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# USERS 2013 CONFERENCE

The Power of Data

THRIVING

IN A

WORLD OF

CHANGE





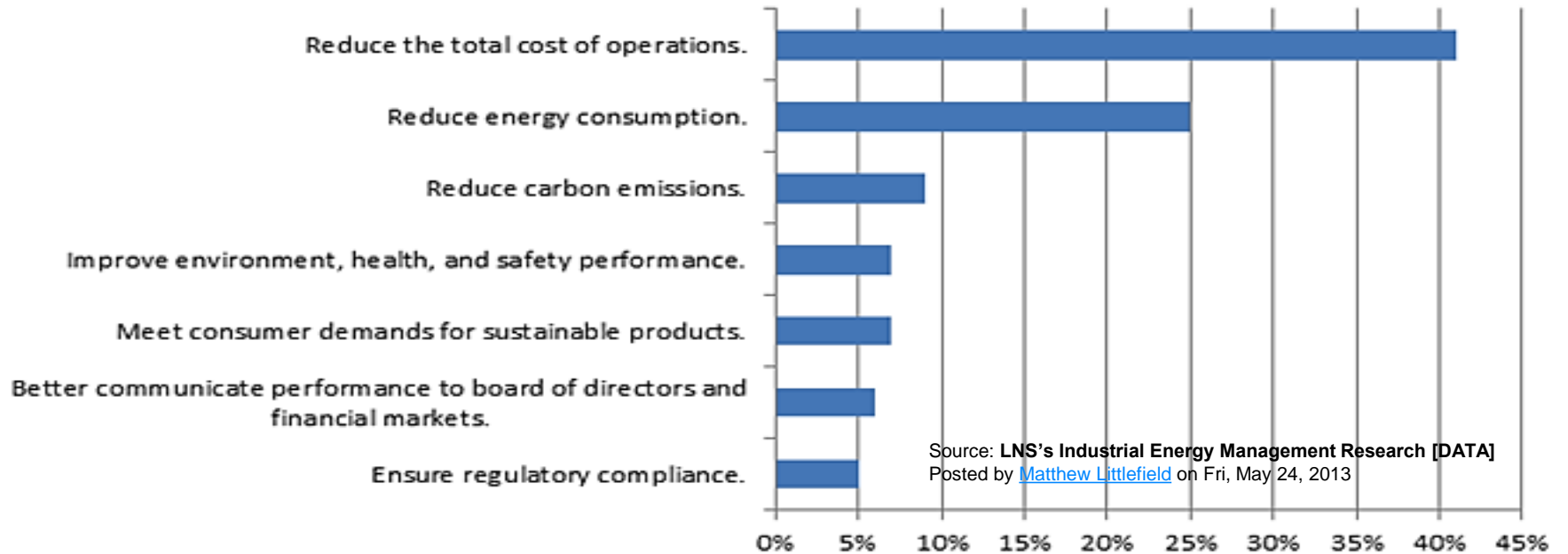
# Water & Resources Management: Sustainability Highlights

