Asking the right question for today and tomorrow

Maximizing the Better Buildings Program

Schneider Electric Energy Action Program

ISO Program

- 30 sites certified to ISO50001 in program 2018
- 21 sites with SEP certification
- Target sites with ISO14001 certification
- Exposure to Management system
- Seat at table
- Verified results by 3rd party
- Benchmarking for Enterprise
- Documented and Verified Results

Demographics

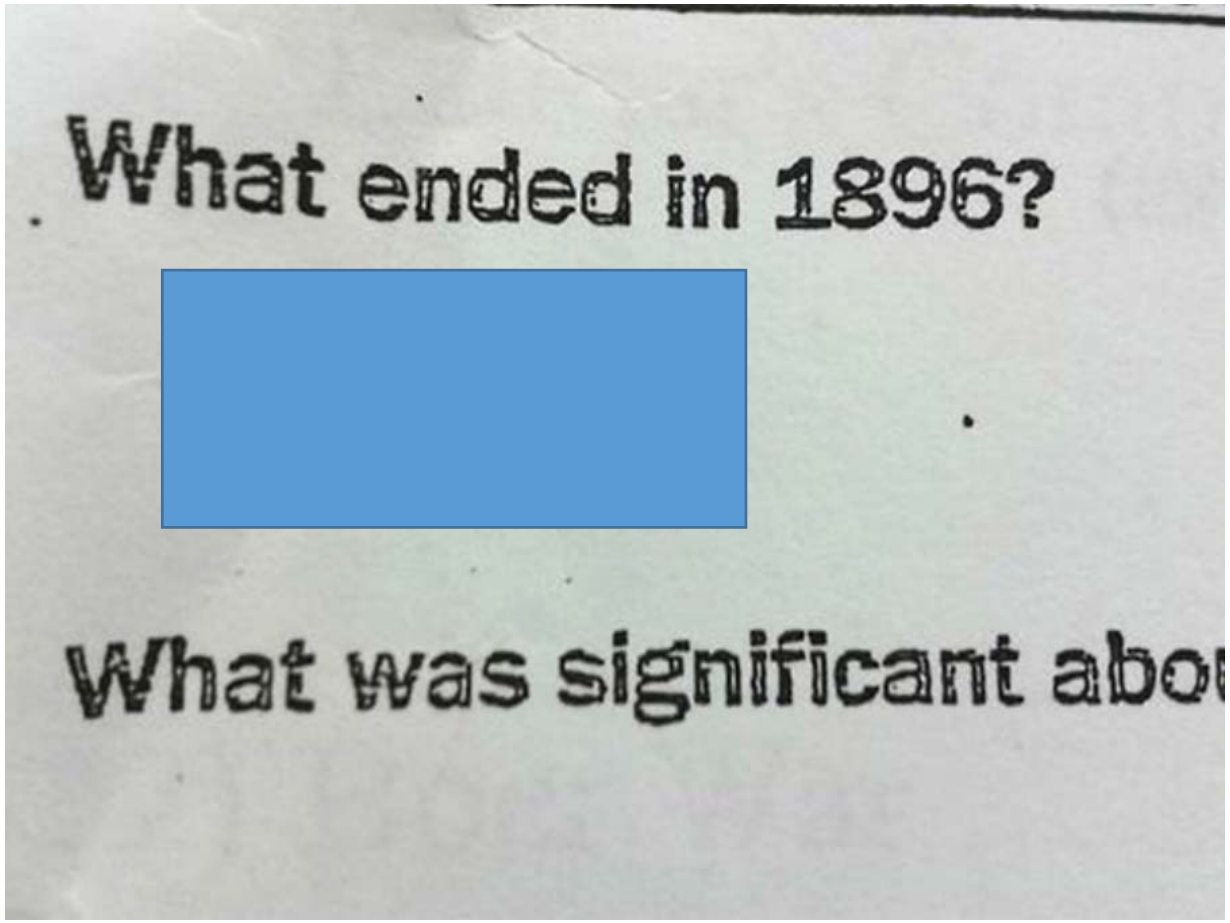
- 72 buildings
- 55 locations
- 12 M ft^2
- 105 people
- 7 Regional Leaders
- 12 Facility Managers
- Across North America
- Across all Businesses

