The UK Government mandated that all of the energy suppliers must complete the roll out of smart metering to their GB customers by 2019. Replacing 53 million “dumb” domestic meters will cost circa £11.5 billion. This will be the biggest GB home energy technology change since the 1970s, which will transform the industry and the way energy suppliers interact with customers. By keeping a firm focus on internal controls from the start, suppliers can manage risks more effectively and give stakeholders greater confidence that the programme will succeed. With so little upside the energy supplier is looking carefully at the costs and risks. This history is not good. SAP cost overruns and weak field compliance is too common.

The design stage of the programme offers the best opportunity to influence the outcomes and set priorities between time, cost and quality. There are a broad range of risks arising from smart metering that, if not appropriately managed, can result in organisations spending a significant amount of time and cost building increased functionality and organisation capability at a later stage.

A significant number of programmes experience problems post-completion, often because important controls have not been built into the new organisational structure, processes, systems or ways of working. From the initial stages, it is important to assess how the business risks are likely to change and to develop the necessary controls to counter such threats as far as possible and minimise the extent to which these require subsequent updating.

This can happen because controls only tend to get noticed when something goes wrong. Consequently, programme leaders struggle to quantify the benefits of controls and see them as an unnecessary cost burden on already constrained budgets.

Smart metering programmes provide an ideal opportunity to improve the overall awareness and treatment of critical business risks and controls. By balancing the need for good risk management with the cost and effectiveness of internal controls designed and built into new business processes, leaders can get the most out of their investment.

Failing to invest early in risk mitigation and control activities results in higher costs, delays and compromised objectives requiring costly re-work and potential damage to reputation.

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1 DECC Impact Assessment April 2012
Delivering a successful smart metering programme requires energy suppliers to address all 12 areas identified in Ernst & Young’s ‘Smart Metering Delivery Framework’ as you design, test and deploy meters supporting people, processes, and capabilities. By paying early attention to the key risks, energy suppliers can build the right controls up front to manage the programme effectively, build organisational capability, hit key milestones and deliver the planned benefits.

Are you managing the right risks?

It is essential to maintain focus on the critical risks of the programme to keep you out of trouble and achieve the programme objectives.
Critical decisions are made throughout the lifecycle of the programme. We have pooled our experience of key challenges faced by smart metering and developed a risk management approach that focuses on early identification and management of key risks. The table below illustrates some of the example risk mitigation strategies for key elements of the programme that underpin our delivery framework.

<table>
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<tr>
<th>Areas of focus</th>
<th>Programme Element</th>
<th>Example risk mitigation</th>
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| Risk           | Governance        | ► We have a clear strategy and roadmap and are fully aligned to it.  
|                |                   | ► We have strong programme management and controls in place.  
|                |                   | ► We have an integrated cross business approach.  
|                |                   | ► We track performance and value realisation.  
|                |                   | ► We have designed regulatory compliance into our processes. |
|                | Programme and Change | ► We understand the key delivery risks and have a good process to manage them effectively.  
|                |                   | ► Our stakeholders are engaged and support the programme and changes. |
|                | Procurement       | ► We have a secure supply of meters through a portfolio of suppliers.  
|                |                   | ► We have a clear understanding of the risks arising from third party providers and can manage them effectively.  
|                |                   | ► We understand who takes which risks from finance, warranty, liability, volume, recovery, etc. |
| Cost           | Meter technology  | ► We understand the target meter specification and planned release cycle.  
|                |                   | ► Our solutions are capable of upgrading to enhance capability as required.  
|                | Technology        | ► We have clear IS roles, responsibilities and accountability.  
|                | Infrastructure    | ► IS security measures will be included in all IS solutions. |
|                | Field Force       | ► Our field force (including 3rd party as applicable) has the capability and training required to deliver our install targets safely.  
|                |                   | ► Our systems for allocating field force personnel operate in real-time to optimise efficiency and facilitate effective customer communications. |
| Customer       | Policy            | ► We understand the Government’s policy in relation to smart metering and the implications for energy suppliers (including the evolving regulations) |
|                | Proposition       | ► We have a clear process, roles and capability to deliver integrated and agile propositions based on smart metering capability.  
|                |                   | ► We have effective mechanisms to monitor and respond to competing offerings. |
|                | Customer experience | ► We are clear on what we want our customer install experience to be and how we comply with SMICOP obligations.  
|                |                   | ► We have established a communications plan to inform customers about smart metering and manage their expectations. |
| Value          | Energy services   | ► We have a clear strategy for how we will use appropriate opportunities to generate new revenue streams.  
|                |                   | ► We have assessed the potential regulatory issues that could arise from use of this data. |
|                | Data              | ► We know the root causes of poor data and the cost to the business.  
|                |                   | ► We understand what pre-install data cleansing is required and how to maintain data quality. |
|                | Pace              | ► We know how quickly we would like to roll out the programme and the constraints we face.  
|                |                   | ► We understand the implications on our market positioning from delay but recognise that quality should not be compromised for speed. |
It is important to develop an integrated controls framework to mitigate all risks in the smart programme.

Smart metering will bring about fundamental change in the way the organisation operates. Managing that change and capitalising on the opportunity is crucial to sustaining a robust risk management and control framework without adding unnecessary cost.