Presented by **Andrew Fanara**



# What Sustainability Teams Want...

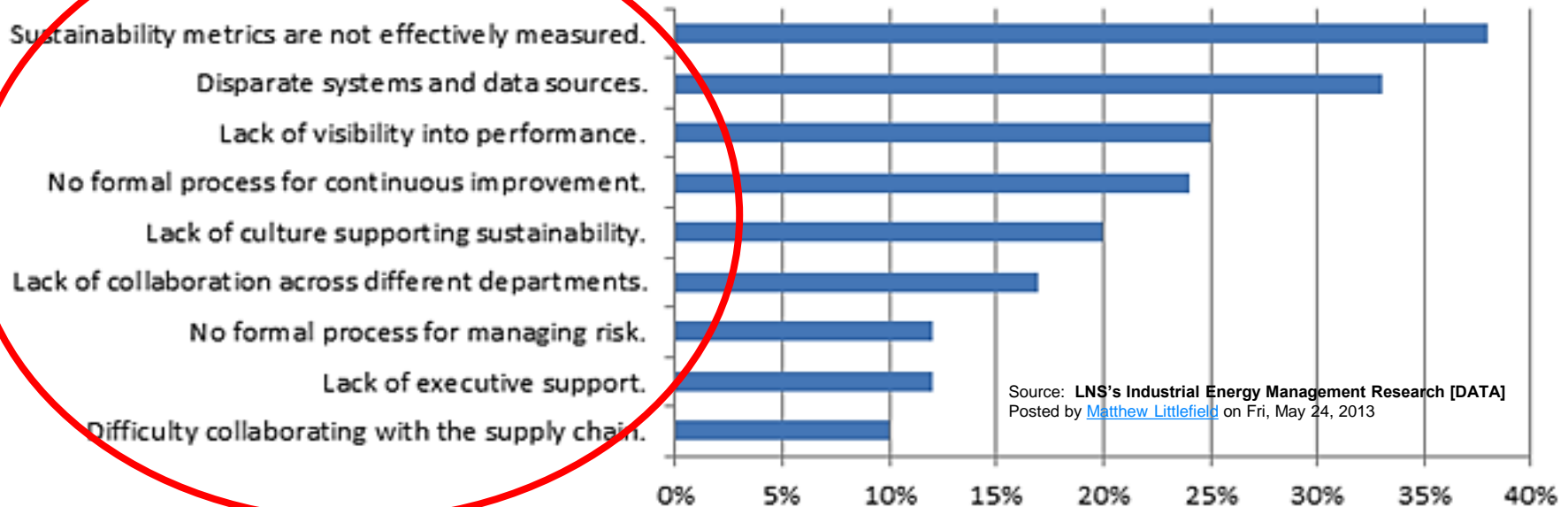
## Top Strategic Objective for Sustainability in Operations





# How Operations Can Help...

## Top Challenges in Achieving This Sustainable Operations Objective





# Alcoa's Keys to Sustainability: Leadership, Scorecards, Roadmaps, Compensation, Transparency and DATA

*“One of the things we saw when we went after our CO2 goals, is we used technology to give the people on the shop floor better data and faster data so they could make real-time changes to the processes. This gave us lower energy costs, lower carbon footprint and typically, a higher output.”*

Kevin Anton



Chief Sustainability Officer  
and Alcoa Vice President



# Why Sustainability is an Emerging *Megatrend*\*

- Launched by **dramatic shifts in the marketplace** which result in a general shift in thinking affecting entire countries, industries and organizations.
- An inescapable strategic imperative that **forces fundamental and persistent shifts** in how companies think and compete.
- Even as the economy struggles to regain momentum, **70% of companies surveyed put Sustainability on their management agendas**, 68% of those companies have increased their commitment to sustainability over the past year.
- This trend towards greater commitment is very strong in key **"Heavy Asset"** industries such as Energy, Utilities, Chemicals, etc.

\* *The Sustainability Imperative*, Harvard Business Review, May 2010, David Lubin, Dan Esty

\*\* *Sustainability Nears a Tipping Point*, MIT Sloan Management Review, Winter 2012, Vol.53 No. 2



# Several Common Definitions for Sustainability

- A business approach that creates long term shareholder value by embracing opportunities and managing risk deriving from economic, environmental and social developments. Source: Dow Jones Sustainability Index
- Imagined and fully implemented, sustainability drives a bottom line strategy to save cost, a top line strategy to get new customers and a talent strategy to get, keep and develop employees, customers and your community. Source: Adam Werbach, Strategy for Sustainability, A Business Manifesto, 2009





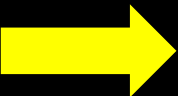
## ***Similarities Between **Quality** & **Sustainability** Movements***

- Renown business management icon famous for his contribution to Japanese industry's quality and innovation philosophy
- Championed *Plan – Do – Check – Act – Adjust cycle*



