

2010 Business Environmental Program Series.



Rx for an Efficient Business

Tuesday, Nov. 16, 9 a.m. – 4 p.m.

2010 Business Environmental Program Series.



Powerpoint presentation and
Video stream of presentation available online

fcgov.com/beps

Morning Agenda, 9-11:30am

- Six Step Program to a Healthy Building
 - John Phelan, Fort Collins Utilities
 - Jim Zarske, Nexant
- Q and A
- Break
- Case Studies Towards Healthy Buildings
 - LSI
 - United Way
- Q and A

“Afternoon” Agenda, 11:30am-4pm

- Light lunch (thanks to Platte River)
- Vendor booths all afternoon
- Vendor mini-presentations at north stage
- Efficiency Mini-sessions
 - starting at 1:00, 1:30, 2:00, 2:30
- Prize drawings at 2:00 & 4:00

	Room	1:00 - 1:25	1:30 -1:55	2:00 - 2:25	2:30 -2:55
A	Main Expo Room	Lighting Technology and Rebates	Lighting Technology and Rebates	Lighting Technology and Rebates	Food Service, Grocery and Refrigeration
B	Main Expo Room	Xcel Gas Incentives	Business Tax Incentives	Business Tax Incentives	Xcel Gas Incentives
C	Café Columbine Meeting Room	Renewable Energy	New Construction and Custom Incentives	New Construction and Custom Incentives	Renewable Energy
D	Café Columbine Meeting Room	Office Equipment Rebates	Facility Assessments	Building Tune-up	Facility Assessments
E	Café Columbine Meeting Room	Employee and Customer Engagement	Recycling and Composting	Recycling and Composting	Employee and Customer Engagement



Six Steps to a Healthy Building

1. Check your symptoms and vital signs
2. Get a physical or check up
3. Consult with a specialist
4. Get a prescription
5. Implement the treatment plan
6. Stay on a wellness plan

Benefits of a Healthy Building

Tenant

- Greater Value
- Greater Marketability
- Higher Rents
- Higher Occupancy
- Risk of Obsolescence
- Energy Savings
- Water Savings
- Lower Insurance Costs

Owner

- Greater Productivity
- Recruitment
- Retention
- Healthy Employees
- Employee Morale
- Energy Savings
- Water Savings

Step One – Symptoms and Vital Signs

- Start where you are
- Bill analysis
- Rates
- Benchmarking
- Ask questions
 - Employees
 - Service Providers
- Five actions to get started



Step One – Bills and Rates



Service	Rate Code	Service Date		Days	Meter Readings		Multiplier	Usage	Charge
		From	To		Previous	Present			
Electric Energy	E100	01-15-04	02-17-04	33	1058	1529	1	471 KWH	\$32.62
Stormwater	H101	01-15-04	02-17-04	33					\$15.75
Water	W220	01-15-04	02-17-04	33	3129	3168	100	3900 GAL	\$19.66
Wastewater	Q221	01-15-04	02-17-04	33				5500 WQA	\$17.52
Wind Energy	E730	01-15-04	02-17-04	33				471 KWH	\$12.49
Sub-total									\$98.04
City Sales Tax									\$1.27
Total charges this billing period									\$99.31

Water Billing History

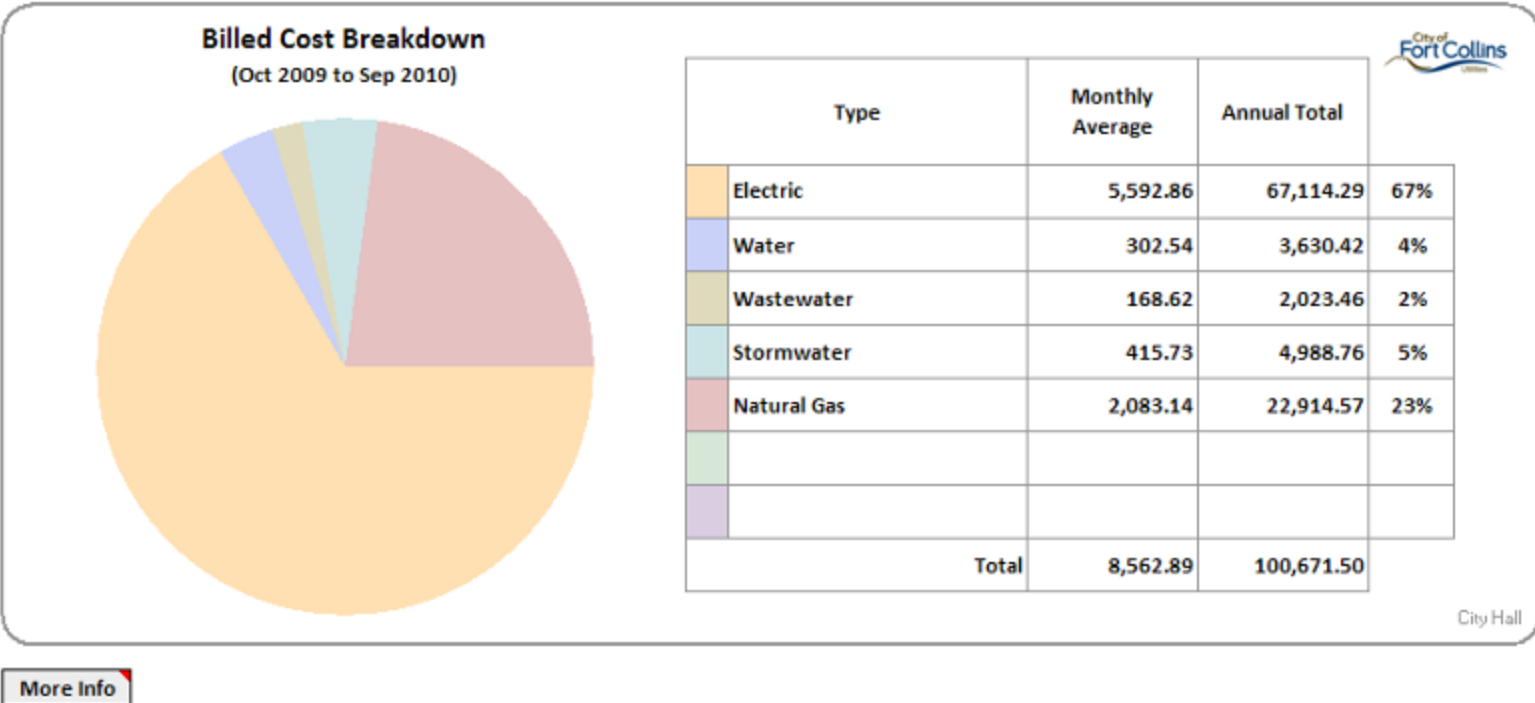
Read Date	Days	Use in Gals	Average Gal/Day
02-17-04	33	3900	118
01-15-04	34	3700	108
12-12-03	30	1600	53
11-12-03	21	1100	52
10-22-03	37	1300	35
09-15-03	32	1800	56
08-14-03	30	3500	116
07-15-03	32	5100	159
06-13-03	36	400	11

Electric Billing History

Read Date	Days	Use in kWh	Average kWh/Day
02-17-04	33	471	14
01-15-04	34	474	13
12-12-03	30	388	12
11-12-03	21	137	6
10-22-03	15	59	3
07-15-03	32	27	0
06-13-03	36	66	1

