

EXPRESSION OF INTEREST

for

**PROVISION OF
DEMAND MANAGEMENT SOLUTIONS**

Date of Issue: 03/11/2008

Date of Closure: 24/11/2008

1 INTRODUCTION

ENERGEX is a Queensland Government Owned Corporation that distributes electricity to more than 2.8 million people throughout South East Queensland.

At the core of our business are high performing distribution assets worth more than \$6 billion, the expertise of more than 3,900 employees and a drive to provide our customers with energy solutions that are economically, socially and environmentally acceptable.

ENERGEX's distribution network area of 25,000 square kilometres includes more than 50,000km of underground and overhead electricity lines and cables, over half a million power poles, some 43,000 transformers and more than 290,000 street lights.

Throughout the network, electricity consumption is growing and that is creating a number of issues:

- Consumer's electricity bills are rising; and
- CO₂ emissions created during the generation of electricity at coal-fired power stations are on the increase.

Consumption (how much is used) is not the key issue for network distribution companies such as ENERGEX. Demand (when it is used) is the measure that decides how much network capacity is required. Indeed PEAK DEMAND (the time when the most concurrent consumption is occurring) will dictate how much capacity ENERGEX must provide to an area. As peak demand grows, ENERGEX must upgrade the network to ensure adequate capacity for all who wish to consume at the peak time.

And peak demand is growing. Whilst energy use (consumption) has risen 20% in the last five years, peak demand has risen by 40%. In turn, investment in net network capacity is at record levels.

This investment is not only occurring in new areas but in established areas where increased installation of air conditioning, entertainment equipment and computing equipment are on the rise.

Both ENERGEX and the industry Regulators are looking for more efficient and effective alternatives to building more network as a method of addressing this peak demand.



2 **SCOPE**

Forecasting demand growth enables ENERGEX to identify locations where future peak demand will exceed existing network capacity. That enables ENERGEX to plan and build additional capacity in advance of these potential limitations.

An alternative response to building additional network capacity is to implement solutions that will reduce the amount of peak demand in the area – in essence removing or delaying the future limitation. ENERGEX refer to these as solutions as “non-network solutions”.

Non-network solutions consists a wide array of solutions that aim to reduce the peak demand (maximum concurrent demand). These include, but are not limited to:

- Localised generation that can supply the excess network demand
- Load control devices that enable consumption to be stopped during periods of peak demand
- Energy efficiency devices that reduce the amount consumed (at the same time reducing the level of peak demand)
- Fuel substitution that moves consumption to fuels such as gas or solar.

Implementing non-network solutions avoids or delays expenditure on the network. The savings created by avoidance or deferral result in lower network costs to customers.

If some of those savings (but not all) can be spent on a non-network solution, then the overall cost of providing our network services to customers is reduced.

ENERGEX has now created a Network Demand Management Department to consider the emerging limitations within its network and find effective non-network solutions to address them.

Accordingly, ENERGEX has a need to develop Demand Management Solutions that can be applied to the limitations.

For clarity, the Demand Management solutions must be targeted solutions that achieve key results:

- They remove the identified demand (MV.A) from the network;
- At the required location in the network (suburb, neighbourhood, street);
- At the required time of day (the peak time);
- At the required time of year (summer or winter as required); and
- At a cost that is less than the alternative (in this case the alternative is to build more network).

Solutions that reduce consumption at times outside of peak demand times are ineffective in addressing the limitations under review by the Network Demand Management team.

This document relates specifically to peak demand management.

Appendix A includes additional information to assist in your understanding of peak demand and the way solutions can help address demand.

3 **EXPRESSION OF INTEREST**

3.1 Aim

The Australian Energy Regulator (AER), through the National Electricity Rules, requires ENERGEX to apply a *Regulatory Test* to all new network investment valued at greater than \$1Million.

That *Regulatory Test* requires ENERGEX to consider of all practicable and technically feasible alternatives to a proposed network development including, without limitation, generation, demand side management/response, fuel substitution or a combination of these (hereafter referred to as non-network solutions). These non-network solutions can be employed to:

- Defer a planned network project; and
- avoid a network project.

