

## Minimising the Total Costs of Energy at Public Body Organisations

### The Problem/Opportunity

Budgets at Public Bodies (Local Authorities, NHS organisations etc.) are severely constrained and will continue to be so as Government picks away at addressing our overall budget deficit. In order to protect existing services and to provide the finances to invest in new services, public bodies will continue to exhaust every opportunity to minimise service delivery costs to achieve the same, or more, for less.

Financial cost commitments within Energy related budgets are typically very high and will continue to grow in line with predicted significant energy retail cost inflation unless effective management intervention mechanisms are in place. Here, then, the management challenge to achieve the same or more for less is doubly difficult.

However, where percentage savings are achieved at energy related budgets those savings will translate into significant cash savings that may be deployed to protect existing services and to finance new service initiatives. As illustration, achieving 40% savings at NHS UK would realise in excess of 200 million pounds of cash savings per year (from review of NHS Information Centre for Health and Social Care 2011/2012 statistics). Similar percentage savings at LAs (Local Authorities) would yield cash savings typically in the 2 to 6 million pounds per year range to each LA (from review of individual LA budgets).

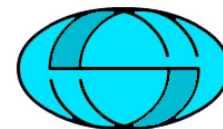
But are such aggressive cost reduction targets at Energy budgets actually achievable at public bodies? Are there additional significant cost reductions available even at those organisations that have already delivered or are implementing current best practice management and control of their own Energy demand and have adopted rigorous procurement strategies to achieve best available offers from retail energy supply companies?

In order to address these questions the current best practice arrangements that are already delivering positive cost reduction benefits to proactive public body organisations will be reviewed and the further positive contributions of achievable extensions to current practice will be examined.

### Current Practice

Effective practices at public bodies (and at other large Industrial/Commercial users of Energy) will attack both ends of the cost equation – eliminate waste and inefficiencies at the demand side and minimise supply side financial commitments at the energy retail market.

A common thread runs through the processes in place to deliver gains at each of the Supply/Demand side challenges – the positioning of effective and automated data collection and data management processes that will deliver the detailed views to management of where, when and



how much energy is consumed. The integrated data management processes involved are commonly described together as aM&T (automated Monitoring and Targeting).

Comprehensive views into energy demand data will serve to illuminate priority areas for further analysis, followed by planned actions to drive out confirmed inefficiencies and waste – a step wise process that will address the big issues and opportunity wins as early as possible, drilling down to attack the more marginal cost reduction opportunities as the bigger wins are consolidated. Detailed demand data will also improve the confidence attached to Costs versus Benefits analyses of when to invest further – perhaps at, for example, Automated Buildings Management Systems (Lighting, HVAC etc), targeted sensors at equipment types and locations, sub-metering equipment to complement fiscal energy meters. Detailed data views of energy demand profiles will also contribute positively both to the identification of cost attractive Supplier switching opportunities available in the market and, thereafter, to positive outcomes of negotiations during supply contract switches or renewals. They will also highlight where and when investment in local own power generation makes sense (CHP, renewable etc.) and where the potential for sale of excess own generation exists.

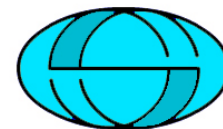
The collection and analysis of the detailed timed interval consumption data (half hourly interval time slots) available from Advanced/Smart metering systems is the key starting point from which to deliver the necessary best practice data management architectures and processes.

Typically, public body organisations will own their own metering equipment. Ownership of the energy meters themselves will obviously incur asset finance costs, but those costs will be balanced out at Supply side contracts where the standing charge from the Supplier for use of the meter asset will be removed – a ‘rental’ charge that would otherwise be passed through by the Supplier from the meter user to a third party asset owner.

With ownership of the fiscal meter also comes the flexibility for the owner to nominate their own preferred provider(s) of other key meter related services, rather than otherwise having to use Supplier provided or Supplier nominated services. Again, where the meter owners choose to nominate and contract directly with their own preferred service provider(s) then Supplier side standing charges for delivery of equivalent services would not apply.

Meter owners will favour appointment of third party service providers who can, primarily, assure a robust and consistent AMR/AMM (automated meter reading, advanced meter management) service - assuring timely delivery of consumption interval data to client side aM&T processes. Additional managed data architecture and data base services, complemented by data visualisation/presentation and data analysis toolsets, are often available as part of the offer from such service providers.