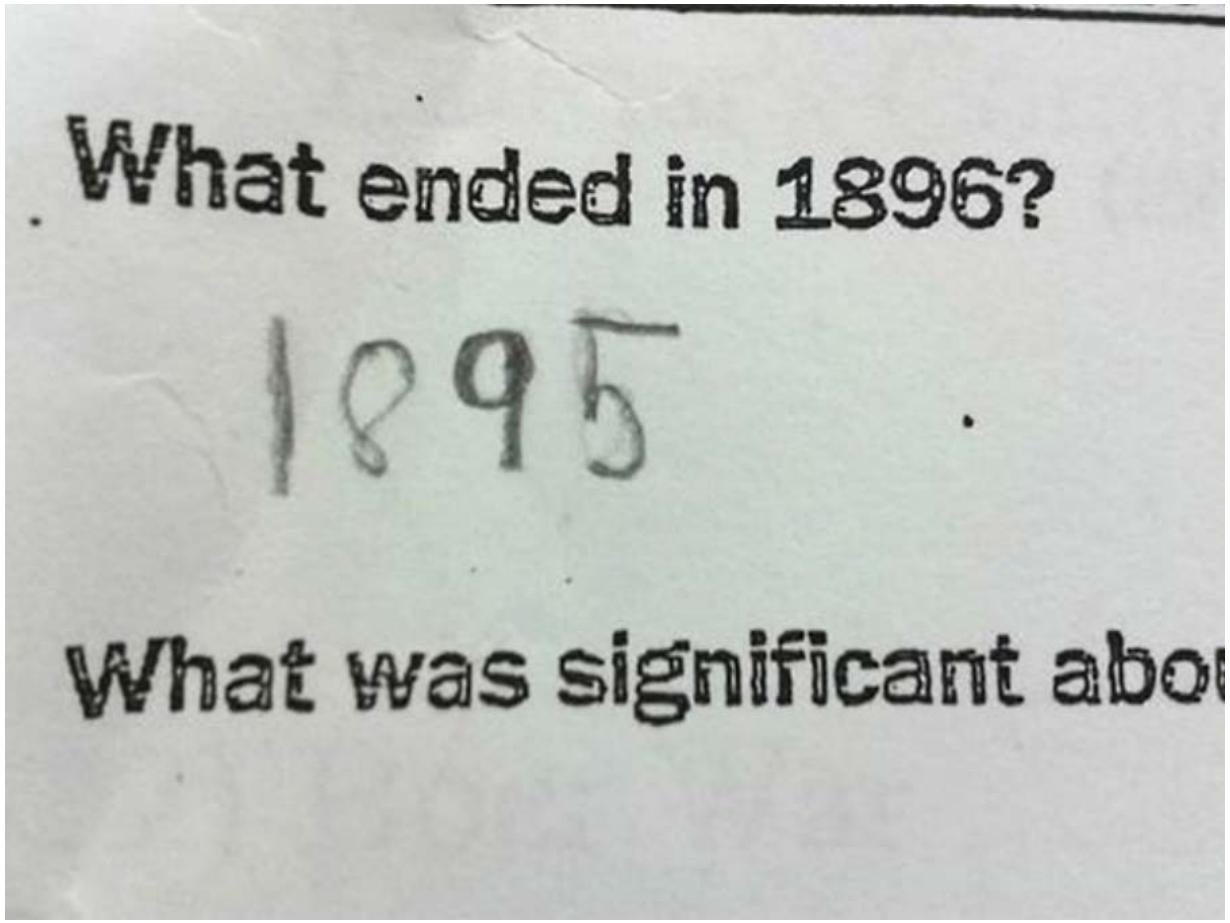
Milestones

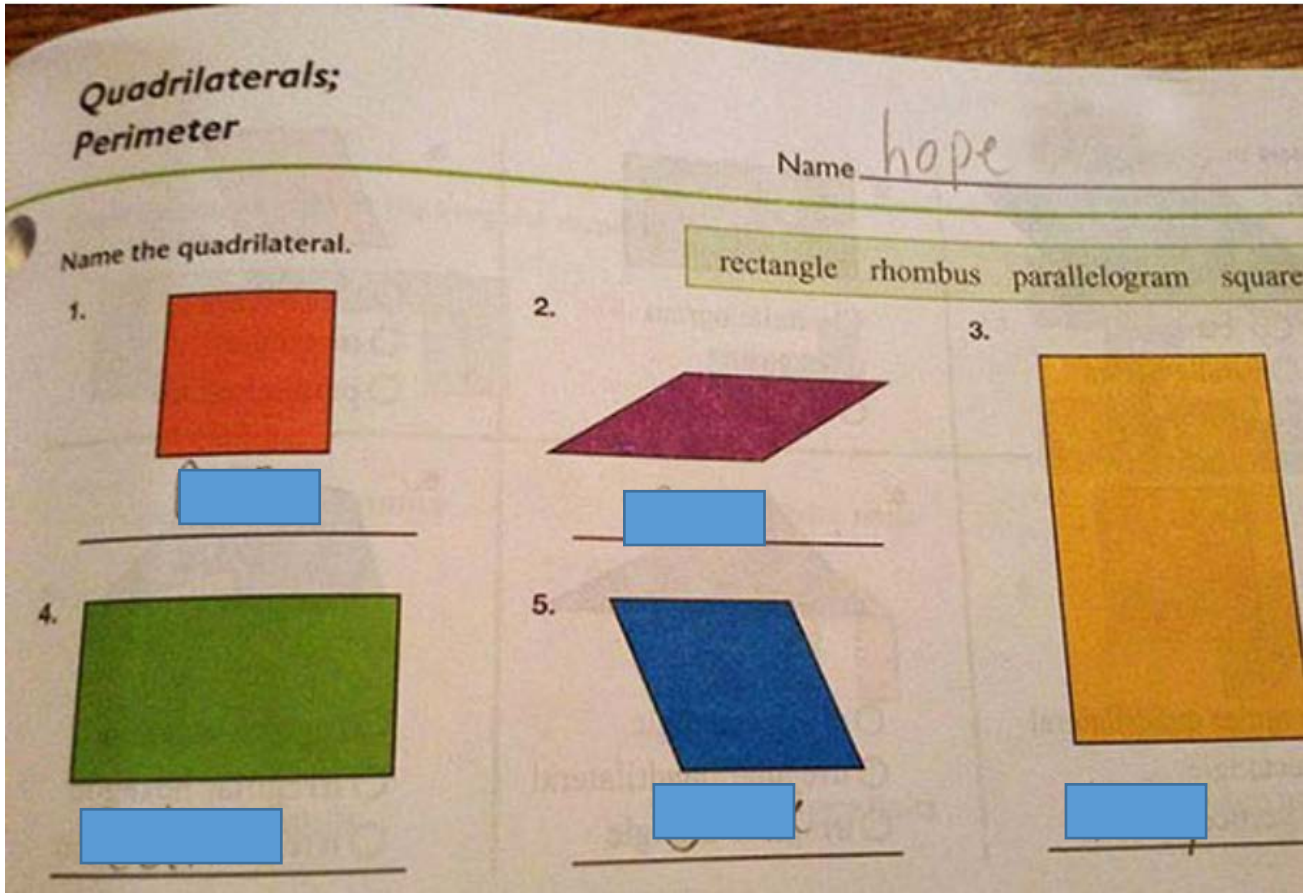
- Active energy program since 2006
- Worked towards a consistent 3.5% year over year goal since 2006
- > 45% normalized energy savings since 2006
- Completed a Better Buildings challenge commitment in 2011 by achieving and documenting a 26% savings in 2016.
- Participated in 2011 ISO50001/SEP demonstration project and since have certified 30 sites to ISO50001 and 21 to SEP.
- The Smyrna site is the 2nd site to be 3x Platinum and we have 10 other sites with Platinum certification.
- Carbon Neutral by 2050
- Re-signed the Better Buildings commitment in 2017 for an additional 12 years and 20% along with a commitment to divert 95% of our waste from landfills by 2028.