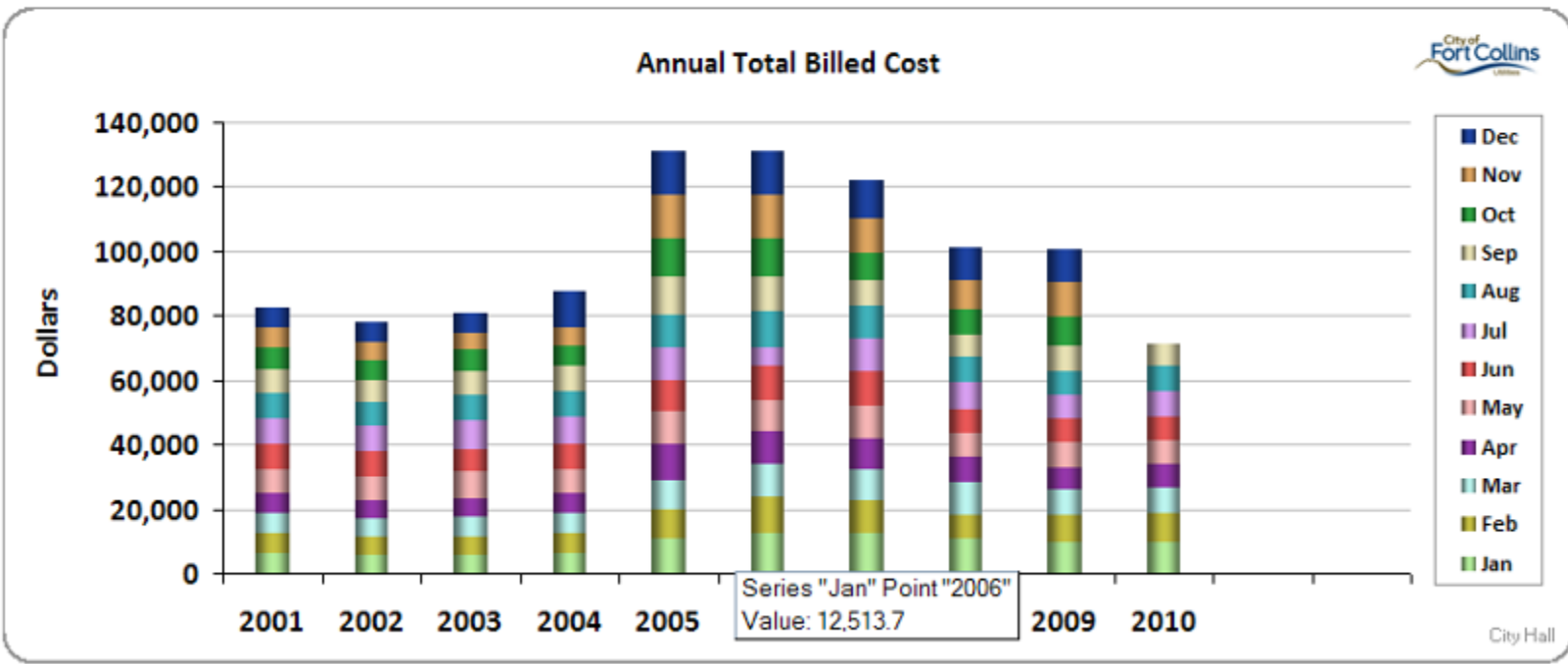
Step One – Bills and Rates

Chart 2.01 - Billed Cost Breakdown



Step One – Bills and Rates

Chart 1.02 - Annual Total Billed Cost



Step One – Bills and Rates

City of Fort Collins

about our city ▶

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Utilities

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- Conserve
- Safety & Security
- What We Do
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Electric

Commercial and industrial customers' electric rates are based on the facility's average demand for electricity (see the "Rate Code" column on your bill).

- **E200* series (GS Rate):** customers with demand less than 50 kilowatts (kW) (small commercial accounts)
- **E300* series (GS-50 Rate):** customers with demand between 50-750 kW (medium to large commercial accounts)
- **E400* series (GS-750 Rate):** customers with demand of 750 kW and above (large commercial and industrial accounts)

*These rate codes also may begin with the letter "A" or "B" for service in an annexed area where additional Rural Electric Association (REA) service-rights fees apply. Fees of 5% are added to "A" rates, while 25% service-rights fees are added to "B" rates.

Fort Collins Utilities offers programs, incentives and tips to help **businesses conserve**.

Tip #171

Report a Problem

- Pay Bill Online
- Start or Stop Service
- Manage Your Account

Toilet Recycling & Rebates
CLICK PHOTO

Step One – Benchmarking

- *bench·mark (noun)*
- a surveyor's mark on a permanent object of predetermined position and elevation used as a reference point
- a standard by which something is measured
- a standard of excellence or achievement against which similar things must be measured or judged
- Synonyms: reference, criterion, gauge, goal, measure, standard, touchstone, yardstick



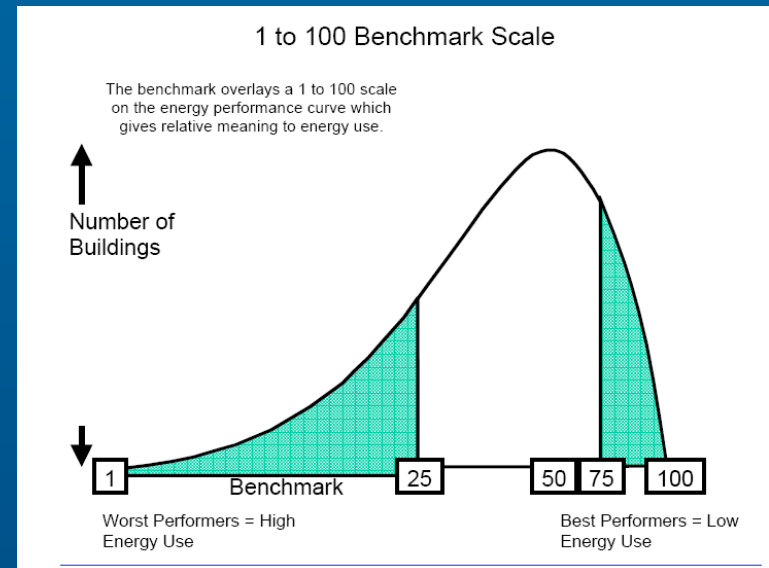
Step One – Benchmarking

- Establishing building operations performance targets
- Identify inefficient buildings
- Identify high performers
- Estimate cost savings potential
- Track progress or degradation
- Marketing



Step One – Benchmarking

- Energy Use Intensity (EUI)
 - Annual building energy use / gross square feet
 - US metric >> kBtu per square foot per year
- Energy cost intensity
 - Building total energy cost per gross square feet
- Numerical Rating/Ranking
 - Comparing building to population of similar buildings
 - 0-100 or percent