# Corporate Silos Separate CSOs from PI System Data

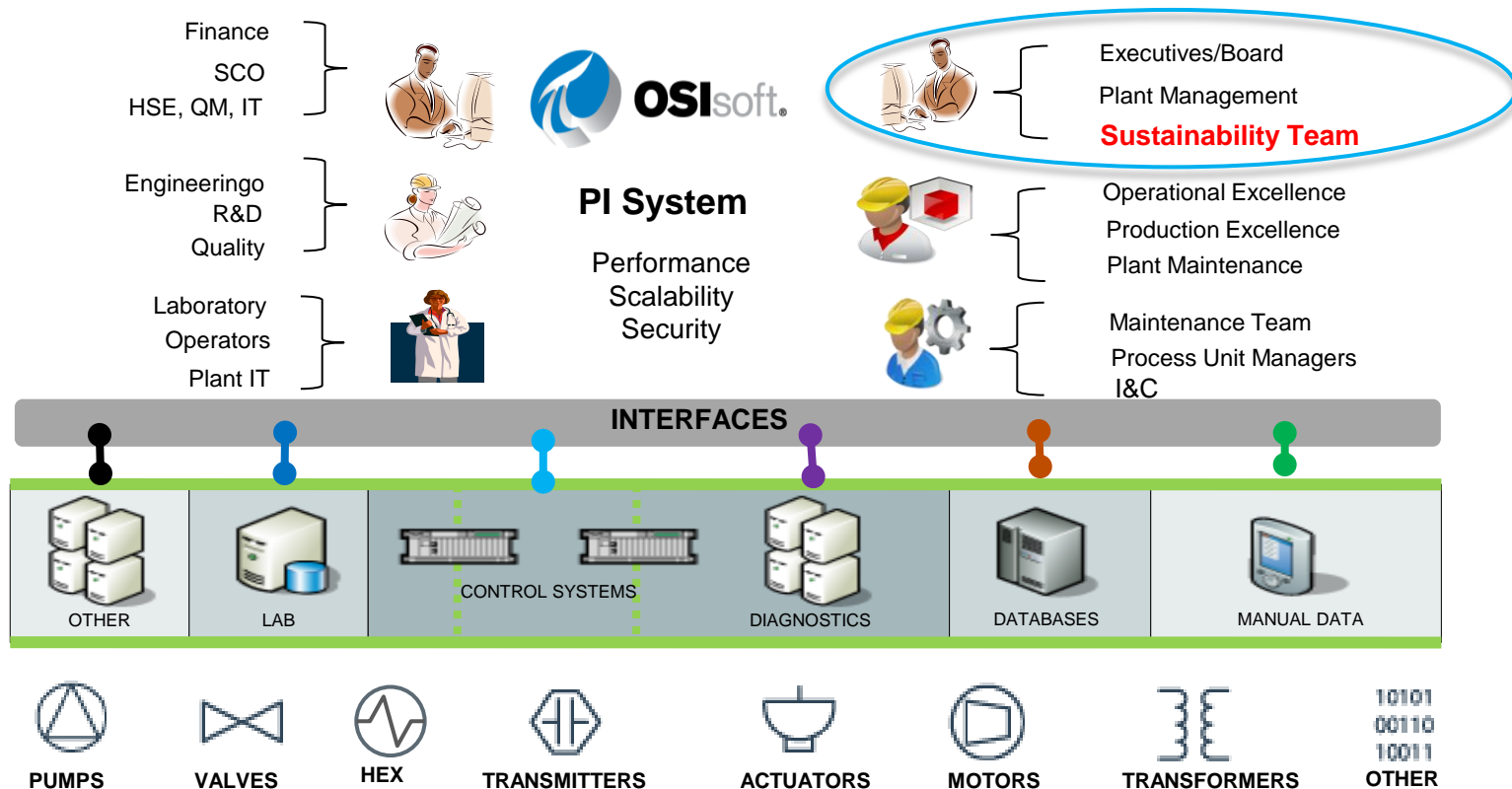
ENTERPRISE  
MONITORING



PROCESS  
MONITORING



ASSET  
MONITORING





# How to Explain PI to your Sustainability Team

*The  
PI System*



COLLECT



HISTORIZE



FIND



ANALYZE



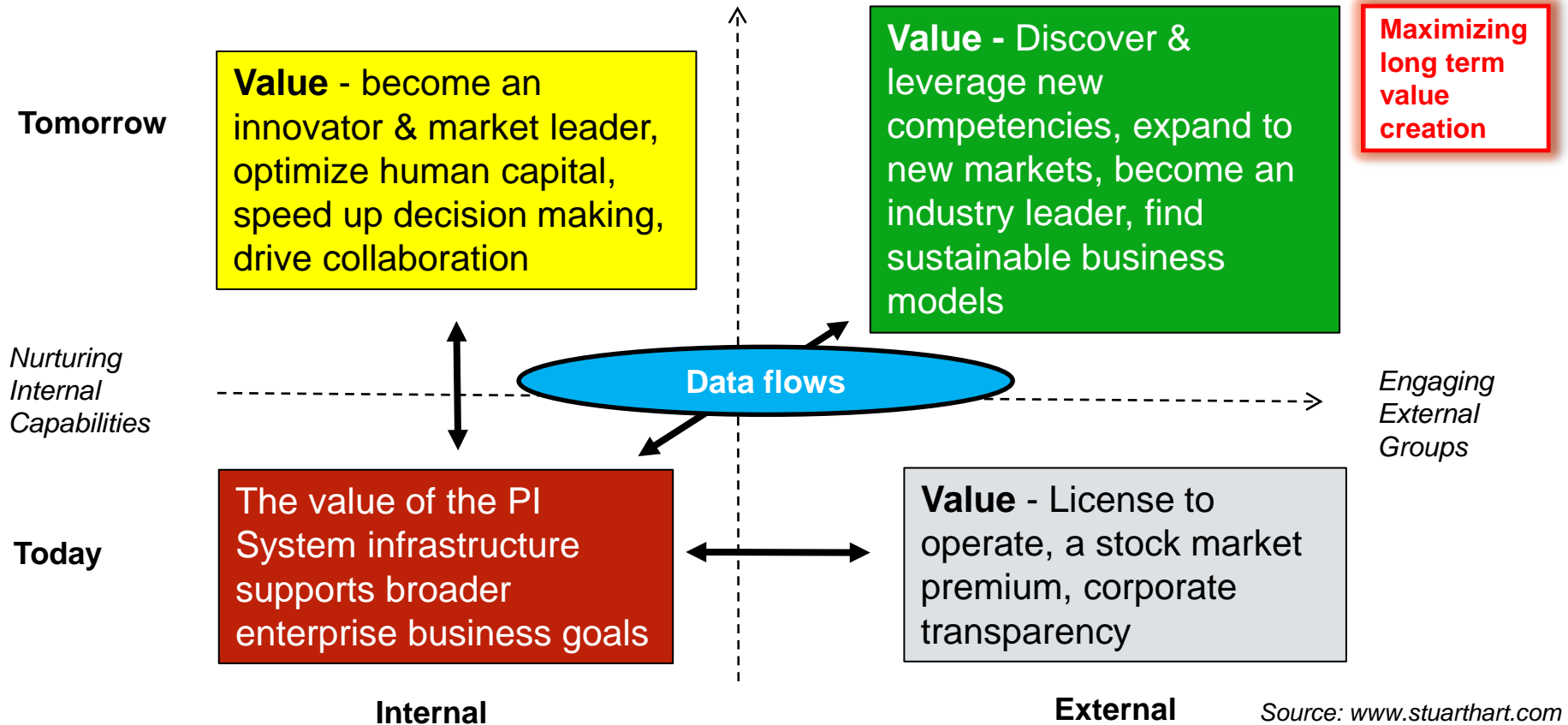
DELIVER



VISUALIZE



# The PI's System Value Maps to Corporate Wide Initiatives







*IT-enabled production process at Tata Steel, Europe*



TATA STEEL



105<sup>th</sup> Annual Report  
2011-2012



■ ■ ■ The cornerstones of  
■ ■ ■ sustainability



The responsibility of combining the three elements of society – social, environmental and economic – is of utmost importance to the way of life at Tata Steel. It is the combination of these three elements that ensures that business is sustainable for all stakeholders.