Ask the right question and be careful of the answer.

How did the Better Buildings Program / SEP programs help us with our decision making and question asking.


What ended in 1896?
What was significant abo





Quadrilaterals; Perimeter

Name hope

Name the quadrilateral.

rectangle rhombus parallelogram square

1. 

Bob

2. 

Sam

3. 

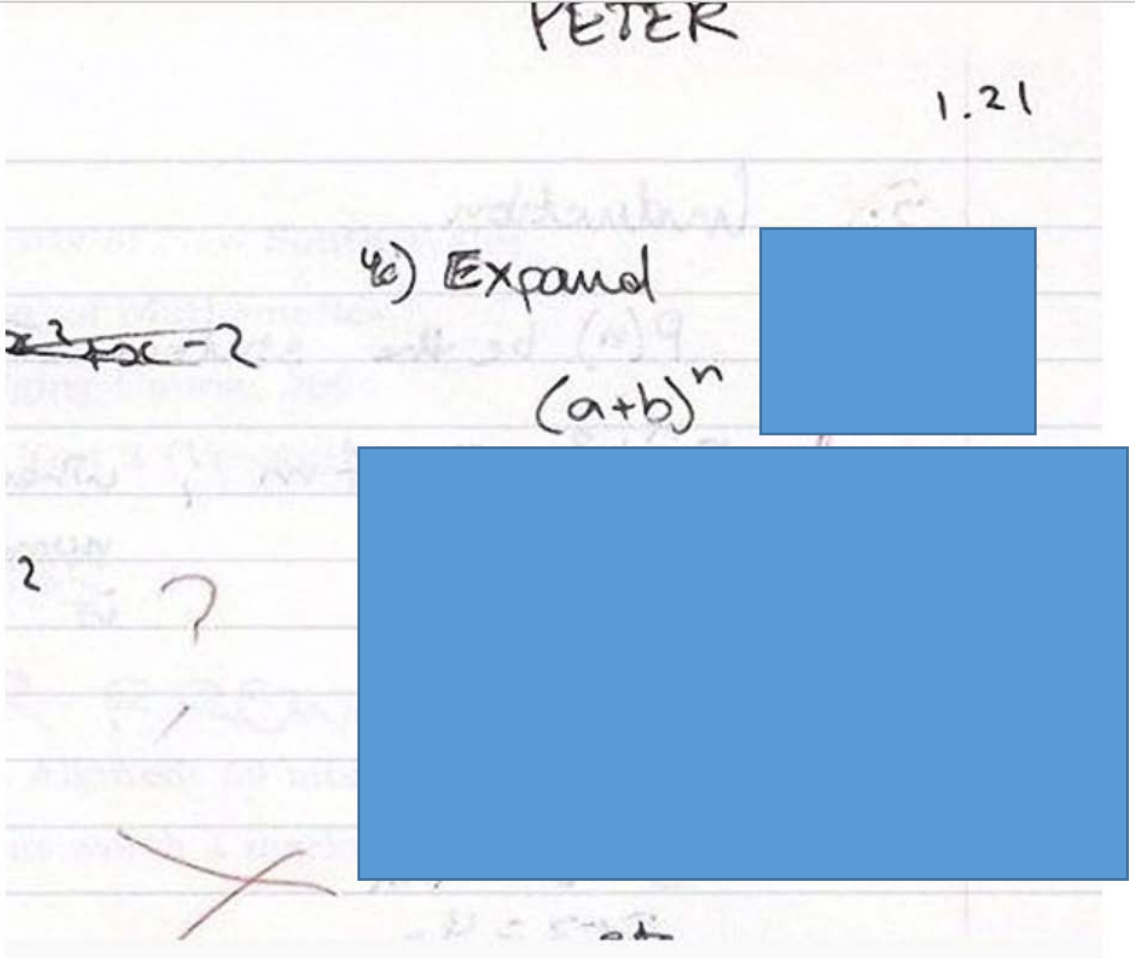
hary

4. 