Fiscal meters must also be supported by and formally appointed to particular Industry qualified role holders (Meter Operators, Data Collection/Aggregation agents) in order to minimise risk at industry wide Energy settlement processes and to protect the integrity of competitive market processes as a whole. The Meter Operator or Meter Asset Manager role will assure the safety and integrity of meters, maintaining the meter through its lifetime. The Data Collection role holder will Validate, Edit and Estimate (VEE) consumption data at the meter, producing the views of annualised consumption



profiles and estimated future consumptions. Data Collector outputs will feed consumption data aggregation processes delivered by the Data Aggregator role holder, subsequently informing Supplier side commitments and contracts struck at the wholesale energy market. The aggregated views of consumption by Supplier also feed central energy settlements processes which will ensure that Supplier cost commitments and Generator receipts at the wholesale market are reconciled and any imbalances are addressed.

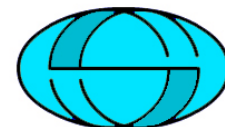
The meter owner, then, must organise a range of separate metering related services to be delivered directly from third party providers. The providers and the service levels they deliver must be managed effectively by the meter owner organisation. Investments here will lead to the delivery to the meter owner of services that are consistent over time and integrated with internal aM&T processes. Most importantly, persisting arrangements agreed by the meter owner with their own preferred metering agents will avoid disruption at Change of Supplier events - when otherwise new Supplier nominated metering agents would replace old Supplier nominated agents with consequent impacts upon steady state interfaces and processes at the meter owner organisation.

Meter owners will tend to favour contracting with third party metering agents who are able to offer the full range of services required – from AMR/AMM through to delivering the formal Industry required role responsibilities of Meter Operator, Data Collector and Data Aggregator. Managing a single service provider rather than managing multiple providers who must inter-operate will be less problematic. Also, the costs of each discrete service component, where bundled, will be much more favourable than if they were otherwise contracted and delivered separately from different agents.

Nevertheless, typical service charges for bundled services from leading metering services providers will lie in the 90 to 150 pounds per annum range at NHH (non half hourly settlement) fiscal meters and much more at HH (half hourly settlement) meters. The total external spend will be significant at public body and large Industrial/Commercial organisations where thousands of meters may be deployed. However, experienced market evidence shows that demand side savings of 10% to 20% are comfortably achieved by those organisations who commit to building integrated aM&T data management processes - confirming that the effective positioning at the organisation of aM&T and its supporting metering services is an imperative. The cost difference attached to service delivery contracts with preferred third party agents compared to the costs of alternate energy Supplier provided services will be marginal. Nevertheless, meter owner managed services will continue to be preferred, providing more flexibility and reducing the impacts of change over time, particularly at opportunity triggered change of energy Supplier events.

At organisations that have embraced the objectives of aM&T and have effectively positioned the required metering services and data management architectures that will support it, specialist and experienced energy management focused operational units have developed to identify and drive the positive change opportunities illuminated via aM&T and to provide a functional resource to the organisation as a whole across the range of energy related issues.

The relationships developed with third party providers of metering services have also served to equip the operational energy management unit with a well developed understanding of the intricacies and possible anomalies that exist at the Industry defined mechanisms used to translate



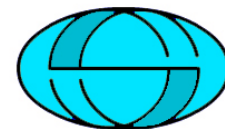
customer energy consumption data to appropriate and validated energy bills from the Supplier. Units will also have developed a keen understanding of how Supply companies themselves interact with the wholesale energy market in order to tailor their own contracts for generated energy in line with accurate profiled customer energy demand data. Suppliers will employ demand profiles cost efficiently at the wholesale market so that they may target their commitments to lowest cost time-based blocks and intervals of generation available across the market.

An important and significant component of the energy bill from the Supplier will also include the costs for delivery of power to meter points by the distribution network operators, typically a 'passed through' cost on the Supplier bill. A thorough understanding of the impacts upon distribution costs incurred resulting from the particular metering topologies in place at the organisation will also be achieved at the Energy Management Unit – driving informed decisions upon the design of metering arrangements required at new projects and opportunistic refinement of existing arrangements to minimise distribution service charges.