Step One – Benchmarking

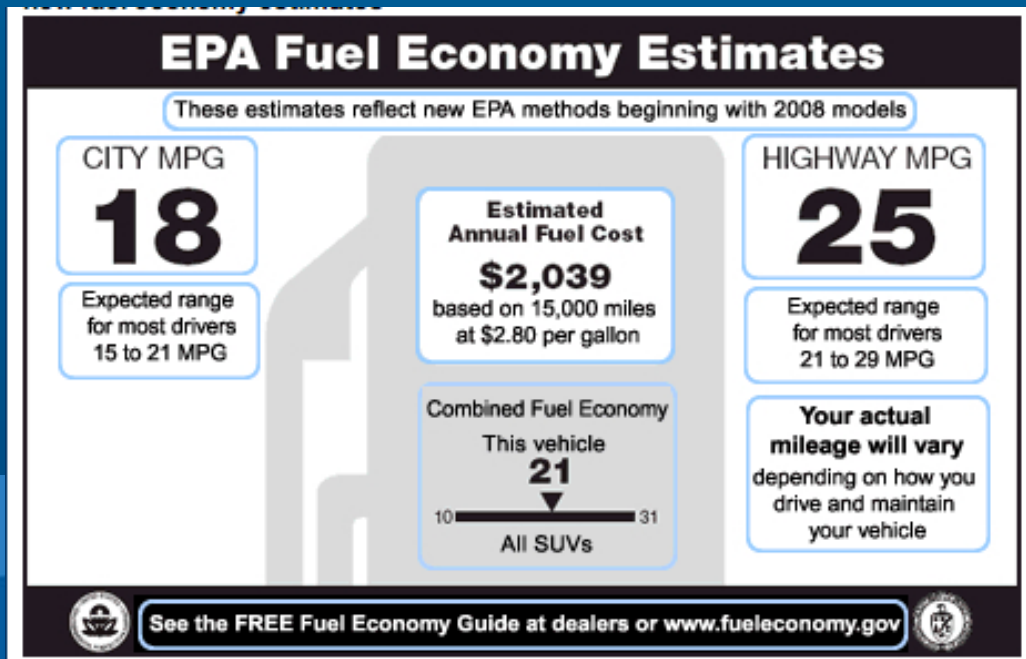
- Our building should...
 - use 20% less energy than an average building
 - be LEED rated
 - get an ENERGY STAR label
 - use no more site energy than 33 kBtu per square foot per year



Step One – Benchmarking

What does ENERGY STAR Portfolio Manager do?

- Track and assess energy and water use
- Site and source energy benchmarks
 - Weather normalized
- Statement of Energy Performance



Step One - Benchmarking Water

- Challenges
 - Metrics less developed for water than energy
 - Available data is limited
 - Water use by sector
 - Normalization factors
 - Utility metrics – GPCD
- Good news
 - Track against your own history
 - Can separate indoor and outdoor use from bills
 - Utilities can help

Step One – Benchmarking

- Rankings are valuable for non-technical decision makers
- EUI's (numerical) are valuable for technical decision makers
- The tools are easy to use

Got 33 kBtu per SF?



Step One – Assessing Trash

GOAL: Reduce amount of trash hauled to landfill (and thereby reduce costs)

- Hauler?
- Level of service?
- Container Size?
- Pick up frequency?
- Volume at pick up?
- Monthly cost?
- What information is on your bill?



Step One – Assessing Trash

- Waste characterization / audit -- quantity of the following materials still in waste stream:
 - Paper (all types)
 - Glass (containers)
 - Plastics (containers and other)
 - Cardboard and paperboard
 - Metals (containers and scrap)
 - Compostables (yardwaste or food)
- Approaches: quantitative or visual, etc.

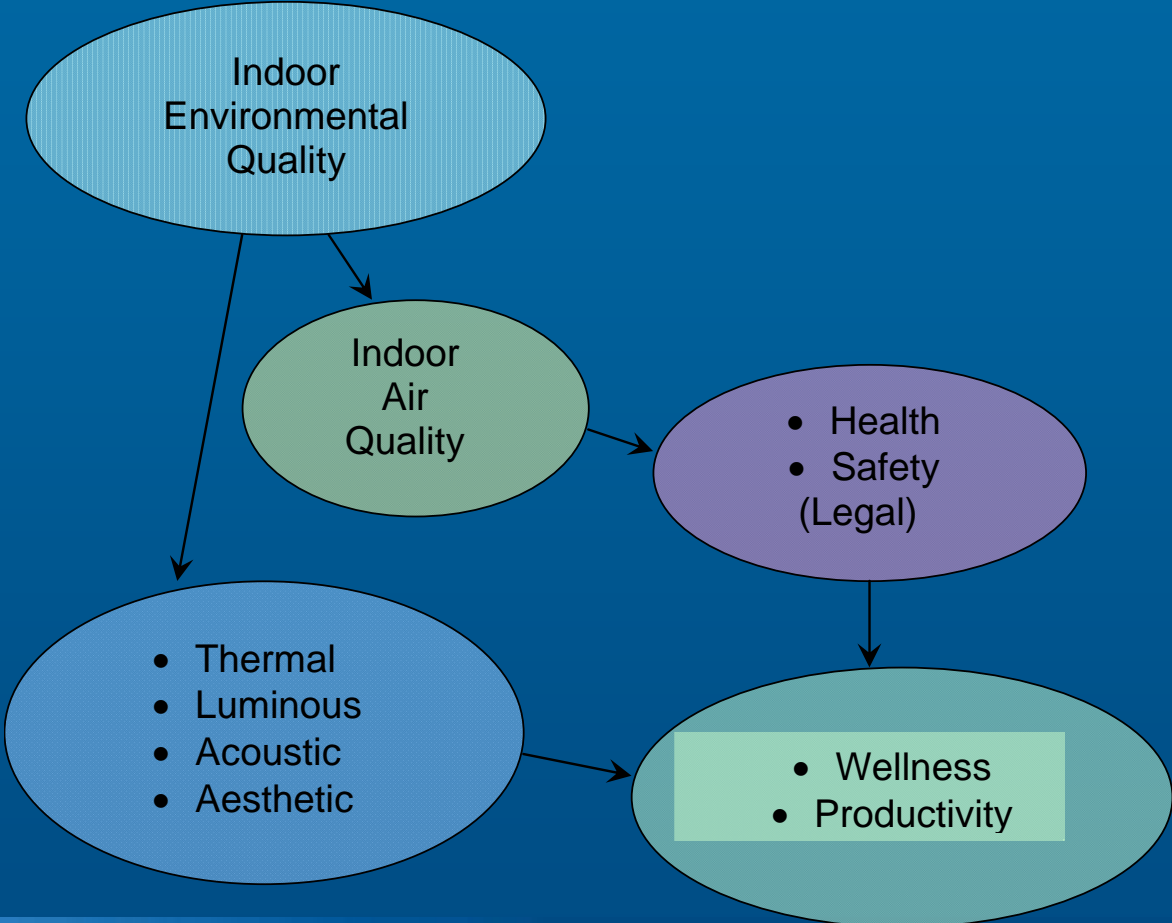
Step One – Assessing Recycling

GOAL: maximize amount of waste diverted from landfill disposal

- Hauler (including self)?
- Level of service?
- Container Sizes?
- Pick up frequency?
- Material types?
 - Paper and cardboard
 - Plastic and glass containers
 - Scrap metal
 - Compostables
 - Other
- Volume at pick up?