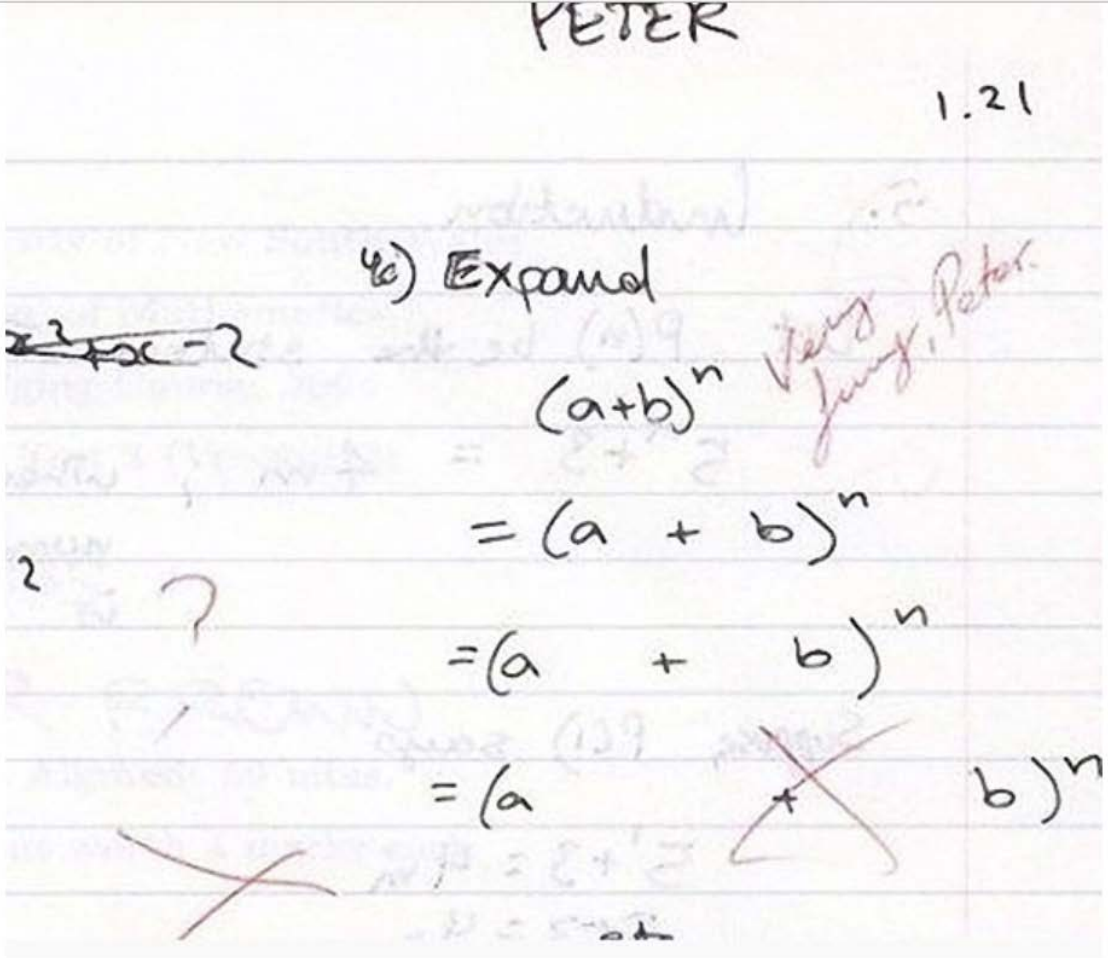
Tedison

5. 

Cate



Source: funcage.com



Source: funcage.com

Transparency Worksheet 23

Hard and Soft Water

fly explain what hard water is.