A thorough understanding and appreciation of the way that energy consumptions are recorded and all costs are aggregated, when and where energy is consumed, how those consumptions are profiled and settled at the Industry level and how Suppliers optimise their own energy balances at the wholesale market will together achieve a thoroughly informed position at the customer organisation during discussions and negotiations with potential energy Supply partners. Informed procurement strategies will attack the Supply side of the energy cost equation more effectively at proactive organisations. The pooling or sharing of procurement requirements and Supplier decisions across co-operating organisations will achieve further economy of scale reduction of supply costs.

Interestingly, the early comprehensive spending review exercised by the current Government in late 2010 served to particularly reinforce the potential to achieve significant savings at public body organisations through improved shared procurement of goods and services. Since then the role of the Government Procurement Service (GPS), attached to the Cabinet Office, has been sharpened significantly and very effectively. The Energy group at GPS are already achieving considerable wins at the energy budgets at those departments of government to whom they are directly responsible ( MOD, NHS, Transport etc ). GPS will increasingly become the procurement partner of choice to the widest range of public body partners - the potentials here will be further discussed later.

In summary, there is already good evidence at proactive public body organisations and at large I&C companies that commitment to developing effective aM&T processes and their supporting metering services, together with the positioning of experienced operational management within the organisation, will lead to significant positive gains at the energy Supply/Demand equation. The challenge remains to encourage those organisations that are currently behind the curve to get on board. Thereafter, examination of current best practice processes in further detail will identify additional opportunities for service cost reductions and for the development of more effective and persisting strategies to challenge the energy retail to wholesale cost differential.



## Extensions to Current Practice

Evidence suggests that current best practice will deliver opportunity to identify and then implement demand side savings of at least 10-20% via aM&T. The comprehensive views of energy demand profiles achieved, and predicted for the future, will better position the organisation to secure Supply side savings at energy contract negotiations with Suppliers. Increasingly, the rigorously managed views of energy demand data will further reinforce confidence to achieve predictable further wins through targeted applications of own generation, direct commitments at medium and longer term products at the wholesale market itself and commitment to a range of attractive products that are and will continue to develop in a changing energy market over time – Power Purchase Agreements, as an example.

Our first conclusion, then, must implicate pressing those public body organisations that have so far not committed to best practice arrangements to do so - perhaps in partnership or via shared services arrangements with others who may be ahead of the game. The Government have a role to play here, perhaps complementing the objectives at public bodies to reduce the carbon impact of the energy they consume with similar objectives to achieve overall energy reduction targets alongside carbon targets.

At those organisations committed to best practice arrangements, opportunities to achieve further cost reductions will fall into two main areas.

Firstly, the costs attached to the delivery of metering services to the organisation from third party providers must be examined and opportunities to reduce costs must be identified and delivered.

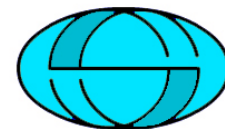
Secondly, the significant uplifts to retail energy costs above wholesale energy costs must be radically challenged in order to achieve further step change reductions in total energy costs to the organisation.

## Service Cost Reduction

Beyond the opportunities available to co-operating organisations to achieve economy of scale reductions in charges from third party service providers through pooling of requirements there now exist real opportunities for organisations to build upon the experience and knowledge gained at existing in-house energy management operational units by positioning all of their required metering services in-house.

The technology services or components to achieve all of the AMR/AMM metering requirements are readily available in the market. Indeed many of the third party providers of metering services themselves deliver AMR/AMM services at Advanced/Smart meters through their own contracts with other specialist managed service providers. Alternatively, the technical building blocks required to implement meter communications head-end facilities and comprehensive automated meter reading and meter management facilities are themselves also now mature and readily available. The implementation of in-house facilities from best-of-breed technology components provides the favoured strategy to deliver persisting and consistent services at minimum and predictable cost.

The investment required to position AMR/AMM facilities in house can be confidently predicted to pay for itself very quickly, over the first year of operation at organisations operating meter portfolios



of around 3,000 meters or more. It is also important to recognise that facilities deployed will operate automatically without requirements for significant manual resource interventions. Modest technology architecture configurations and spend will support many hundreds of thousands of target meters. Co-operative shared service delivery arrangements agreed between public body organisations will, then, provide very significant and increasing reductions in the costs to serve each meter as supported meter portfolio volumes increase.