Step One - Indoor Environmental Quality



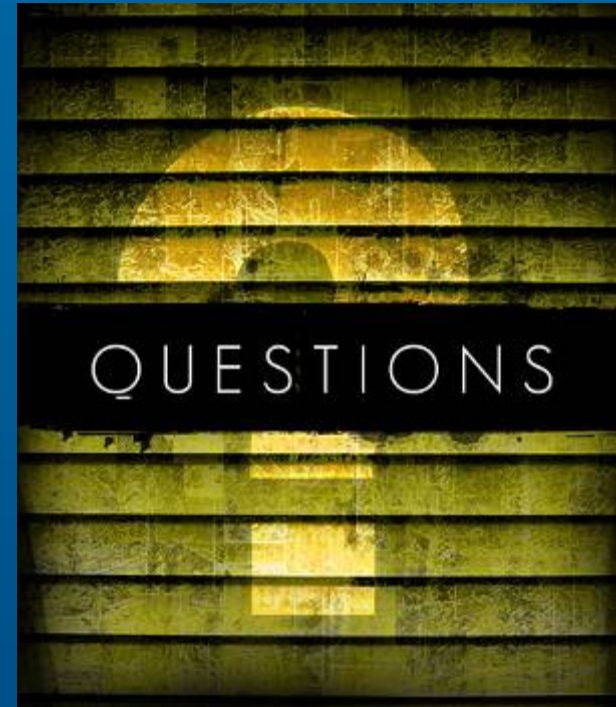
Step One – Ask Questions

- How “well” do your employees feel at work?
- What do your employees say about your building?
- How much time do your employees spend complaining about being uncomfortable?
- Does your building support or work against your mission?



Step One – Ask Questions

- Your service providers
 - HVAC service
 - Temperature control
 - Outside air settings
 - Custodial service
 - Lighting
 - Products



Step One - Get Started Today

- ✓ Collect electricity, natural gas, water bills for at least the last twelve months
- ✓ Enter bill information into tracking spreadsheet
- ✓ Create a utility bill chart, print it, post it where you see it every day
- ✓ Make a plan for learning from your employees and service providers
- ✓ Schedule an efficiency assessment to start Step Two



Step Two - Get a Physical/Checkup

Step Two – What's in an Efficiency Assessment

- Analysis of electric, water and gas data (if provided)
- Benchmark of your facility against others of like size and use in the region
- Determination of needs and goals through interviews with you and your staff
- On site review of equipment and operations for efficiency opportunities
- Detailed report with recommendations

Step Two- Understanding Your Building

- General Diagnosis/Interview Staff
- Assessing current technologies in building:
 - Lighting
 - HVAC
 - Controls (lighting and HVAC)
 - Envelope
- Periodic assessments:
 - PPMs and ongoing Cx
 - Night time audit

Step Two- Staff Interviews and Building Walk-through

- Facility staff interviews and building walk-through
 - Let them tell their story and develop a rapport
 - Take lot's of notes
 - Collect building characteristics
 - Past, present, future renovations (i.e., any equipment scheduled to be replaced)
 - Current schedules of operation (Occupancy, HVAC, Lighting)
 - Current comfort/maintenance issues
 - Does the building meet heating/cooling loads on design days?

Step Two- Staff Interviews and Building Walk-through

– Building Controls

- BAS system type and capabilities (programmable t-stats, pneumatics, DDC, monitoring only, trending)
- Setpoints (temperature, static pressure) and programmed operation schedules (daily, weekly, seasonally)
- Current controls sequences
 - Minimum outside air fraction
 - Airside economizers
 - Waterside economizers
 - OAT temperature lockouts
 - Reset strategies (CHW, DAT, HW, static pressure)
 - Optimum starts
 - Setbacks
 - Lighting schedule controls

Step Two- Staff Interviews and Building Walk-through

- Goal
 - Before leaving the site, understand how this facility operates
 - Day-to-day
 - Seasonally
 - Consider and review ideas and issues related to:
 - Energy Conservation Measures
 - Funding and budget cycles

Step Two- Systems and Equipment

- Document system types, equipment information and operational details for:
 - Lighting
 - Heating, ventilating and air conditioning (HVAC)
 - Control systems
 - Building Envelope
 - “Plug” Loads

Step Two- Lighting

- Lighting
 - Technology
 - Fluorescent (linear and compact)
 - Incandescent
 - Metal Halide
 - Etc.
 - Light levels: actual versus recommended
 - Light quality: glare, color
 - Controls: simple switch or ??
 - Operating schedule

Step Two- Lighting

- Key points for lighting
 - Diameter of lamps
 - T12, T8, T5
 - Ballast type
 - Magnetic
 - Electronic
 - High efficiency
 - Lamp type
 - Wattage
 - Color temperature
 - Color rendering index
 - Controls
 - Switch
 - Occupancy
 - Daylight
 - Sweeps



Step Two- HVAC

- Mechanical systems
 - Technology
 - Roof-top units
 - Central systems
 - Residential type systems
 - Other
 - Air supply and ventilation
 - Temperature (and humidity) requirements
 - Thermal comfort (or lack thereof)
 - Controls: thermostats or ??
 - Operating schedule

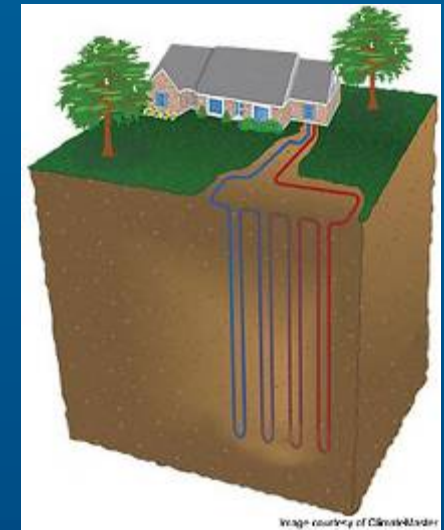
Step Two – Typical HVAC System Types

- Rooftop Units (RTU): common in low-rise commercial facilities, self-contained air handling, heating and cooling equipment
- Central systems: includes air handling fans, boilers, chillers and associated pumps
- Residential type systems: split systems and furnaces for small business or small scale heating and cooling



Step Two – Other HVAC System Types

- Ground source heat pumps
- Evaporative
- Thermal storage
- Radiant heating and cooling
- Heat recovery



Step Two – System Types

- Air supply
 - Constant volume
 - Variable volume
- Ventilation
 - Minimum outside air
 - Economizer
 - Demand controlled



Step Two - HVAC Controls

- HVAC Control System Types
 - Manual thermostats
 - Programmable thermostats
 - Direct Digital Control (DDC)
 - Pneumatic
 - Time clocks



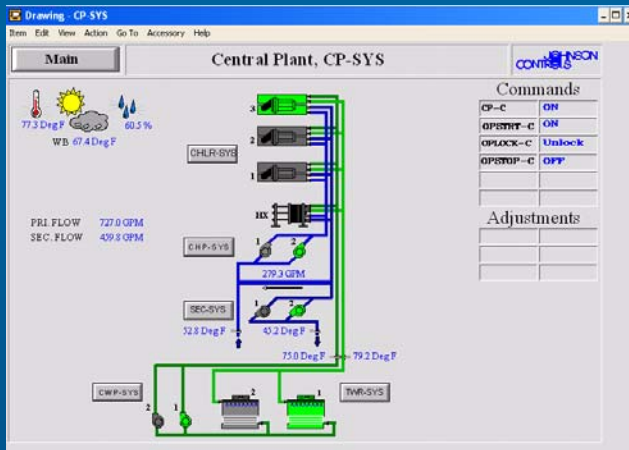
Step Two - HVAC Controls

- Control Settings
 - What are the settings?
 - Heating temperature
 - Cooling temperature
 - Who decides on the settings?
 - T-stat wars
 - Maintenance staff
 - Standards