Transparency Worksheet 23

Hard and Soft Water

fly explain what hard water is. ice

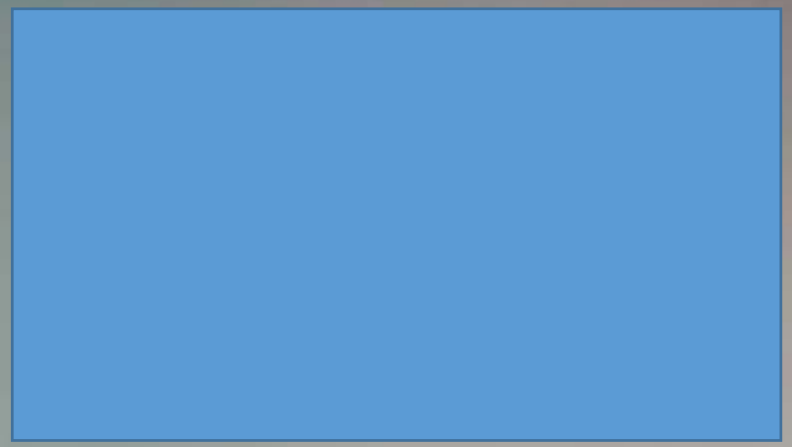
$$\frac{1}{n}\sin x = ?$$

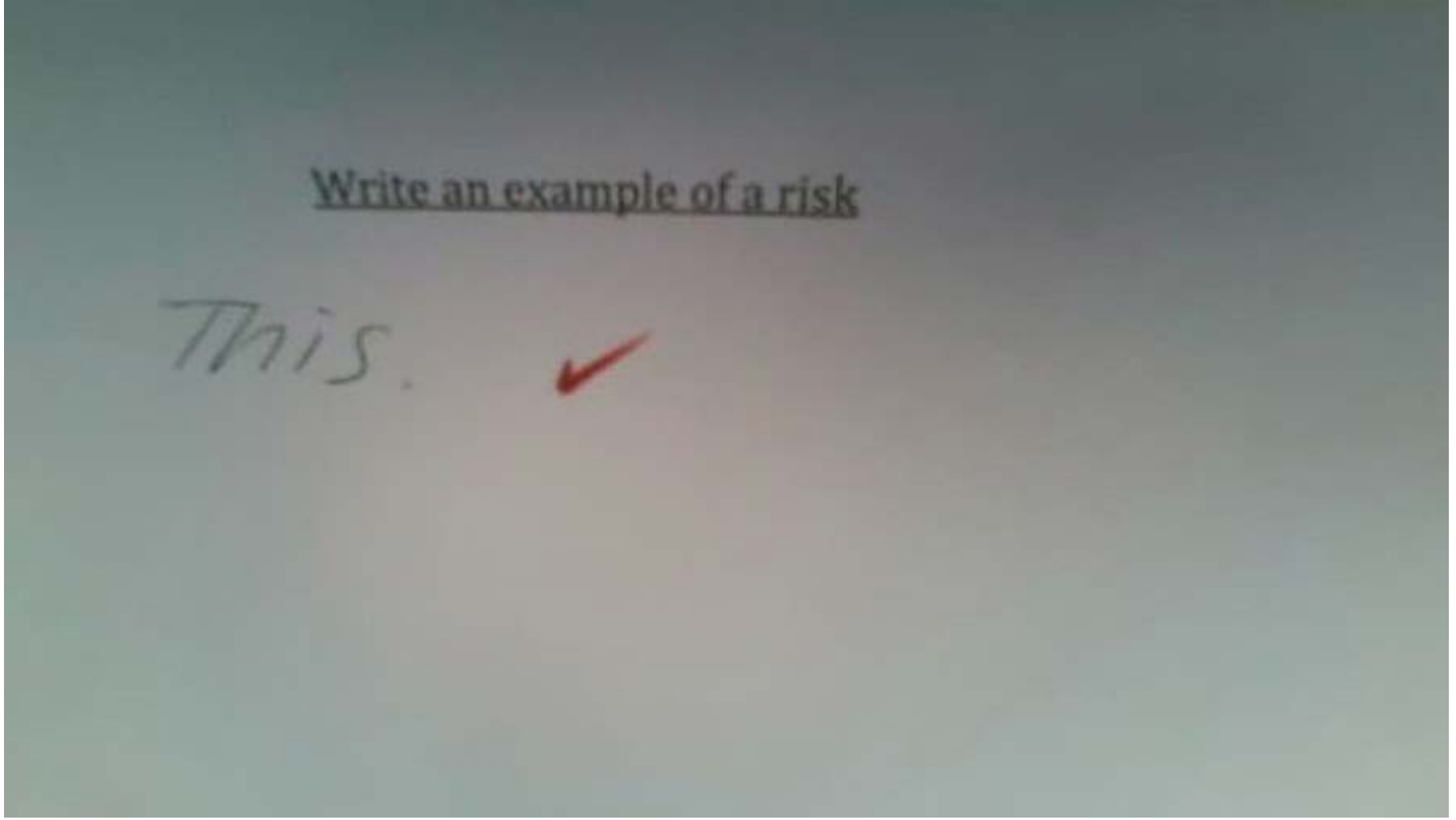
$$\frac{1}{n}\sin x = ?$$

$$\frac{1}{n}\sin x =$$

$$six = 6$$

Write an example of a risk




Write an example of a risk
This.

Questions from the past

- Then: 2006 Hedging strategy to combat out of control energy prices
- Now: Implementing a PPA to save money and fix price in the future.
- Then: 2005 How to justify and install metering
- Now: How to justify and use analytics to effectively manage tons of data from many meters and sources
- Then: 2007 How to justify and pay for T8 high bay lights and fixtures
- Now: How to install an use complex control schemes to maximize the benefit of LED lighting
- Then: <2005 driving HVAC by single thermostats to achieve employee comfort.
- Now: Using single zone VAV in manufacturing areas, partial load efficiencies and using Psych charts and RH for control.

Questions for the present
Why have an energy / sustainability goal

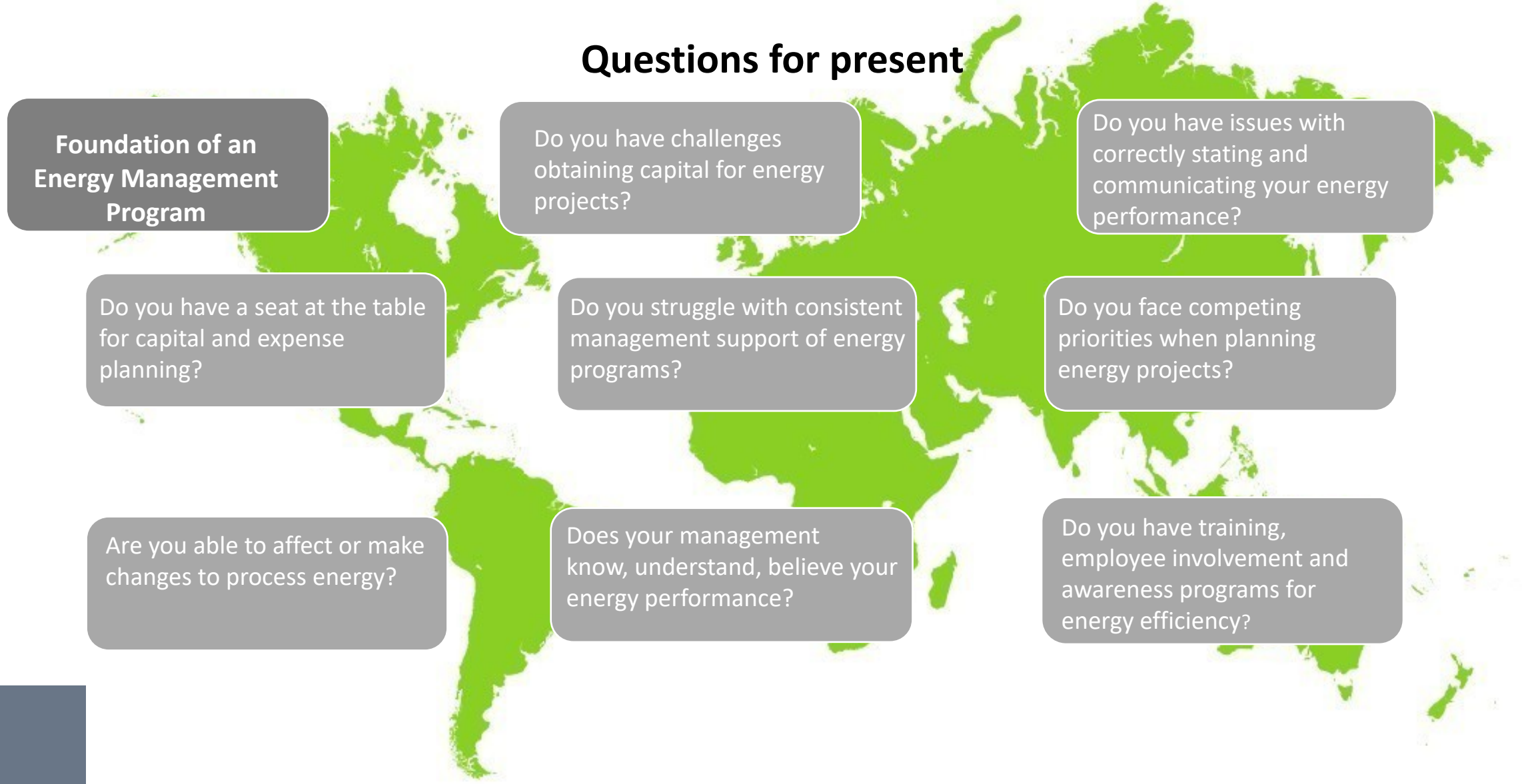
Questions for the present
Why have an energy / sustainability goal