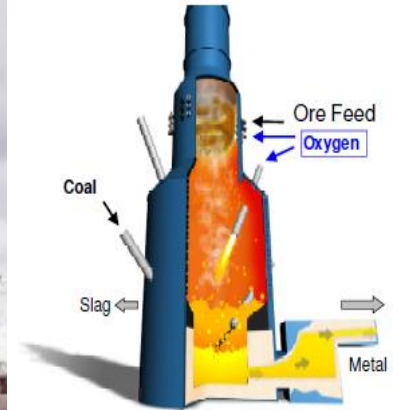


# We are pursuing a comprehensive strategy of growth and sustainability.

In spite of a challenging economic environment during the Financial Year 2011-12, Tata Steel focussed on mitigating the challenges of the global economy and implementing its strategic objectives. Through their consistent interactions with various stakeholders, Mr. H. M. Nerurkar (Managing Director, Tata Steel), Dr. Karl-Ulrich Koehler (Managing Director and Chief Executive Officer, Tata Steel Europe) and Mr. Koushik Chatterjee (Group Chief Financial Officer, Tata Steel) have shared the Company's response to the global economic scenario and its continued commitment to sustainability. These are a few key themes of the discussions.

2012 Tata Annual Report

Tata Steel's long term strategy is focused on sustainability and value creation in an interdependent manner.





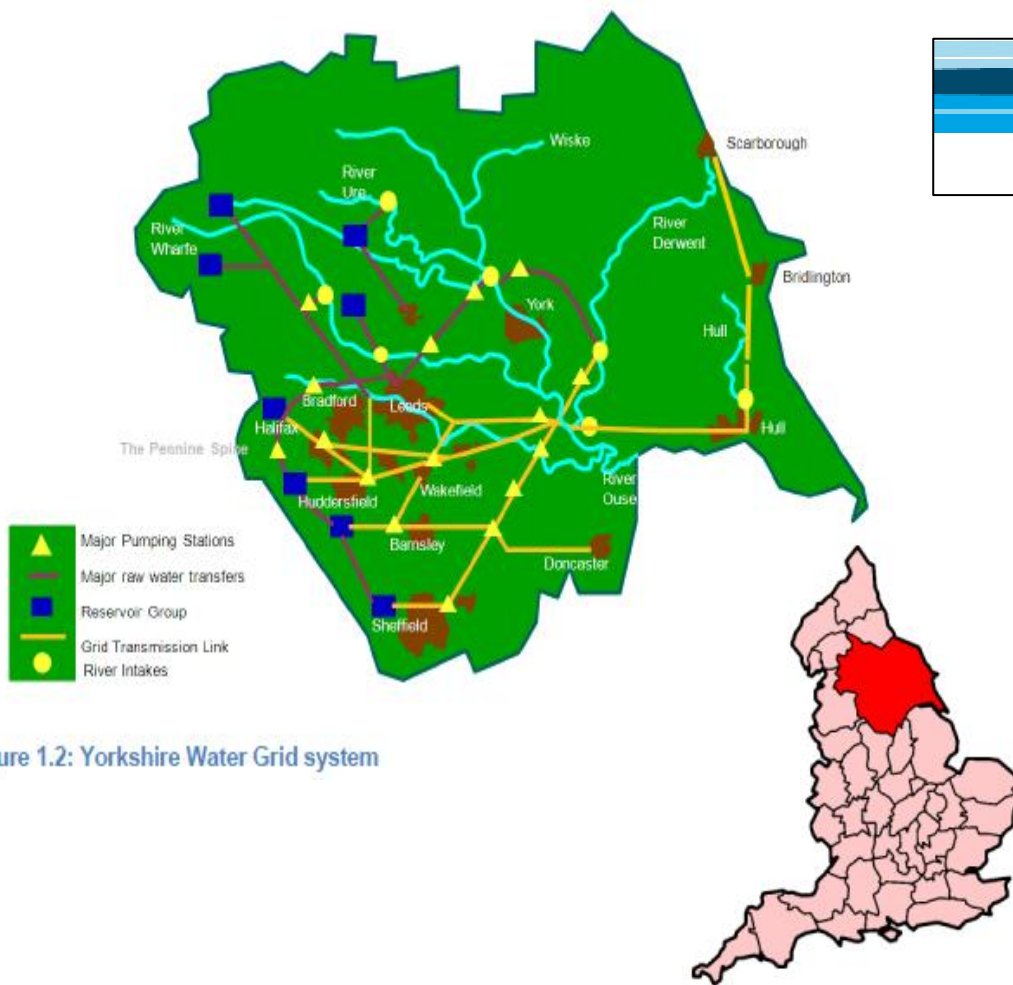


Figure 1.2: Yorkshire Water Grid system



# Business strategy

Yorkshire Water has a vision – 'taking responsibility for the water environment for good'.