Step Two - HVAC Controls

- Schedule
 - What is it?
 - Weekdays
 - Weekends/Holidays
 - Who decides?
 - Manual
 - Automatic
 - Overrides
 - Standards



Step Two - Building Envelope

- Sources of infiltration
- Building positively pressurized
- Weatherization opportunities
- Types of window and shading devices - trees
- Cool roof
- Insulation levels



Step Two – Plug Loads

- Plug loads
 - Computers and IT equipment
 - Copiers, printers
 - Refrigerators, coffee makers, etc.
 - Portable heaters



Step Two – Off Hours Walk-through

- Walk through your building after the cleaning crews have left (unannounced)
- Note what's running vs. off including: HVAC, lighting, plug loads-PC's and copiers



Step Two - Equipment Life Expectancies

- Lighting equipment: 10-15 years
- BAS or HVAC Controls: 10 years
- Steam and Condensate Systems: 15 years
- Boiler Plants: 20 years
- HVAC Systems (RTUs, Ducting, AHUs): 20 years
- Have your systems exceeded this life expectancy?

Step Two - Maintaining Building Systems

- Periodic preventative maintenance (PPMs)
- Cx / RCx of HVAC Systems
 - Commissioning (New Construction)
 - Insuring that a building will operate per the Owner Project Requirements
 - Retro-commissioning (Existing Building)
 - Commissioning a building that has never been commissioned
 - Re-commissioning (Existing Building)
 - Commissioning an existing building that has already been commissioned or retro-commissioned
 - Continuous Commissioning (Existing Building)
 - An ongoing process to resolve operating problems, minimize comfort complaints, and optimize energy performance

Step Two - What does this all mean?

- Lighting Systems
 - Premium T8s, CFLs, T5s
- Lighting Controls
 - Occupancy Sensors, Sweep Controls, Daylighting Controls, Re-circuiting
- HVAC Systems
 - High Efficiency, VAV, Evaporative Cooling
- HVAC Controls
 - Digital, Scheduling, Economizers, Resets, Lockouts



Step Two - What does this all mean?

- Envelope
 - Weatherization, Shading, Insulation, Cool Roof
- PPMs
 - Clean Coils, Filters Change outs, Tensioned Belts
- Ongoing Cx
 - Calibration Checks, Systems Overridden?, Control Sequences Programmed/Optimizes
- Optimized building schedules
 - Building systems/plug loads unnecessarily running when the building is unoccupied?



Step Two – Fort Collins Facility Assessments

- A *FREE* service to help you understand and take control of your utility costs, and
- Identify opportunities for efficiency improvements that support your business.

Step Two – Fort Collins Facility Assessments

- To get started
 - Sign up on-line at *fcgov.com/assessments*
 - Complete pre-assessment form and include 12 months of gas data
 - Schedule date and time for site visit (approximately 1 ½ hours)

Step Two – Fort Collins Facility Assessments

- Facility assessment includes:
 - Analysis of electric, water and gas data (if provided)
 - Benchmark of your facility against others of like size and use in the region
 - Determination of needs and goals through interviews with you and your staff
 - On site review of equipment and operations for efficiency opportunities
 - Detailed report with findings
- Climate Wise assessment adds waste/recycling and transportation

Step Three - Consult with a Specialist

Step Three - Consult with a Specialist

- Step Three – Consult with a specialist
 - More detailed diagnostics and testing
 - Take general recommendations and make them specific
 - Provide enough detail to:
 - “Price” recommendations
 - Calculate savings and benefits
 - Step Three outcomes
 - Scope for bids
 - Building tune-up or retro-commissioning

Step Three – Diagnostics and Testing

- Data are used to determine how the systems are being controlled and to validate operational details
 - Spot measurements
 - Trending and data loggers
 - Functional Testing
 - Test and Balance (TAB)
- Choose based on objectives of customer and step two recommendations

Step Three Tools – Spot Measurements

- Power Meter (kW, PF, Amps, Volts)



- Illuminance Meter (footcandles)



Step Three Tools– Trending

- Building Automation System
- Data loggers
 - Temperature
 - RH
 - Motor On/Off
 - Light On/Off
 - Light levels
 - Current (Amps)



Step Three - Equipment for Functional Testing



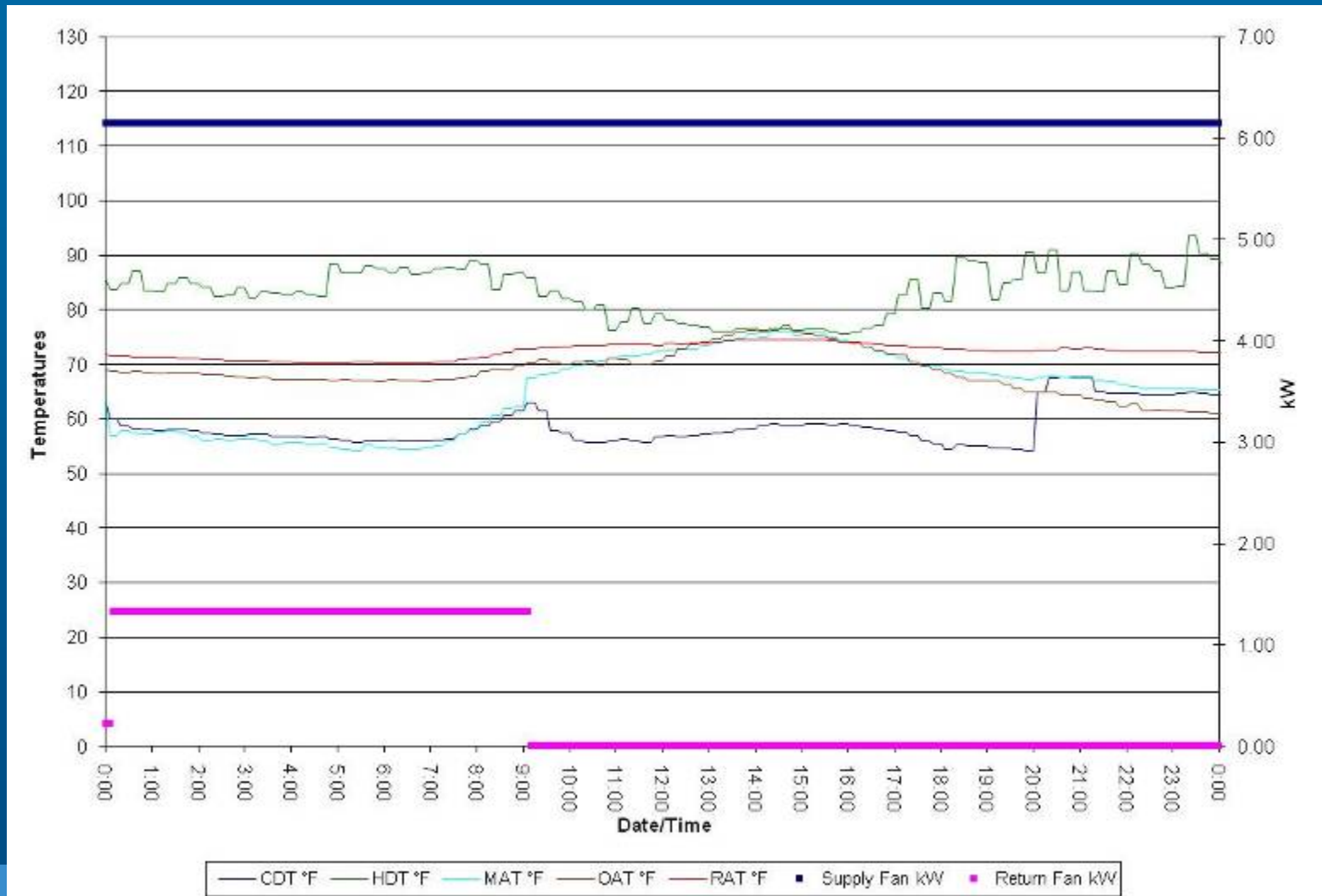
Make sure measuring equipment is calibrated annually!