Planet & Society barometer (objectives for 2017)			Start 01/2015	Results Q4 2015	Results Q1 2016	Target 12/2017
Overall score (out of10)			3.00	6.33	6.70 ↗	8/10
PLANET	CLIMATE	1 **10%** energy savings	-	4.5%	4.5% →	10%
		2 **10%** CO_2 savings from transportation	-	8.4%	8.4% →	10%
	CIRCULAR ECONOMY	3 **Towards zero** waste to landfill for 100 industrial sites	34	64	69 ↗	100
		4 **100%** of products in R&D designed with *Schneider ecoDesign Way*™	-	13.3%	8.9% ↘	100%
PROFIT	CLIMATE + DEVELOPMENT (Sustainability offers)	5 **75%** of product revenue with *Green Premium*™ eco-label	60.5%	67.1%	66.7% ↘	75%
		6 **100%** of new large customer projects with CO_2 impact quantification	-	-	-	100%
		7 **120,000 tons** of CO_2 avoided through maintenance, retrofit and end-of-life services	-	44,777	56,137 ↗	120,000
		8 **x5** turnover of Access to Energy program to promote development	-	x2.07	x3.04 ↗	x5
	ETHICS	9 **100%** of our recommended suppliers embrace ISO 26000 guidelines	48%	64.7%	65.2% ↗	100%
		10 **All** our entities pass our internal Ethics & Responsibility assessment	-	88%	88% →	100%
PEOPLE	HEALTH & EQUITY	11 **30%** reduction in the Medical Incident Rate (MIR)	-	17%	37% ↗	30%
		12 **One day** training for every employee every year	79%	85.6%	85.6% →	85%
		13 **64%** scored in our Employee Engagement Index	61%	61%	61% →	64%
		14 **85%** of employees work in countries with Schneider gender pay equity plan	-	57%	57% →	85%
	DEVELOPMENT	15 **150,000** underprivileged people trained in energy management	73,339	102,884	108,365 ↗	150,000
		16 **1,300** missions within Schneider Electric Teachers NGO	460	878	938 ↗	1,300

#1 Goal

The arrow shows if the indicator has risen, stayed the same or fallen compared to the previous quarter. The colour shows if the indicator is above or below the objective of 8/10.

Questions for present



Foundation of an Energy Management Program

Do you have challenges obtaining capital for energy projects?

Do you have issues with correctly stating and communicating your energy performance?

Do you have a seat at the table for capital and expense planning?

Do you struggle with consistent management support of energy programs?

Do you face competing priorities when planning energy projects?

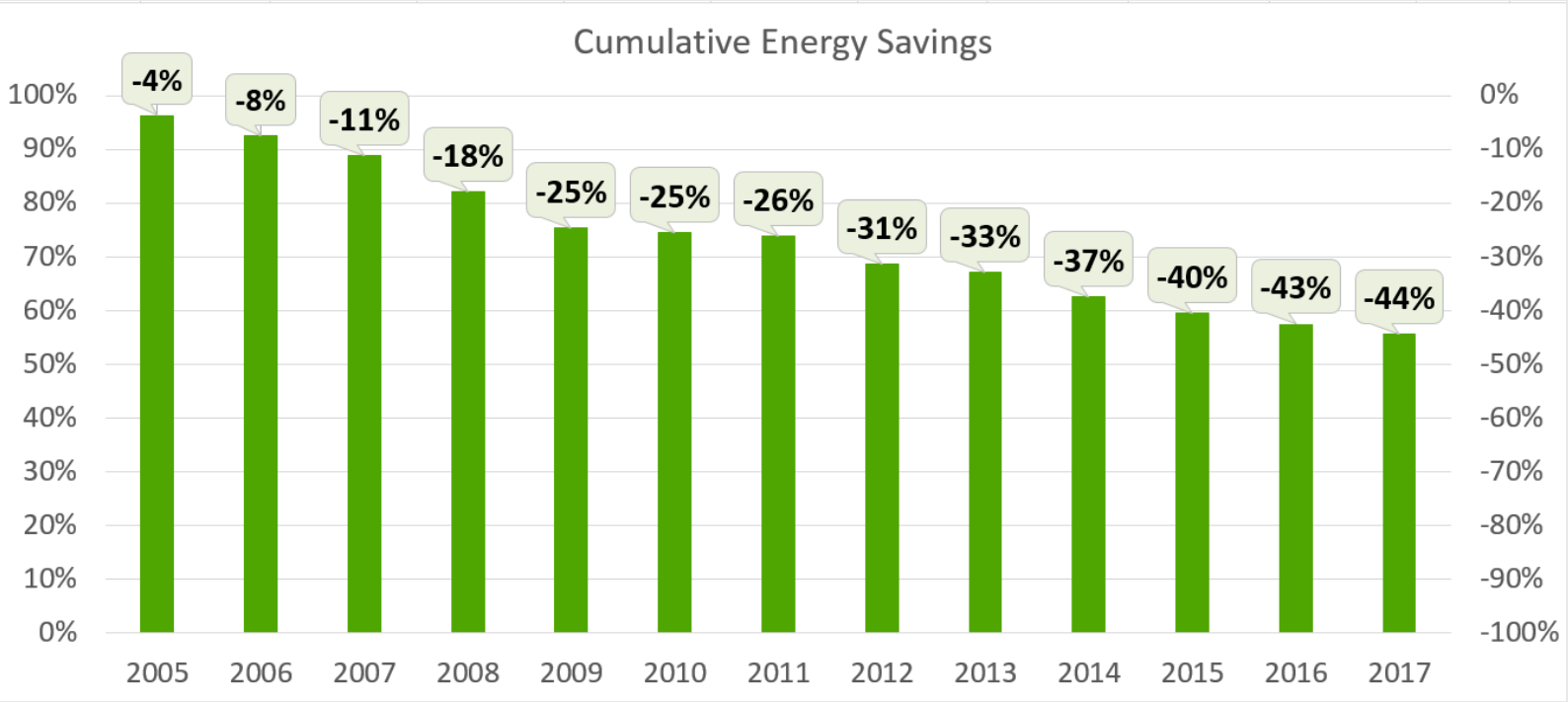
Are you able to affect or make changes to process energy?