In response to this, ENERGEX is seeking to establish an improved capacity to offer feasible non-network solutions which can be considered during the planning process as an alternative to a proposed network project.

This Expression of Interest seeks to identify potential Service Providers of demand management solutions that are prepared to work with the ENERGEX Network Demand Management Team to deliver firm non-network alternatives to address growing network demand.

The capabilities being sought of solution providers include:

- Collaboration in development of alternate non-network proposals;
- delivery of approved turn-key solutions; and
- ongoing support for delivered solutions.

It is envisaged that ultimately this panel will consist of an array of Service Providers, each with a solution that is suited to a particular customer type, time of day and seasonality. Further, it is expected that, once established, Service Providers from the panel will work with ENERGEX to identify opportunities for their solutions in addressing emerging constraints.

This is the *first step* towards the establishment of a panel of Service Providers.

The aim of this Expression of Interest is to identify and shortlist potential Service Providers who are capable of designing, delivering and supporting turn-key non-network solutions that could be economically implemented in place of, or in combination with, the building of additional network capacity.

Service Providers short-listed through this process will be invited to tender for inclusion on ENERGEX panel of Service Providers of non-network solutions.

For clarity, respondents are advised that membership on the panel is not a guarantee of project work as this is subject to suitable opportunity for a Service Providers solutions arising during the period of appointment.

3.2 Proposed Project Time-line

The proposed project time-line below shows dates that are indicative only.

Issue the Expression of Interest	3rd November 2008
Closing date for responses to Expression of Interest	24 th November 2008
Notification of short-listed Service Providers	8 th December 2008
Issue Request for Tender (RFT) to short-listed Service Providers	16 th December 2008
Closing date for responses to RFT	26 th January 2008
Appointment of Service Provider panel	16 th February 2008

The requirement for the Service Provider Panel as outlined in this Expression of Interest is for an initial period of three (3) years with an option to extend the appointment for a further one (1) year plus one (1) year at ENERGEX discretion.

4 **RESPONSE PROCESS**

All responses are to be recorded on the attached schedules. They will be evaluated in accordance with the included evaluation criteria and subsequently ENERGEX will determine a short-list of potential Service Providers for this service.

5 **DESCRIPTION OF THE REQUIREMENTS**

ENERGEX are seeking Service Providers to assist with the goal of implementing non-network solutions in place of proposed network investment. That will occur in instances where reliable, technically feasible and economically cost-effective solutions are developed and shown, through a process of evaluation, to be the lowest cost alternative to address an emerging limitation in the network.

As already stated, non-network solutions required by ENERGEX must be capable of addressing the right MV.A at the right place, at the right time, for the right price.

- The right MV.A relates to the size of your solution. Service Providers need a clear understanding of the impact their product has on demand
- The right place relates to the type of users at the location of the limitations. Service Providers need a clear understanding of the type of users who are able to utilise their product (residential, commercial, industrial).
- The right time relates to the time of day and the time of year that their solution is effective (summer afternoon, winter night etc).
- The right price relates to the total cost per MV.A (or kV.A) that a Service Provider's product can deliver.

Solutions may be supplied by through 3rd parties but in all instances the respondent is expected to remain the prime contractor, fully responsible for delivery of the solution.

The path to developing and implementing solutions involves a number of steps, during which ENERGEX will expect full Service Provider collaboration. To assist respondents in assessing their suitability for involvement in this opportunity, the following information regarding the process and related considerations is provided.

5.1 Process

The progression to implementing a feasible non-network solution involves a series of steps, each requiring increasing levels of detail and Service Provider participation.

Step 1: Project assessment

During this stage, the Network Demand Management (NDM) Department will undertake a high level review of planned network projects seeking opportunities for non-network solutions.

The Service Provider may be required to provide high level input into these preliminary studies. That advice will extend to estimating potential load reductions that might be achieved by their products, timing suitability (time of day, seasonality), customer types and high level costing. The purpose of this step is to quickly remove projects with little or no opportunity for the Service Providers.

Step 2: Investigation (detailed assessment)

Where a project is deemed suitable for further investigation, the Service Provider and ENERGEX will explore, in detail, the full extent of the project. Collaboration will identify all issues that need to be addressed in order to present a feasible solution and Service Providers will undertake activities aimed at resolving these issues. This could include field audits, product modification, customer assessment, network connection analysis and approval/permit processes.