The essence of the vision is doing what's right – for customers, colleagues, investors, partners and the environment.

To achieve the vision the company needs a plan and the plan has been named Blueprint. Blueprint is something everyone can contribute towards to make a difference.

## Taking responsibility for the water environment for good



To deliver the plan, the company has developed six strategic business objectives (SBOs). These SBOs shape everything the company does:

### Trusted company

The way Yorkshire Water does business means its products, services and promises are trusted by all our stakeholders, now and in the future.

### Safe Water

Yorkshire Water protects public health and makes sure water is safe to drink. Yorkshire Water ensures that water does not harm customers or communities at any point in the process.

### Excellent catchments, rivers and coasts

Yorkshire Water maintains and improves the water environment from source to sea and influences others to do the same.

### Water efficient regions

The way Yorkshire Water operates and influences others creates water efficient regions.

### Sustainable resources

Yorkshire Water uses sustainable resources, gets the most out of them and reduces emissions and waste.

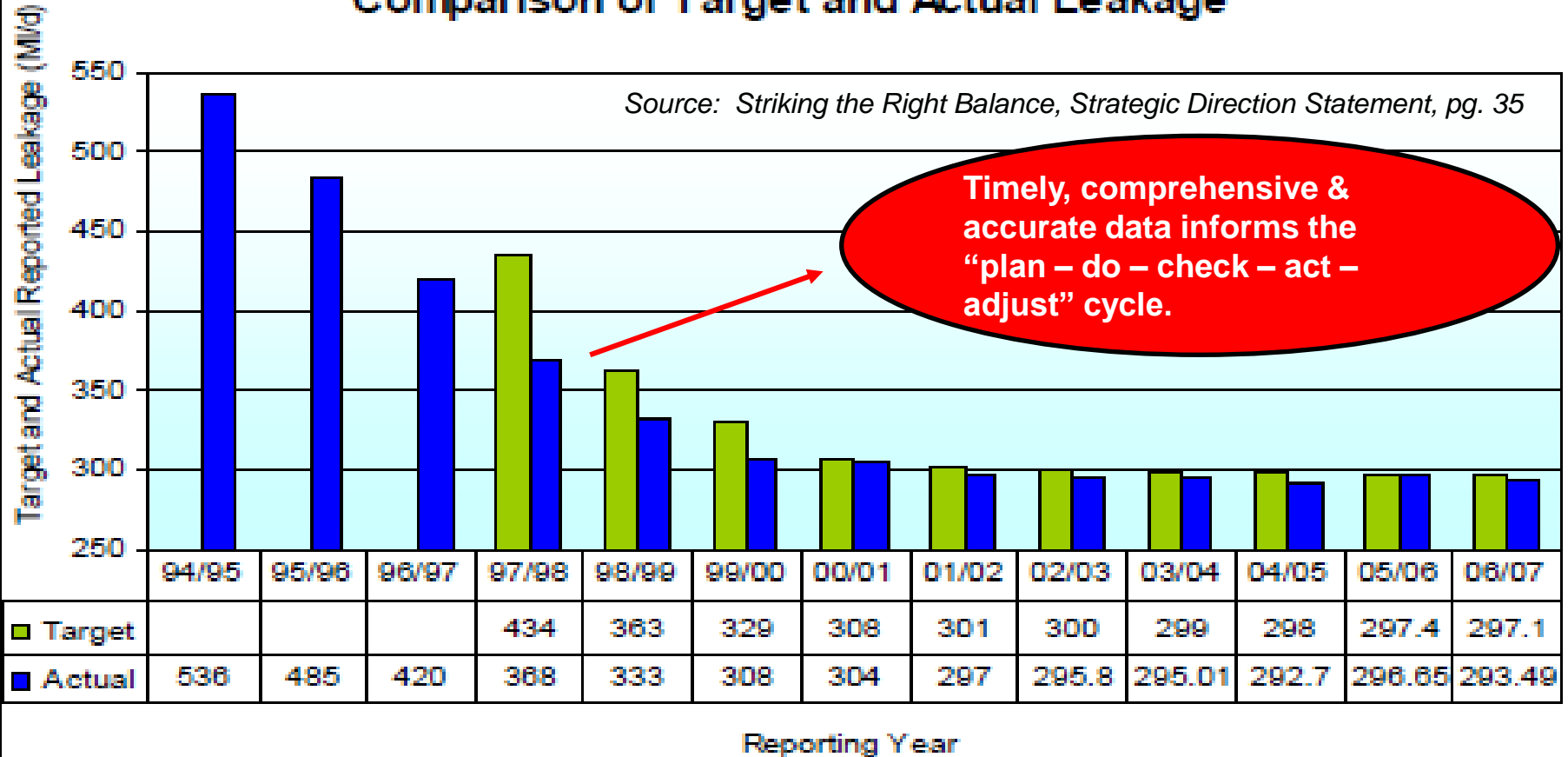
### Strong financial foundations

Yorkshire Water delivers services to customers at a price they are willing and able to pay, whilst providing investors with returns that attract long-term investment.



## Comparison of Target and Actual Leakage

Source: *Striking the Right Balance, Strategic Direction Statement, pg. 35*





# Esholt WwTW - Pioneer of Sustainability

Esholt was built in 1924 and now serves a population of around 600,000 people. Over recent years, we've invested heavily onsite and have further plans.

## Fully Sustainable

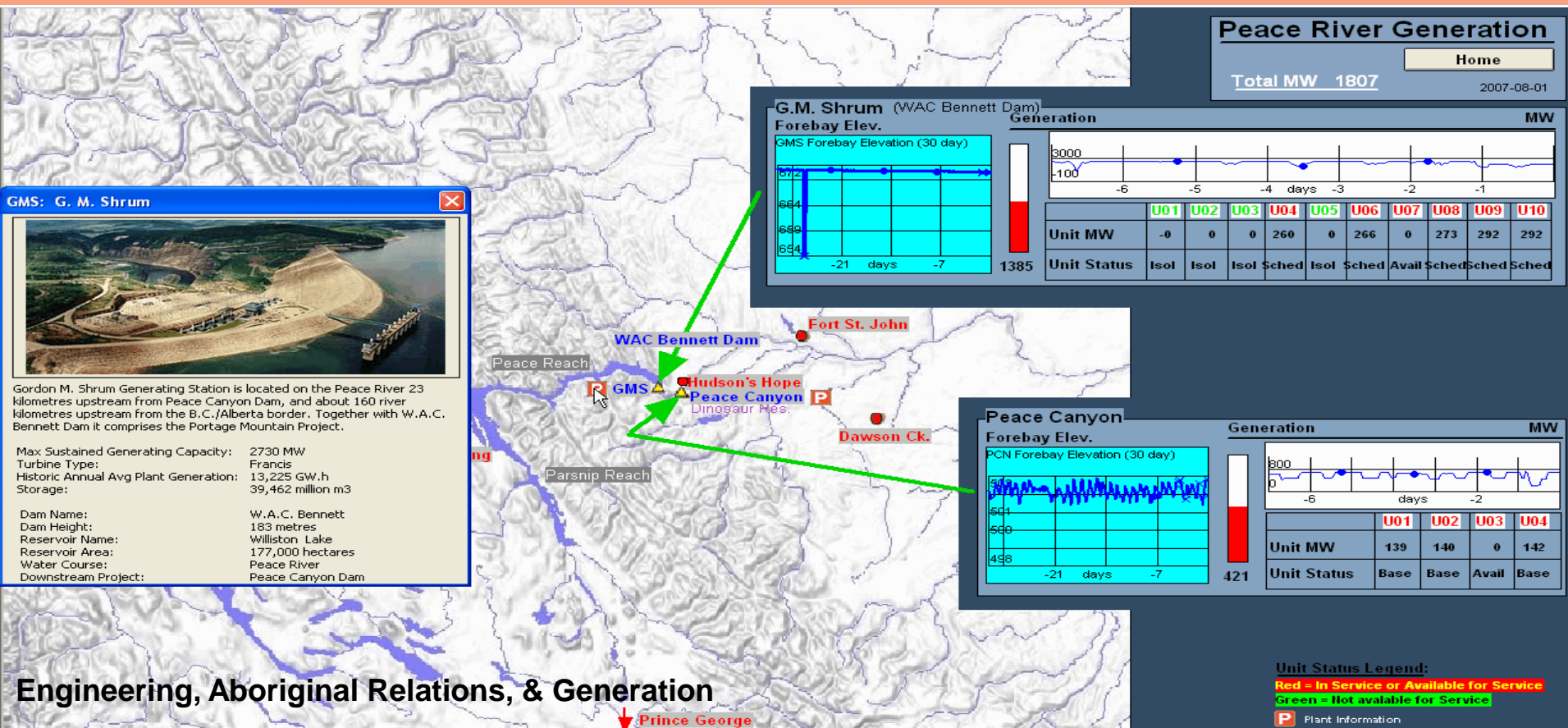
Our aim is for the Esholt site to be completely self sufficient when it comes to energy. We've already installed two combined heat and power generators which cost £1m each. These can create around one third of the energy required to power the plant each day by turning methane into heat and power.