Does your management know, understand, believe your energy performance?

Do you have training, employee involvement and awareness programs for energy efficiency?

Share credible results at all levels

Schneider Energy Action – North America



Better Building / SEP

1. Annual goals with formal reporting and recognition
2. Access to resources and tools
3. Credibility

Based on energy performance reports normalized for weather, production and/or occupancy, as applicable

Energy performance by country through year end 2016

Questions for the present

- Do you know the cost of energy in your facility?
- Are there other programs that compliment your energy program
- Do you know cost of compressed air?
- Do you have a 3 - 5 year plan to meet energy goals?
- Can you obtain funding to execute your plan?
- Do you know the cost of capital to meet your goal?

Schneider Energy Action – Active Energy Actions

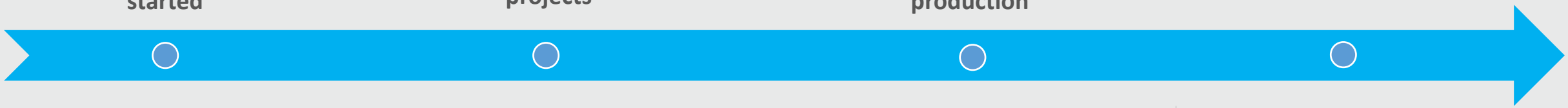
Use and share your strategy, and make it relevant to local operations

Scope and process flow

Our Energy Story

- Use and share your strategy, and make it relevant to local operations

Early-to-mid 2000s



Getting started

- Energy assessments
- Metering (can't manage what you don't measure)
- Chicago Climate Exchange
- Supply-side management

Santa Claus projects

- High-bay fluorescent lighting (~20,000 lamps)
- Building automation systems
- New air conditioning units (aging infrastructure)
- LED lighting
- Renewable energy (Smyrna, Rojo Gomez, Palatine, City of Knowledge, Andover, Cocasset)

Working with production

- Variable frequency drives
- Process improvement (molding, paint lines, etc.)
- Operational control

Establishing a management system

- Global Energy Best Practices Manual
- ISO50001 EnMS
- Building analytics (Advisor)
- Real estate strategies

Not the End!!!

