SAP ENERGY MANAGEMENT SOLUTIONS

October 2010
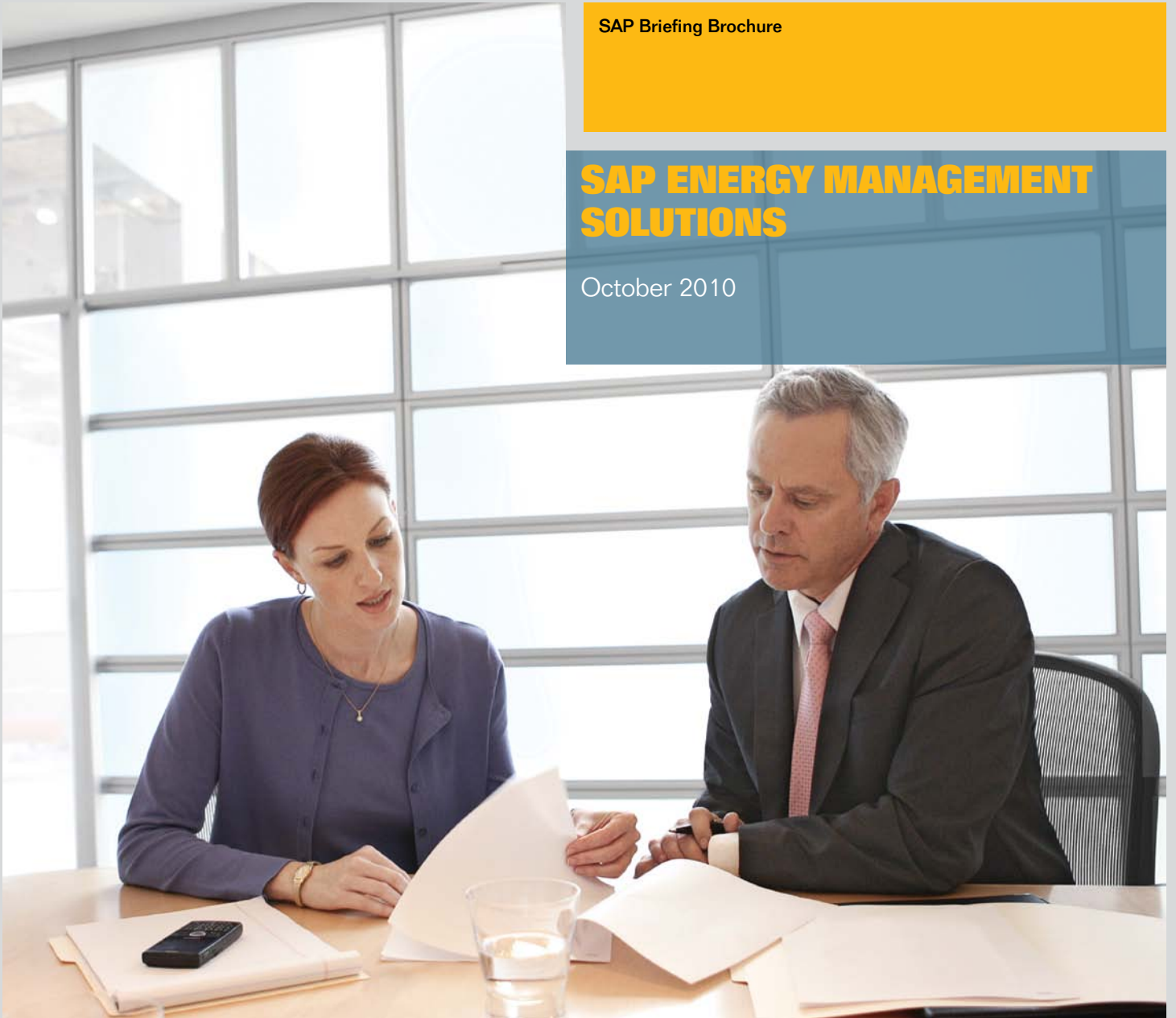
"Our vision to enable every customer to become a best-run business will be the catalyst to delivering through on our goals. We must continue to demonstrate our ability to deliver unmatched customer value. This is our single greatest priority."

Bill McDermott, Co-CEO,
Executive Board Member, SAP AG

INTRODUCTION
WHY SAP ENERGY MANAGEMENT SOLUTIONS?

Are you managing energy with the same expertise you apply to other parts of your business? In the face of increasing energy costs and market volatility:

- Do you know what your energy costs are and understand what parts of your operations are the top energy consumers?
- Can you compare energy usage and costs across your locations and operations, in real-time?