- **Get it right first time:** A risk-based approach to designing controls and early challenge working alongside process and systems developers, ensures the right controls are designed and embedded from the start.

- **Balance cost, effectiveness and efficiency:** Aligning the controls and system development input to the smart metering programme provides the opportunity to explore a wider range of solutions, improving the quality and effectiveness of controls and enabling a higher percentage of controls to be automated.

- **Data management requirements must be built into the control design:** This will ensure that commercial opportunities are not compromised and legal/regulatory requirements can be satisfied.

- **Align controls to the business appetite for risk:** Since risks can never be entirely eliminated the controls framework must recognise the extent to which the business is willing to accept a defined level of risk to achieve control that is adequate and cost effective in terms of both development and maintenance.

**Five tips for successfully integrating controls into smart metering**

1. **Get engagement and sponsorship**
   - Strong, top-down sponsorship by the Programme Sponsor, Programme Director and the Head of Internal Audit/Risk Management will demonstrate leadership’s commitment to effective controls through the programmes’ life.

2. **Appoint the right controls leader and core team**
   - The leader should possess strong controls skills and the team should have the right blend of business and technical ability.

3. **Start early**
   - The controls team should be established before the detailed design work begins.

4. **Integrate fully but be pragmatic**
   - Ensure that all programme steps include controls, from the initial scope through the design, development, testing, roll-out and optimisation. Build realistic expectations to balance control requirements with other competing business priorities.

5. **Measure and communicate**
   - Build measurements into the programme to track controls improvements; communicate progress regularly to all stakeholders.
In the current market, operating efficiency is key to performance. Top performing organisations exploit the use of technology and build controls into their design stage.

**Client challenge A**

The client needed independent assurance that risks were being properly identified and that cost effective controls were being designed into the key processes that would provide an effective governance framework.

**Ernst & Young value delivered**

► Benchmarked and challenged the project risk register and draft controls against our ‘Smart Metering Delivery Framework’
► Developed a control framework for each key process supported by risk and control matrices
► Validated and agreed revised metrics for evaluating and reporting on operator performance
► Performed a post implementation assessment, testing controls and exception reporting

**Result**

A scalable control framework was embedded in the new smart metering business processes with early warning indicators providing comfort to senior stakeholders that key risks were being managed effectively.

**Client challenge B**

The client wanted more visibility on the risks and controls in the programme in order to mitigate the key risks during the roll-out of smart meters. Ernst & Young setup the risk and control function for the programme and designed controls into the new processes and systems.

**Ernst & Young value delivered**

► Worked with the client’s solution design and program risk and controls team to develop the risk and controls approach
► Identified the key risks impacting the new smart processes that would be rolled out and worked closely with the solution teams to design controls to address these risks
► Supported the client in managing the programme delivery risks and reporting to the Programme Board

**Result**

Smart preventative controls with a high degree of automation were built into the high level design requirements.
Why choose Ernst & Young?

Trusted brand - We have a global network of 2,500 utilities professionals in 600 locations and our member organisations work with almost every utility in the world. We are a trusted brand in the world of financial and operational risk and control, and have a proven methodology for delivering complex transformation programmes in multi-vendor environments.

Industry insight - Ernst & Young is dedicated to developing smart metering insight through research programmes, workshop industry experts and co-ordinated consumer research. We understand delivering a successful smart metering programme is critical to the future competitive advantage for our clients.

Accelerated delivery of results - Our proven reference models will allow rapid benefits delivery. We can provide benchmarks to help you quickly prioritise opportunities and build the commercial case for change.

Objective insight and hands-on support - Our independence allows us to put our clients interests first and provide interest flexible support to a clients programme to whatever depth is required.

Stakeholder and business engagement - Our team provide insight, independence expertise and experience to help your organisation achieve better results. We have a proven approach to major transformation programmes and understand the importance of aligning stakeholders around a vision, engaging the business and planning to manage the change impacts from the start so as to avoid the need of costly recovering programmes when progress fails to meet expectations.

Easy to buy - We are so confident about the value of the outcomes for clients that we are prepared to be innovative about our pricing with risk/reward fee arrangements. Depending on the scope, scale and objectives, the value delivered can easily exceed the cost of your input.

Proven. Insightful. Pragmatic.

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Ernst & Young invests in smart energy insights to make the difference to our clients, our economy and our fellow citizens.

A report on the economic benefits of Smart Grid
Launched by Charles Hendry Minister of Energy, our report examines potential GDP and job creation that could arise by upgrading the UK distribution network.

The rise of smart customers – what consumers think
The roll out of smart meters in the UK provides a challenge to utility companies to transform their relationship with consumers. To explore the sector’s readiness to respond to this challenge, we asked domestic energy consumers how they viewed their relationship with energy providers. We wanted to know if they understood the benefits of smart metering as well as their appetite for smart energy services.

The rise of smart customers – what the sector thinks
Power & Utilities (P&Us) companies are still struggling to find a formula for success in smart as the agenda is forcing them to reassess what their business should be and how they need to operate. We explored the smart customer strategy of 75 business leaders across 12 countries, to find out how the key players in each market believe the implementation of smart metering will change the relationship between P&Us and their customers.

To learn more about the issues we discuss please visit www.ey.com/uk/powerandutilities.