- Use and share your strategy, and make it relevant to local operations

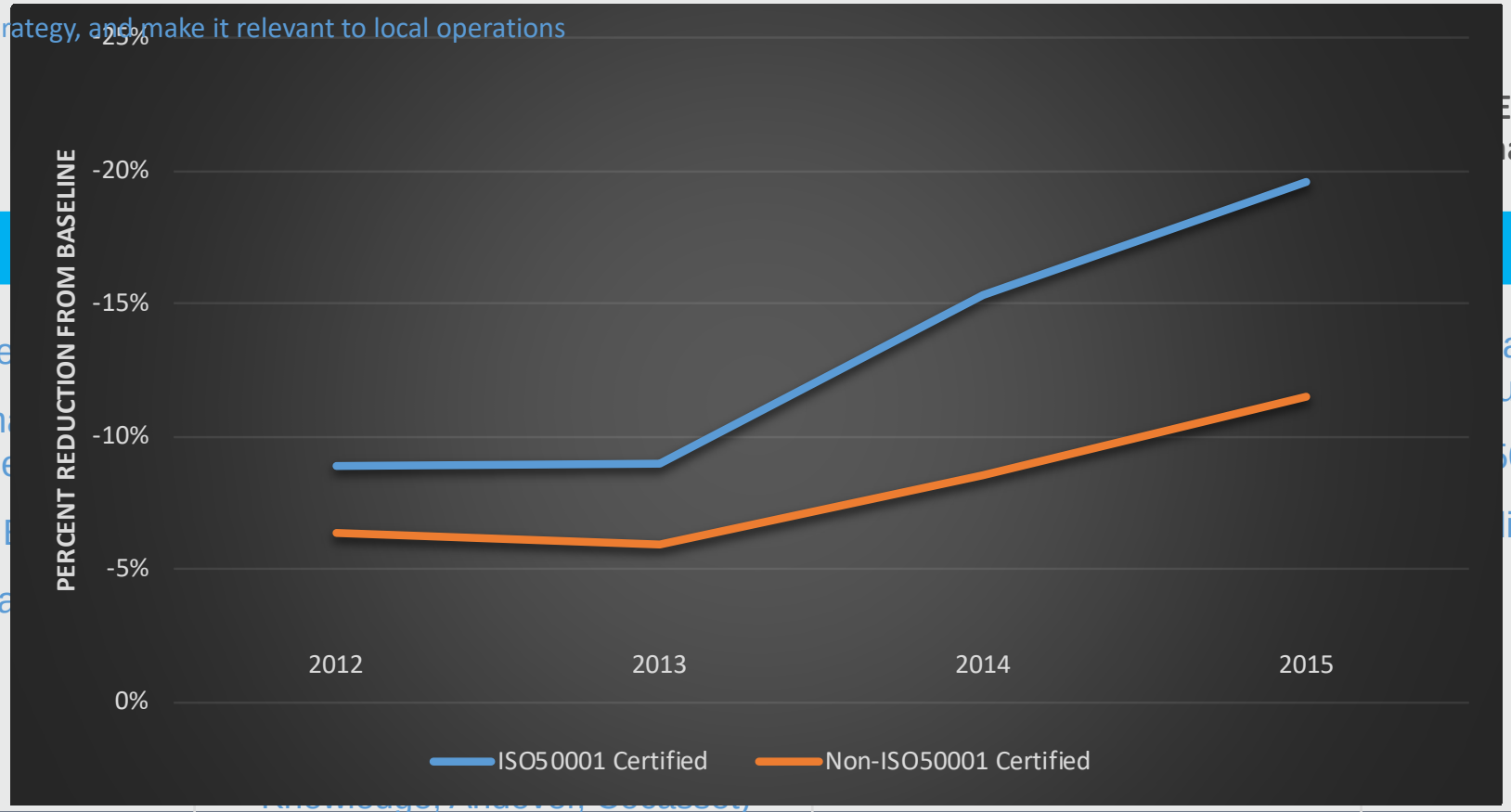
Early-to-mid 2000s

Getting started

Establishing a ...agement system

- Energy assessme...
- Metering (can't m... what you don't me...
- Chicago Climate E...
- Supply-side mana...

- ...al Energy Best Practices ...ual
- ...50001 EnMS
- ...ling analytics (ClockWorks)
- ... estate strategies



Questions for the future

- What does the energy landscape look like in 5, 10, 20 years?
- How do renewables and green initiatives affect our programs?
- How do we embrace locally?

Interplay of Various SE Targets Toward Carbon Neutral Objective
Questions for the future

Targets, Objectives, and Milestones

	COP21 commitments	As of end of Q3 2016
1	Ensure CO2 impact quantification for 100% of new large customer projects (2015-2017)	To be published in Q4 2016
2	Design 100% of new offers with Schneider Electric ecoDesign Way™ and realize 75% of product revenue with Green Premium™ eco-label (2015-2017)	ecoDesign Way: 46% Green Premium: 66.3%
3	Avoid 120,000 tons of CO2 through Circular Economy "end-of-life" services (2015-2017)	83,485 t of CO2
4	Facilitate access to lighting and communication with low carbon solutions for 50 million inhabitants at the Base of the Pyramid in 10 years (2015-2025)	To be published in Q4 2016
5	Implement storage initiatives to develop renewable energy and mini grid (from 2015)	EcoBlade presented in Dec. 2015
6	Solve SF6 issues with new alternatives in 5 years and eliminate SF6 (2015-2020) from Schneider Electric products in 10 years (2015-2025)	In progress, outpacing the timeline
7	Reduce Schneider Electric energy intensity by 3.5% per annum (from 2015)	5.9% (since end-2014)
8	Reduce Schneider Electric transportation CO2 emissions by 3.5% per annum (from 2015)	8.5% (since end-2014)
9	Invest EUR 10bn in R&D innovation on sustainability in the next 10 years (2015-2025)	To be published in Q4 2016
10	Issue a climate bond to finance low CO2 R&D across Schneider Electric businesses	Issued in November 2015

"In 2016, Schneider Electric joined the Science-Based Targets initiative to align its objectives… to limit global warming to 2°C maximum.

In line with the **science-based targets**, Schneider Electric takes the following engagements:

- **35% absolute CO2 reduction in scopes 1 & 2 by 2035** (baseline 2015)
- **53% absolute CO2 reduction in scopes 1 & 2 by 2050** (baseline 2015)

These are ***minimum targets*** set for the Group, corresponding to a 2.1% year-on-year emission reduction from 2015. They will **contribute to the objective of achieving carbon neutrality for Schneider Electric and its ecosystem by 2030**. A dedicated carbon committee has been set up to drive these commitments."

More ELECTRIC

2X faster growth of electricity demand compared to energy demand by 2040

Source : IEA WEO 2014

DIGITIZATION

10X more incremental connected devices than connected people by 2020

Source : Cisco, Internet World Statistics

DECARBONIZATION

82% of the economic potential of energy efficiency in buildings and more than half in industry, remains untapped

Source : World Energy Outlook 2012, Internal Analysis

DECENTRALIZATION

70% of new capacity additions will be in Renewables by 2040

Source : BNEF

Life Is On Schneider Electric

The Next Chapter – Our Future
It is about getting the right answer to the important questions

- 2018 Better Plants Progress
  - 2018 YTD energy savings is about 4% vs. 2017
  - Zero waste is ~ 93% at the end 2017
- Energy efficiency and sustainability will still be a driver for the future.
- Carbon reduction goals is a part of the future
- We will work to balancing Real Estate, Sustainability, and Energy Efficiency to meet our goals

Write an example of a risk

This. ✓