Most companies cannot, and even fewer have the information they need to develop and drive a regimented approach to understanding and managing energy consumption.

SAP Energy Management Solutions provide key real-time, actionable information about energy use and costs that can be used from the shop floor to the top floor to drive strategic decisions that increase efficiency, decrease environmental impacts and lower costs

SAP Accelerates Customer Energy Management Programs

Companies can save 15% on energy costs with energy management best practices including real-time data visibility and the ability to do comparisons across operations.[1]

Only SAP can uniquely link disparate production energy data sources (meters, historians) AND financial data to provide a real-time energy monitoring system. You will see immediate savings when the project is live (~12 weeks implementation time, with <1 year return on investment).

Value Promise and Value Added – Why SAP

Today: Plant staff has limited visibility into energy use and cannot take informed action to decrease energy use in their area. There are disparate data collection systems across the company/location, but no unified repository. Meters may be in place at the machine, line or facility level, but there is no integrated view or ability to compare different sources.	**SAP's solution:** Dashboards provide easy visualization of energy use at various levels, as well as enable alerts based on pre-defined criteria. Pre-defined templates facilitate detailed and/or high level data visualization at all levels of the organization (plant, executive team, etc.)
Today: No integrated view of energy use and cost information, making it difficult to make strategic decisions and develop an overall energy management plan	**How SAP EM can help:** Only SAP can link disparate energy data sources and financial information to offer powerful insights that can drive strategic changes to increase efficiency, decrease environmental impacts and lower costs.
Today: Long implementation times for software, making the time to value and ROI less compelling	**How SAP EM can help:** With pre-defined templates and partner domain expertise, system can be live within 12 weeks, accelerating time to value and ROI.

1 Aberdeen Group, 2009. "Energy Management: Driving Value in Industrial Environments." M. Shah, M. Littlefield, April 2009.

GAINING VISIBILITY

SAP's Energy Management Solutions provide clients with an energy management framework that delivers the real-time energy visibility required to enable energy awareness & reduction programs. The Energy Management Solution provides:

- Cumulative Data aggregation & integration across all operational data sources and energy types
- Real-time visibility into energy consumption & costs, down to a unit or line level
- Ability to compare energy usage across diverse plants/regions/divisions and disparate data sets

- Real-time feedback via alerts or notifications when metrics are out of tolerance
- Ability to quickly identify costs or profitability impacts of current Energy Consumption versus what/if scenarios
- Connectivity to enterprise business systems ensuring that data can easily be shared & consumed throughout your organization

Energy Management: Visibility, Monitoring, Reduction

Data Aggregation and Visibility
Energy Monitoring System - Statistical Process Calculator
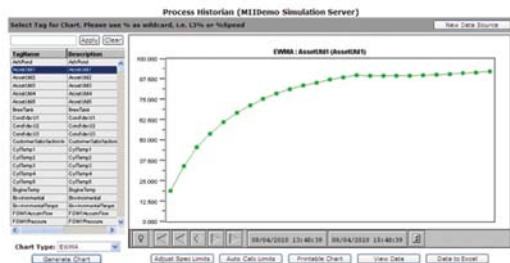
Compare all Operations
Corporate Energy Monitoring System