Step Three – Test and Balance (TAB)

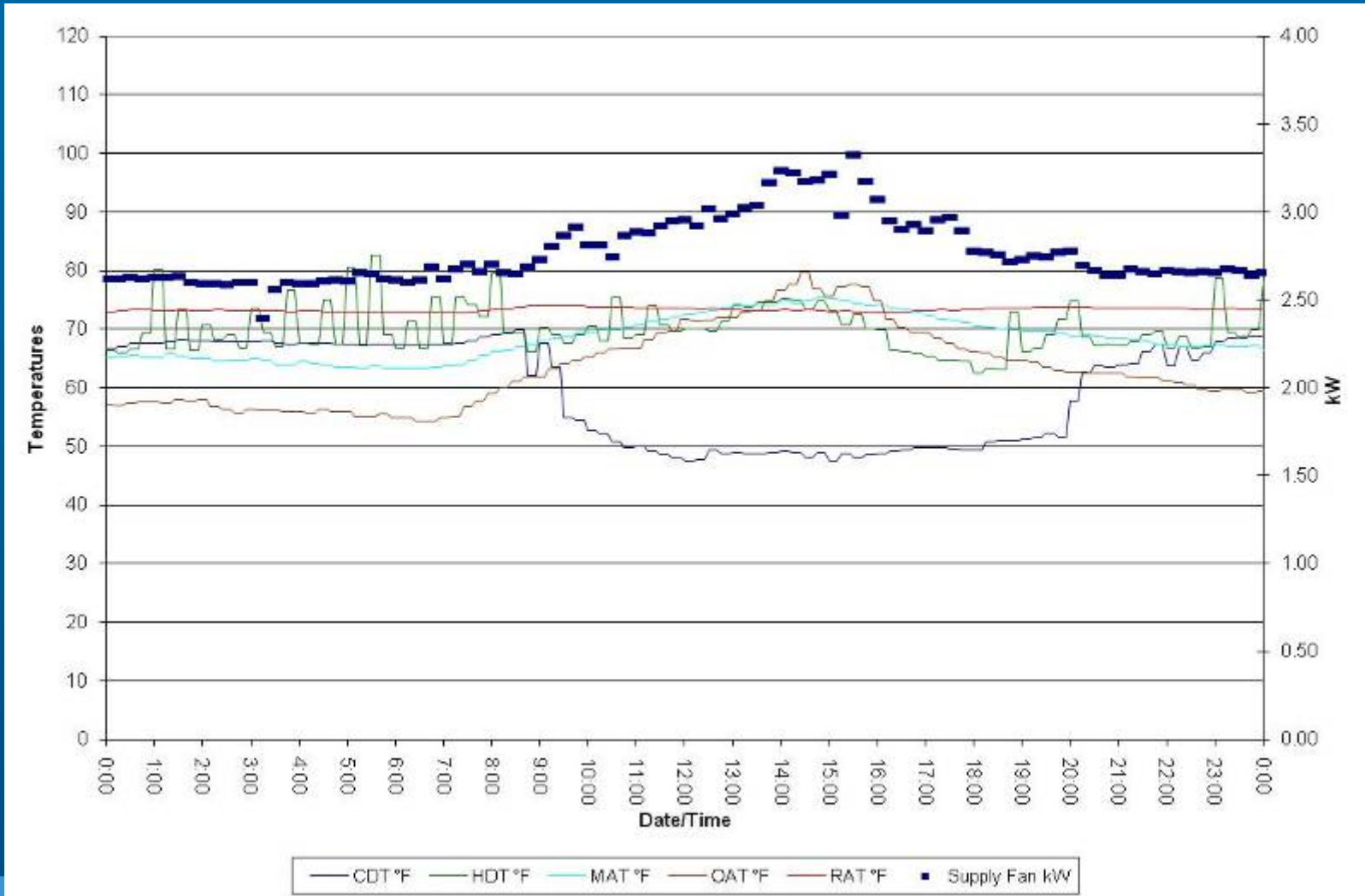
- Verify current airflow to design values
- If building use has changed overtime, load calculation may need to be performed and the building re-balanced



Step Three – Data Example



Step Three – Data Example



Step Three - Building Tune-up

- Compare your building to a car
 - The less it's maintained the lower the MPG
 - Buildings are no different
- Aside from equipment at end of useful life, a lot of time a building just needs a tune-up
 - Focus on building system controls
- Usually paybacks of controls based measures compared to capital based measures are less than 2 years



Step Four – Get a Prescription

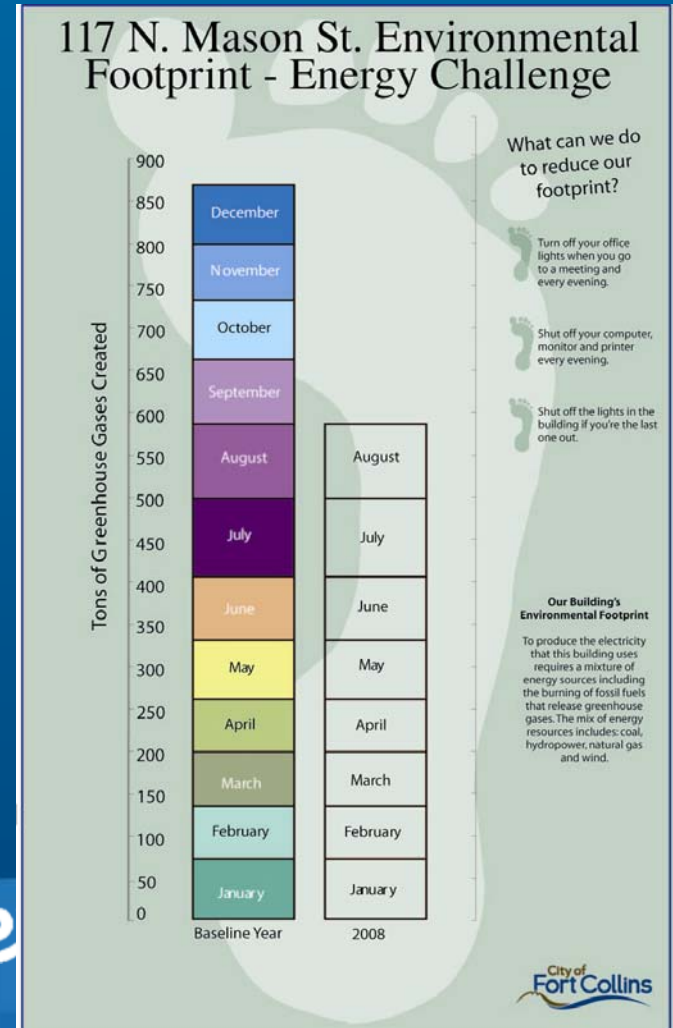
Step Four - Top Ten Energy Actions

1. Conservation
2. Lighting retrofits
3. Thermostats
4. Retro-commissioning
5. HVAC equipment
6. Economizers
7. Building envelope
8. Appliances and office equipment
9. Green IT
10. People