Source:



# Executive Overviews for Non Operational Executives



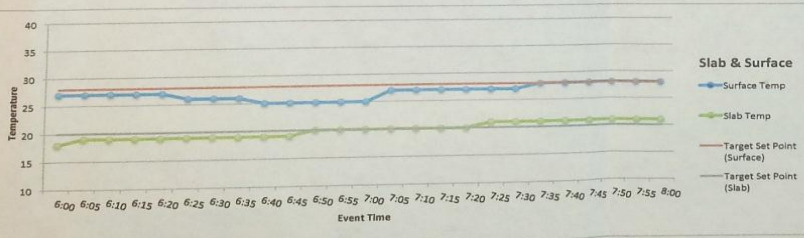
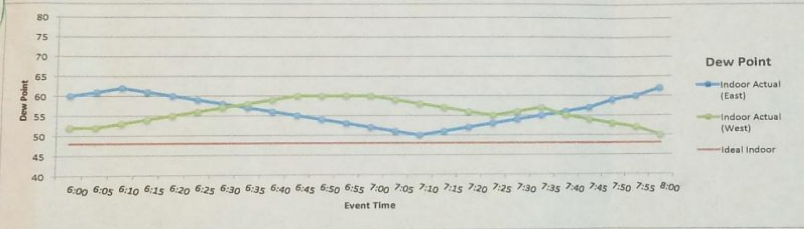


FIELDS	IDEALS
Outside Temp	
Outside Humidity	
Outside DewPoint	
East Temp	
East Humidity	
East Dew Point	
West Temp	
West Humidity	
West Dew Point	
Ice Surface Temp	
Slab Temp	
Target Set Point (Surface)	
Target Set Point (Slab)	

days  
magn

cores. table

CIMCO  
system  
export



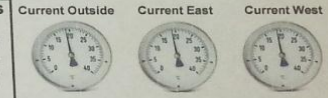
remotely  $\Delta$  the slab temp target temp.

Current Temps	
Outside:	37
Inside EAST:	55
Inside WEST:	56

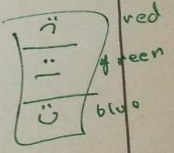
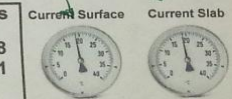
cores.  
table



Current Dew Points	
Outside:	35
Inside EAST:	62
Inside WEST:	50



Current Ice Temps	
Surface	28
Slab:	21

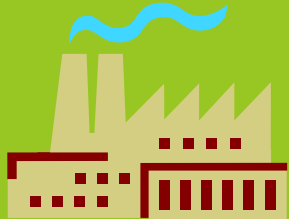


Use PI Data to Bridge the Gap between Operations & Sustainability Teams



# A Data Infrastructure to Support Diverse Sustainability Initiatives...

Across the Enterprises & Supply Chain



Safety & Risk  
Management  
Cybersecurity

Human  
Capital  
Optimization

Resource  
Management  
Emissions

Governance &  
Global Best  
Practices

Regulatory &  
Compliance

Supply Chain  
Management

The OSIsoft PI System Infrastructure



A photograph of a water treatment facility. In the foreground, a large concrete pipe is discharging a turbulent flow of water into a rectangular channel. The water is dark blue with white foam and splashes. The channel is bordered by concrete walls. In the background, there are more concrete structures, possibly part of the same facility, and a flat, arid landscape under a clear sky.

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