Real Time Feedback
Asset View – Energy Monitoring System

Centrifuge - Model A90 - #3

### Integration to Enterprise
Plant Maintenance Notification

RTS Consulting is one of SAP's Energy Management Partners

RAPID IMPLEMENTATION

**Evaluation, Content, Integration...
Live in 10-14 weeks**

- Identify immediate savings opportunities as soon as system is live via real time data visibility and preconfigured and user-defined layouts.
- Analyze current capabilities and data gaps to quickly identify energy savings opportunities and understand key drivers of energy consumption.
- Integrate energy management, business process and financial data to drive strategic changes that increase efficiency, decrease environmental impacts and lower costs
- Track results of improvement initiatives
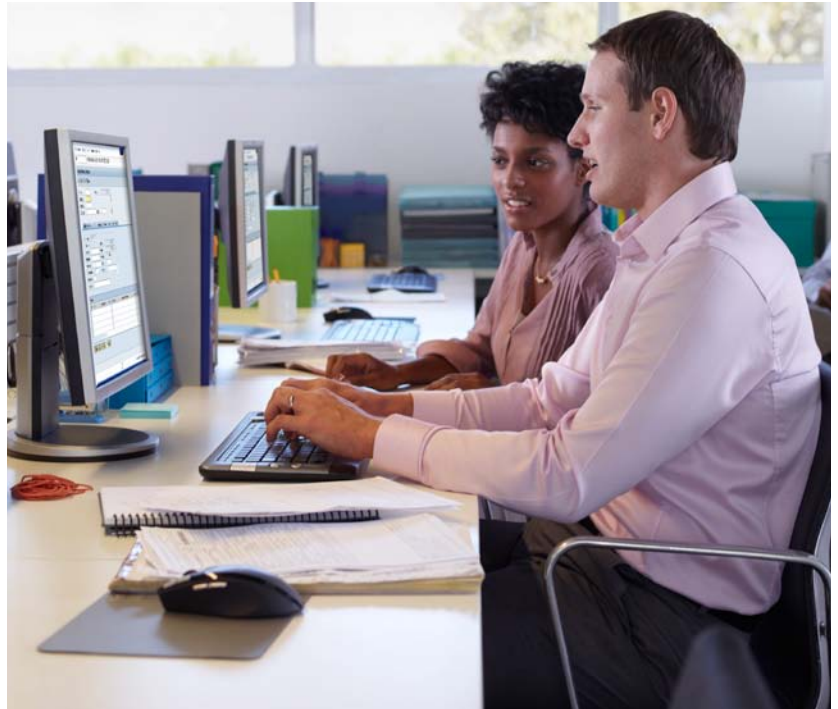
ENERGY MANAGEMENT LEADERS

Leading Companies Find Energy Savings Across the Value Chain

Design	Source	Produce	Store	Ship	Sell
LEXMARK	**NIKE**	**Kimberly-Clark**	**GOODYEAR**	**Hanes**	**FOOD LION**
Package Redesign	Contract Mfg.	↓ $27 M energy	↓ 47% energy costs	Mode shifting	↓ $1.1 M energy
↓ 52% energy	↓ 10% energy	**VALERO**		↓ 37% energy costs	**Walmart**
	↓ 6% CO_2 footprint	↓ $120 M energy		↓ 41% CO2 production	↓ 20% energy

DU PONT   **Saved $3 B by reducing emmisions and energy use**

CUSTOMER SUCCESS
INCREASED VISIBILITY

### Executive Dashboards Provide Full Visibility to Key KPIs and Business Improvements

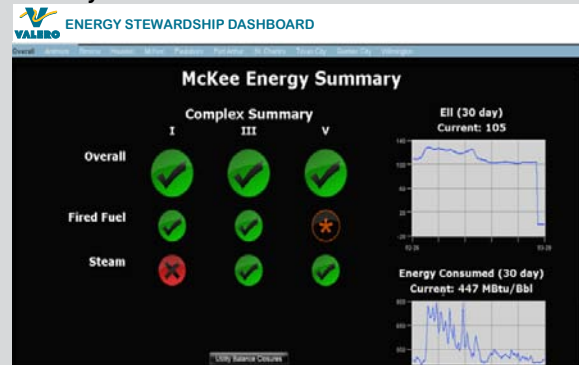**$120 million** in the first year in energy savings alone

In addition to real-time monitoring of gas, steam, and electric usage, the company can model the effect of proposed changes to specific operations

By optimizing parameters such as tank temperatures and pressures, Valero significantly lowered its total energy consumption

Corporate View
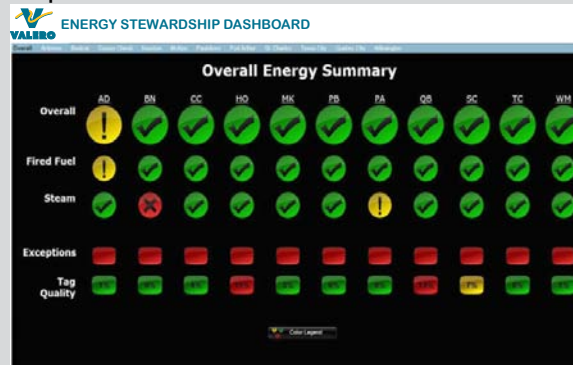
Refinery View

Hear Valero Energy's CIO, Hal Zesch, speak about how SAP enables Valero's Energy Management program
http://www.youtube.com/user/SAPVideoMOM#p/u/10/zlPxGyRNv6g

IndustryWeek – Forecasting the Future with Predictive Analytics
http://www.industryweek.com/articles/forecasting_the_future_with_predictive_analytics_22052.aspx?Page=2

For More Information

To learn more about SAP's Solutions, contact your SAP representative
or visit us online at:

http://www.sap.com/solutions/manufacturing/manufacturing-intelligence-software/index.epx

http://www.sap.com/solutions/executiveview/manufacturing/improve-asset-visibility/index.epx

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