Step Four - Top Ten Energy Conservation

- o Conservation: behavior based savings
 - o Turn it off, turn it down, tighten the schedule, etc.
 - o Applies to everything
 - o Culture based is most successful
 - o Competition seems to help



Step Four - Top Ten Energy Lighting Retrofits

- o Lighting retrofits: replacing old fluorescent, incandescent and metal halide with more efficient technology
 - o Most common opportunity in business
 - o Technology types
 - o T-12 to T-8 fluorescent
 - o T-8 to high eff T-8
 - o Incandescent to compact fluorescent
 - o Exit lights to LED
 - o Metal halide to high-bay fluorescent
 - o Typical payback, 2-4 years
 - o Clear and obvious quality improvements
 - o Opportunity to re-design for current needs
 - o Regulatory impacts for magnetic ballasts



Step Four - Top Ten Energy Thermostats

- o Thermostats: installing programmable thermostats AND programming them
 - o Still common to see manual T-stats
 - o Very common to see un-programmed programmable T-stats
 - o Low-cost, short payback
 - o May need to consider access and authority



Step Four - Top Ten Energy Building Tune-up

- o Fort Collins Building Tune-up Programs
 - o Quick fix and beyond
 - o Optimizes equipment and control operations
 - o Can address all aspects of performance (energy, cost, IEQ)



Step Four - Top Ten Energy HVAC Equipment

- o HVAC equipment: purchase high efficiency equipment at replacement, regular maintenance of existing equipment
 - o High efficiency always makes sense at replacement
 - o Rebates may be available
 - o Maintenance should address “does it work?” not “is it there?”
 - o Maintenance critical for IAQ/IEQ



 Nexant

Step Four - Top Ten Energy Economizers

- o Economizers: using outside air to provide cooling
 - o Great climate for economizers
 - o Need to be specified for new equipment
 - o May make sense to retrofit
 - o Integrated controls to maximize benefit



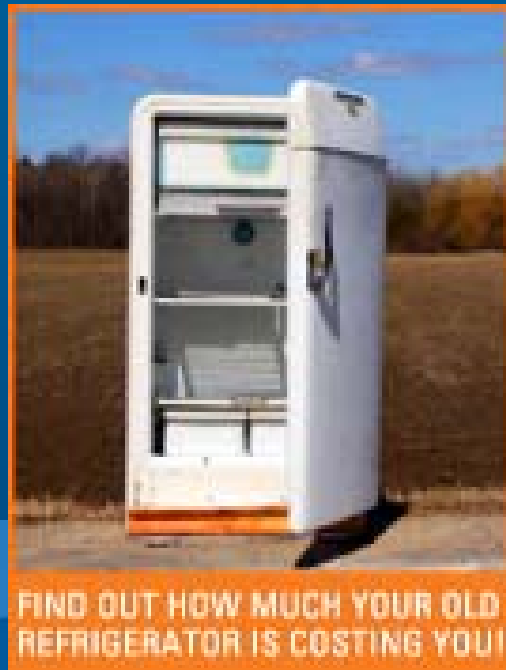
Step Four - Top Ten Energy Building Envelope

- o Improving the building envelope (shell): increasing insulation, reducing air infiltration and reducing heat gains
 - o Insulation (ceiling, roof, wall)
 - o Commercial buildings not designed to resist airflow
 - o Limit solar heat gains with window specification and shading
 - o High reflectivity roofs
 - o Challenges of ownership, access, remodeling, re-roofing



Step Four - Top Ten Energy Appliances and Office Equipment

- o Appliances and office equipment: don't forget the refrigerator, television, dishwasher and copy machine
 - o Buy a new refrigerator and recycle the old one
 - o Look for ENERGY STAR label on everything



 **Nexant**

 **City of Fort Collins**

Step Four - Top Ten Energy Green Information Technology

- o Green IT: reducing energy use and environmental impact of IT equipment with hardware, software and operational solutions
 - o Largely untapped opportunity
 - o Specify high efficiency desktops and servers
 - o Start server consolidation and virtualization (rebates)
 - o Optimize setpoints, airflow and cooling for data centers
 - o Network based power management
 - o Thin clients, cloud computing

Step Four - Top Ten Energy People

- o People: culture change, time and money, salaries, sustainability, responsibility ... it's all about people
 - o Sanity check: rules of thumb
 - o \$1 – energy
 - o \$10 – rent
 - o \$100 – salaries
 - o The goal is healthy, happy and productive people
 - o Energy is one big piece of the puzzle



Step Four - Top Ten Water

1. Baseline, benchmark and assess
 - Indoor use
 - Outdoor use
 - Analyze bills and rates for charges
2. Behavior – education and awareness
3. Stop leaks now!



Step Four - Top Ten Water

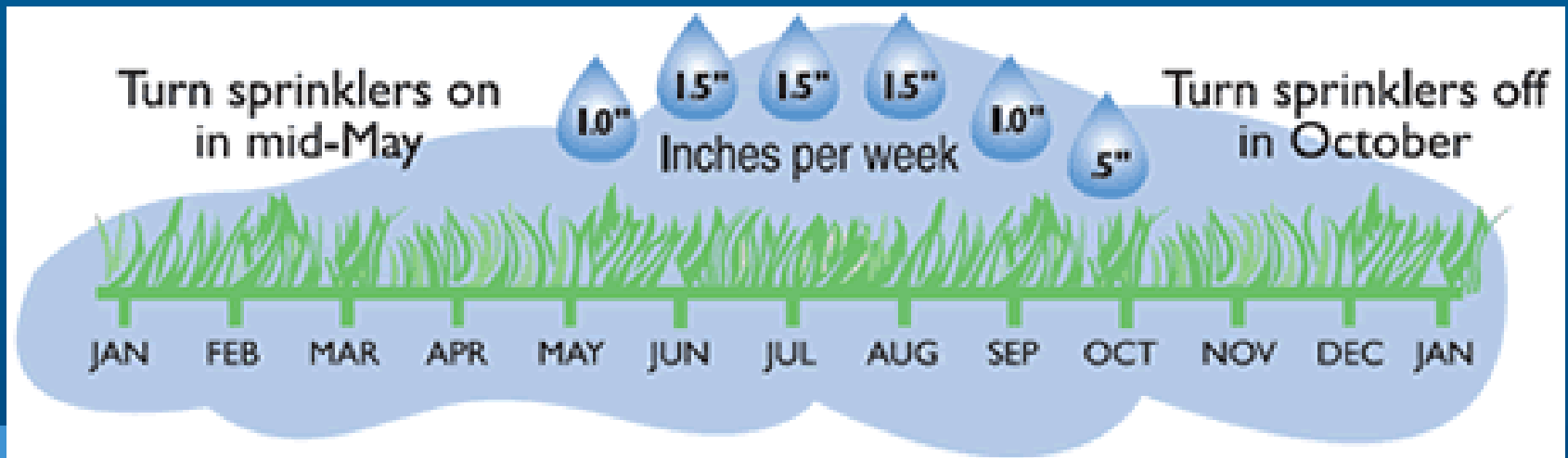
Fixtures

4. Faucet aerators
5. Pre-rinse spray valves
6. Showerheads
7. Toilets
8. Urinals



Step Four - Top Ten Water

9. Irrigation Improvements
 - Scheduling and frequency
 - Regular maintenance
 - Technology



Step Four - Top Ten Water

10. Other

- “Once-through” water use
- Heating/cooling equipment blowdown controls
- Dishwasher upgrades