Step 3: Proposal development and presentation

Projects that continue to show potential will need to be finalised for quotation. This will require obtaining any agreements in principle, confirming supply and installation as well as forecast load reductions, risks and price. Formal documentation follows with the proposal presented to the evaluation panel for comparison with other network and non-network solutions on offer.

Step 4: Deliver approved demand management solutions.

Where quoted solutions are found to be the most feasible alternative option under consideration, ENERGEX will require the Service Provider to project manage the delivery of that quoted option within the agreed timeframe.

Other considerations

- Service Providers would be required to provide ongoing maintenance and service provision associated with the delivered solution.
- Where a Service Provider offers a non-network solution through a third party, the Service Provider will be responsible for managing all issues associated with that third party.

5.2 Skills and knowledge

ENERGEX expects a close collaboration with Service Providers who are ultimately appointed to the panel. ENERGEX will clearly have a strong focus on the customer outcome (power quality issues, connection issues, network reliability etc) and will expect the Service Provider to have (or develop) an understanding of how their product interfaces with the network and all associated issues.

Ideally, ENERGEX would like the Service Provider to have (or have access to) appropriate skills and knowledge to manage any network issues that arise with their product.

5.3 Demonstrated success.

ENERGEX is not seeking Service Providers of untried, emerging technologies. This process is not a channel for research and development. ENERGEX will be seeking Service Providers who:

- Can demonstrate the successful implementation and validation of the solution (by themselves or by third parties) in similar demand management situations for other networks, or
- can demonstrate the successful implementation and validation of the solution (by themselves or by third parties) in related circumstances and can show a high likelihood of success when applied to ENERGEX requirements, or
- can present a clear case why their product should be considered.

5.4 Product development

Ideally, Service Providers appointed to the panel would be committed to continual review of their solution capability with a view to making it a more competitive and reliable option during the contract.

5.5 Categorisation of Service Providers

ENERGEX will classify Service Provider's solutions into one or more of the following groups based on the ability of the solution to reduce peak demand in the various scenarios below:

- Residential summer day
- Residential summer evening
- Residential winter day
- Residential winter evening
- Commercial & Industrial summer day
- Commercial & Industrial summer evening
- Commercial & Industrial winter day
- Commercial & Industrial winter evening
- Network solution

5.6 Service Provider competition

There may be a number of Service Providers appointed to the panel, offering similar solutions, however Service Provider numbers will be limited.

5.7 Other

ENERGEX is seeking turn-key suppliers of solutions for each sector identified earlier. Ideally, the Service Provider will therefore maintain reliable capabilities in the areas of business development, project development and management, technical understanding, emergency response, billing and administration. Further, the need to interact regularly with ENERGEX and their customers will require a Service Provider to maintain a focus on appropriate presentation and communication standards.

6 INFORMATION TO BE PROVIDED

The Expression of Interest shall contain sufficient information to demonstrate the applicant's capacity to successfully deliver non-network solutions of the nature, complexity and magnitude proposed by the Service Provider.

The applicant must complete each of the Schedules attached to this Expression of Interest.

7 EVALUATION CRITERIA

The evaluation of the Expression of Interest will be based on, but not necessarily limited to, the following criteria that have not been listed in order of priority:

Evaluation Criteria Table

Schedule	Description
Commercial	
1	Acknowledgement
3	Company Structure
Technical	
6	Proposed Product Details
Capability	
4	Service Providers Experience
5	Project Management and Service Delivery

Those Service Providers who are short-listed as a result of this Expression of Interest process will be invited to tender to the Service Provider panel. During that process, applicants will be required to provide additional detailed information regarding issues including risk and safety management, insurance and financial capabilities.

8 PROPOSED AGREEMENT

The terms of the agreement between ENERGEX and the successful Service Providers will be disclosed to all short-listed potential Service Providers who submit a tender for the Contract.

9 CONDITIONS OF SUBMISSION

The applicant agrees to be bound by the following conditions when responding to this Expression of Interest.