In order to avoid uplifted charges at third party providers for the separate delivery of the remaining Industry required Data Collection, Data Aggregation and Meter Operator services that will complement in-house delivered AMR/AMM services then, similarly, the organisation will also commit to provide those additional services in-house. Again, the data management processes involved are fully automated at modern system solutions and the data management roles implicated here will align well with the existing role responsibilities, skill set and experience base in situ at the energy management operations unit.

Actual physical meter work that may be required at meters over time would be managed by the in-house Meter Operator role holder. Any field work would be executed by locally contracted and Ofgem 'competent' meter worker SMEs - aligning well, for example, with LA objectives of supporting and stimulating local economies.

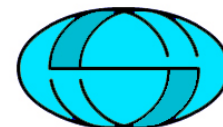
An Industry prescribed 'qualification' process is implicated here in order to successfully position the required Industry roles in-house. Additionally, the cost of effective systems required to deliver requirements is high. However, Salient Systems Limited will commit to providing their own comprehensive and Industry qualified suite of automated application systems to public body organisations licence and annuity cost free (removing hundreds of thousands of pounds of financial commitment) - together with at-cost, experienced and guaranteed successful delivery of all qualification support requirements, training and mobilisation requirements and systems integration services. Our offer here reflects our own objectives of positioning our company as a valued contributor within the wider community. Our company commercial interests will be well served at similar large I&C organisations operating in the GB market who face the same energy management and energy cost reduction challenges.

## **Energy Cost Reduction**

The challenge here is to radically redress the cost imbalance between retail and wholesale costs of energy, to achieve as close to wholesale costs as possible.

Interestingly, at in-house energy management operational units who commit to delivering the Industry prescribed data management roles then all of the industry defined demand profile data that will drive informed interactions with the wholesale energy markets is in place – so why not use it ?

Delivery of the extended current practice service model at public bodies opens up the real opportunity to interact directly and effectively with wholesale energy market products. Pooling of demand across cooperating organisations opens up further economy of scale wins. The successful current positioning of and planned managed extensions to the central energy procurement services provided by GPS provide the ideal vehicle that will encourage effective partnering with the GPS procurement facilitator across a range of public body organisations. Administering the delivery of



wins achieved at the wholesale market to participants will be achieved either through specific bi-lateral agreements between GPS and Supply company(s), or through possible consideration of achieving Supply company qualification and status at a nominated public body centrally positioned function - and delivery of consistent Supply side services from there to all participants.

In order to assure the widest possible customer set who will benefit from GPS delivered wins a key ingredient required at participants will include the deployment of consistent data management systems and processes that will deliver both the validated views of energy demand required by GPS and the reconciliation of deliveries from GPS to the participant. A heterogeneous mix of services and facilities deployed at participating public bodies and interfacing with GPS will subvert objectives considerably.

Additionally, the potential for public bodies to spread the benefits to others of a cooperating approach to energy procurement is extremely attractive (housing associations, focused community segments, local business etc). Energy cost reductions of 30%+ above and beyond that delivered by aM&T wins are entirely achievable at all stakeholders.

Extensions of current best practice to deliver this radical cost reduction end game will also deliver a multitude of additional benefits and opportunities to public body organisation over time - skilled jobs and career opportunities, local economy stimuli and support, community focused energy generation and supply opportunities and value propositions, etc.

Of particular interest to those innovative organisations that are, along with their communities, already committed to maximising the opportunities and benefits arising from local renewable energy generation projects, GPS positioning as a significant purchaser of power will immediately remove obstacles arising at the market for such projects to secure attractive PPAs (Power Purchase Agreements) and FIT (Feed-In Tariff) arrangements. As an investor in and beneficiary from such projects, and as the committed energy market partner, the public body is well positioned, via GPS, to provide optimised PPAs and effectively managed FIT (Feed-In Tariff) processes and payments, ROCs (Renewable Obligation Certificates) etc. The improved certainty of such PPA arrangements will secure the financial investment required to deliver projects.

If the end game sounds attractive then let's get together to deliver it. To discuss Salient's offer to public bodies in more detail please contact us at :-

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