Step Four - Get Your Prescription

- Key meeting attendees:
 - Efficiency assessment representative
 - Utility representative
 - Building owner/rep – decision maker
 - Facilities staff
- By the end of the meeting the goal is to determine:
 - Whether to move forward into implementation
 - If yes, then select which measures to implement
- Create project plan(s)
 - Objectives, budget, metrics
 - Energy, water, waste/recycling

Step Five - Implement Treatment Plan

Step Five - Barriers

- Money
- Authorization
- Technical resources
- Availability
- Management support
- Others...

Step Five - Barriers

#1: Time!!!

Step Five - Resources to Overcome Barriers

- Internal resources
 - Champions!
 - Buy-in
 - Communicated Plan
- External resources
 - Technical assistance
 - Fort Collins Utilities
 - Climate Wise
 - Rebates from Fort Collins Utilities

Step Five - Implementation of Measures

- Owner to self implement
- Manage/work with contractors or building maintenance staff on the implementation of the specific EEMs



Process – outside services

- At least two bids!
- Places to start
 - Your preferred service providers
 - Participants in existing programs
 - Program trade partners
 - Referrals from other businesses

Step Five – Apply for Rebates

- Rebates pre-approval may be required
 - Technology based rebates (lighting, foodservice, etc.
 - Custom rebates
- Let us help you
 - Contact Utilities
 - (970)-221-6700
 - utilities@fcgov.com
 - www.fcgov.com/utilities/conservation

Step Five – Fort Collins Building Tune-up Programs

- Fort Collins programs help manage the cost for tuning up your building
- Two options to identify low cost/no cost energy saving measures:
 - Building Tune-Up (BTU) - Facilities 50,000 SF or larger
 - Small Building Tune-Up (SBTU) - Pilot for facilities less than 50,000 SF
 - Offered in collaboration with Platte River Power Authority

Step Five - BTU Program

- Building Tune-up Incentive
 - Utilities and Platte River will pay 100% of the cost to identify measures that can save energy and improve comfort, operations and efficiency that pay for themselves in less than two years.

Step Five - BTU Program Eligibility

- Utilities business customer
- Committed to spending \$4,000 or more, depending on building size, to implement identified measures with a total simple payback of two years
- No scheduled major renovations or capital investments

(Must meet all qualifications.)

Step Five – BTU Facility Requirements

- 50,000 sq. ft. and at least two years old
- Functioning central control energy management system
- Reflects unique circumstance, e.g. unusually high energy use compared to similar buildings of like use
(Must meet minimum of two requirements.)

Step Five - SBTU Program

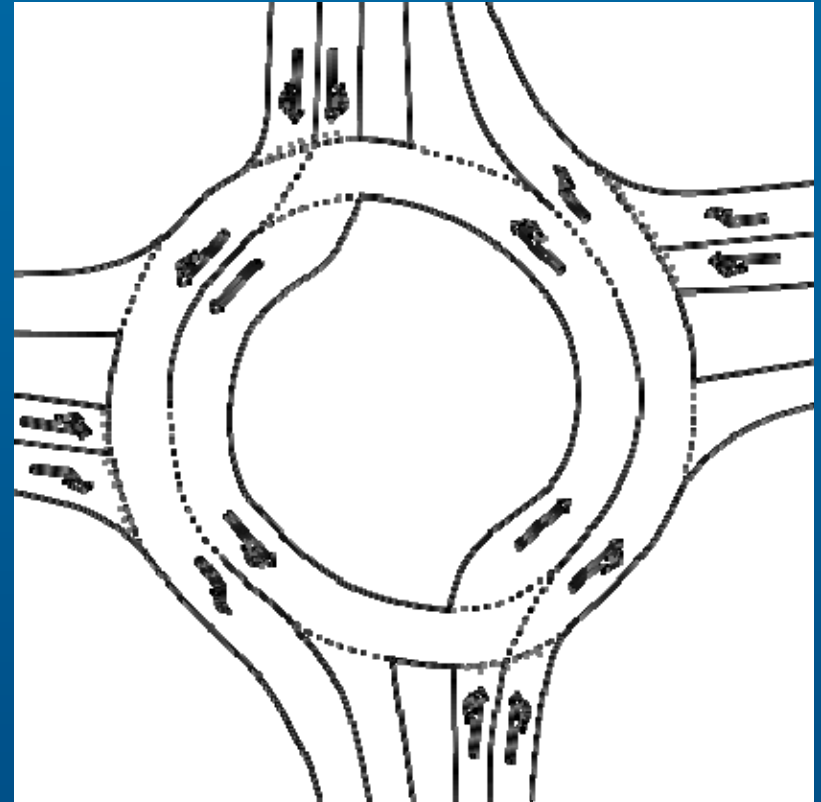
Pilot program with full scale program in 2011

- Provides both evaluation and up to \$5,000 of tune-up services to key energy drivers of the building
- Utilities business customer
- Less than 50,000 SF
- Must agree to ensure proper maintenance on existing equipment prior to participation

Step Six - Wellness Plan

Step Six – Wellness Plan

- Project verification
- Return to the beginning
 - Bill analysis
 - Benchmarking
- Ask questions
 - Employees
 - Service Providers
- An integrated approach



Step Six - Verification for Rebates

- Fort Collins Utilities rebates may require a certain level of verification that the measures are implemented and working
 - Site inspections
 - Trend data collection and review



Step Six – Bill Analysis and Benchmarking

- Are you saving the money you expected to?
- Benchmarking
 - Track progress or degradation over time
- Marketing



Got 33 kBtu per SF?

Step Six – Ask Questions

- Go back to your employees
- Did the project(s) achieve the objectives?
- Is there work still to be done?



Step Six – An Integrated Approach

- o Solving multiple issues simultaneously
- o Whole is greater than sum of parts
- o Saving money AND adding value
- o Reduce utility costs AND improve IEQ
 - o Lighting
 - o HVAC
 - o Comfort
 - o Engaging people
- o Reduce utility costs AND reduce maintenance
 - o Landscaping
 - o Lighting and HVAC
- o Reduce utility costs AND improve productivity

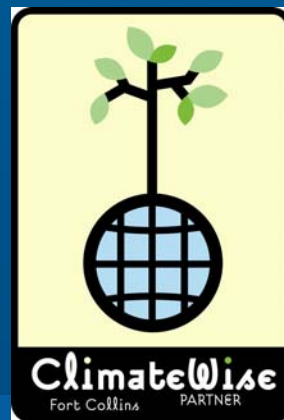


Step Six - Indoor Environmental Quality



Fort Collins Utilities Programs

- o Business Efficiency Program
 - o Efficiency Assessments and Technical Assistance
 - o Rebates
 - o Integrated Design Assistance Program
 - o Building Tune-up Programs
- o Climate Wise



Questions

Break Time

