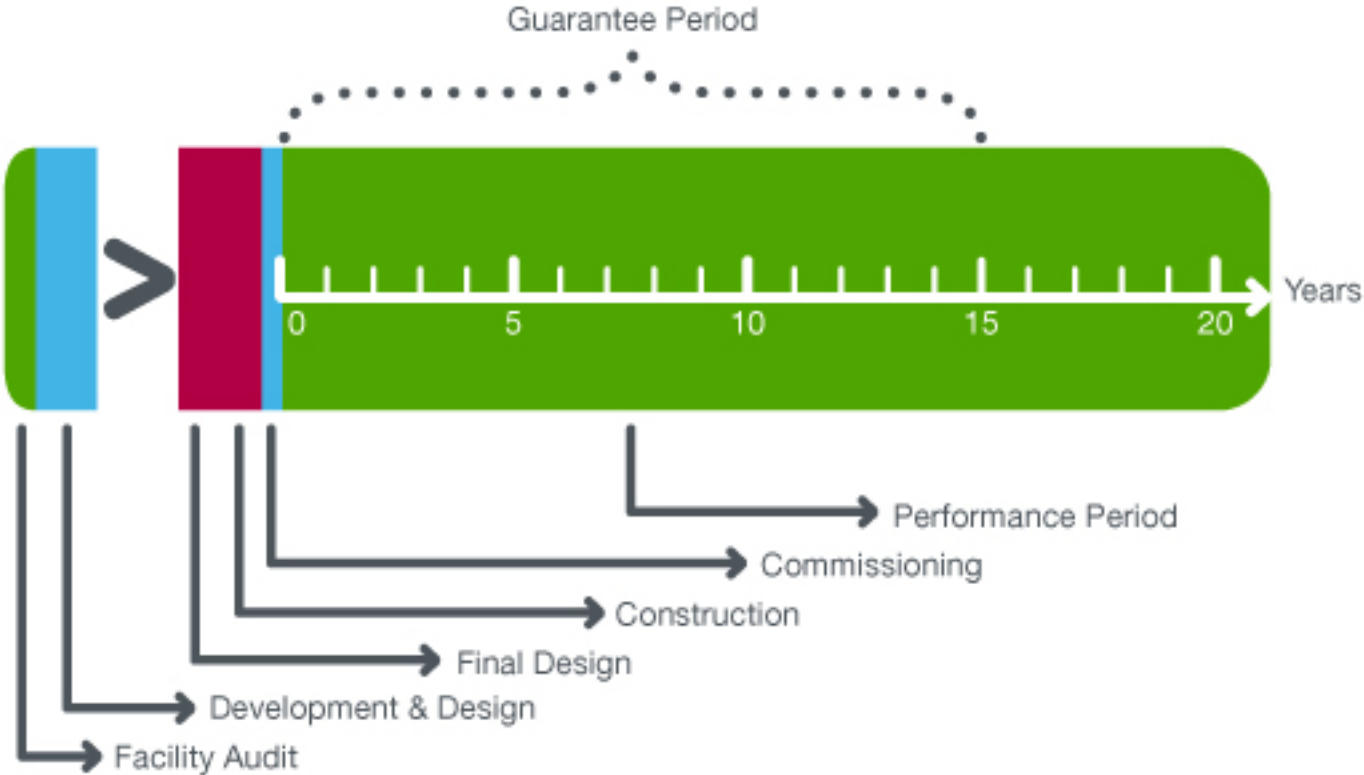
Performance Contracting

- Using energy and other resource savings for funding
 - Leveraging energy savings as a payment on financing
 - Guaranteed level of savings: ability to make payment or specific ROI
- Long-term partner for performance
 - ESCO designs project around long-term performance goals
 - Energy savings and function of project are tracked long-term
- Looking at the campus as a system
 - Provides better function and performance
 - Improving campus as a system allows for quick-return items to help fund needed lower-return upgrades

The Life Cycle Cost of a Building



The Life Cycle Cost of a Building



Partner: What David Knows

We Deliver:

- Team of energy efficiency professionals with passion for sustainability
- Projects are not designed according to first cost/lowest bid
 - Designed for maximum energy efficiency and performance
- Proven track record in measurement and verification
 - Real savings approach
- Engineered for performance and sustainable results
 - Carbon footprint reduction
 - Sustainability master planning

What does all this get you?

Now, every dollar NOT spent on unnecessary Operations and Maintenance can be used to increase the value of your education



Are the results proven?

Schneider Electric has implemented over 400 Energy Saving Performance Contracts. Almost 100 have been on college and university campuses where the goal was to improve the learning environment while saving money. In each case, like at Southern Methodist University, the project savings exceeded the cost creating a positive cash flow.

Total Cost: \$14.2M
Total Savings: \$23.4M

Southern Methodist
University



Party

- Measure and CELEBRATE your success
- Tell your students, faculty, and community what has been accomplished
- Build momentum
- Leverage your current successes into future advancements

WE'RE DONE

THANK YOU FOR JOINING ME!



We help the best higher education buildings
in the world get that way.

Schneider
Electric

ESPC (Performance Contracting) in OR

- Enabled in 2003 by the legislature amending ORS 279C and 351 to allow ESPC as an alternative contracting method
- Program supported by ODOE
- In 2008, Legislature approved ODOE creating and maintaining a pre-qualified list of ESCOs
 - ORS 279C and the associated OARs created a two-part procurement process
 - This list fulfills the first part of this process, leaving the second part – which is project-specific – to be conducted by the contracting agency and is sent directly to the pre-qualified ESCOs
 - Schneider Electric has been a pre-qualified ESCO from the beginning



ESPC (Performance Contracting) in OR

- Exempt from low bid procurement (ORS 279C.335)
 - Contractors are contracted with Schneider Electric, not College
 - All management of work, startup/checkout, warranty managed by Schneider Electric
 - All systems delivered fully functional, where not in scope EDR reports
- BOLI/Prevailing Wage Rates still apply
- Schneider Electric utilizes local labor whenever possible and seeks Colleges' input on potential bidders
 - Potential bidders are approached and pre-qualified
 - Pool of pre-qualified contractors are invited to bid on project
 - As part of bid, constructability feedback and value engineering input is sought – as long as it does not impact the design intent of the project
 - Most valuable partner (not always the lowest bidder, but usually) is offered contract with College's consent