By this document ENERGEX is not making an offer capable of acceptance and it has no intention of creating legal relations with any person who responds to this request for Expression of Interest.

Information provided against the evaluation criteria above, along with the information included in **Appendix A**, will be used as the basis for evaluation of responses together with any other matters ENERGEX considers relevant at its sole discretion.

Please be aware that this Expression of Interest provides all participants with the opportunity to increase current business and/or acquire new business with ENERGEX.

ENERGEX is under no obligation to accept, reject, short list or exclude any person who responds to this request for an Expression of Interest.

ENERGEX shall not be obliged to issue a tender specification for any of the works or to invite any Applicant to submit quotes for works. The projects may not proceed, or the strategy may have to be modified after discussions with Applicants. Information contained within this Expression of Interest document shall not form part of any subsequent Tender Specification or part of any ensuing Contract, except as determined by ENERGEX at its absolute and sole discretion. Such information is for Expression of Interest purpose only.

All costs incurred by the Applicant in relation to the Expression of Interest process shall be borne by the Applicant. No claim for reimbursement for time, material, and/or expenses shall be made by the Applicant against ENERGEX regardless of the results of the Expression of Interest process.

ENERGEX is not bound to use any Service provider for any of the work proposed by this document.

ENERGEX is not bound to give any reasons for rejecting any Expression of Interest.

Any policy of procurement of ENERGEX is not binding upon ENERGEX or incorporated into this document nor can or should any person who responds to this request for Expression of Interest seek to rely upon any such policy in determining whether to respond or not respond to this request for Expression of Interest.

ENERGEX will act entirely in its own interests and to the exclusion of the interests of any person responding to this request for Expression of Interest in determining in its absolute and unfettered discretion who will be accepted, rejected, short listed or excluded.

Except as otherwise stated in this Expression of Interest, all Service Provider information provided through the Expression of Interest will be treated as Commercial in Confidence.

Potential Service Providers are encouraged to be creative and develop suggestions to enhance ENERGEX/Service Provider relationships, quality, and service levels that will be both time and cost effective, and, of benefit to both parties.

All contact and questions in relation to this Expression of Interest must be made by e-mail only through the ENERGEX representative. Discussion with other parties within or associated with ENERGEX may result in disqualification from this process.

For the purposes of this Expression of Interest, the ENERGEX representative is:

Name: Shelley Marriott

E-mail: demandmanagement@energex.com.au

10 LODGEMENT OF SUBMISSIONS

Submissions must be delivered to the Tender Box, either in person or via courier service, no later than **2:30pm, Monday 24 November 2008**.

The Tender Box
ENERGEX
Ground Floor
150 Charlotte Street
BRISBANE QLD 4000

Submissions must be lodged in duplicate (original and copy) in sealed envelopes endorsed:

"EXPRESSION OF INTEREST FOR PROVISION OF DEMAND MANAGEMENT SOLUTIONS"

Tenders lodged elsewhere than the nominated location will not be accepted.

Appendix A

Additional information about addressing peak demand

Measuring demand: (MW versus MV.A)

Peak demand is often measured in both megawatts (MW) and MV.A (megavolt amperes). In a network, they are rarely the same thing.

Real power (measured in megawatts – MW, or kilowatts - kW) is the power consumed by an electrical load or network system. (1MW = 1,000kW)

Apparent Power (measured in megavolt-amperes - MV.A, or kilovolt-amperes – kV.A) is the power delivered into an electrical load or network system. (1 MV.A = 1,000 kV.A)

In many cases, Real power is not the same as Apparent power. The ratio of the difference between real and apparent power is called the power factor (PF).

ENERGEX always measures Apparent power (MV.A) when assessing demand as this is how much power is required to be delivered through the ENERGEX network to the electrical load.

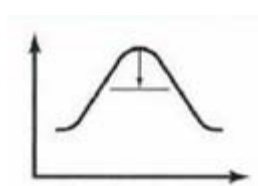
Service Providers will need to adopt this method of measuring demand (MV.A) when discussing the demand reduction capabilities of their product (they will need to consider any power factor related to their solution).

Methods of reducing demand

As already discussed, Peak Demand generally occurs at a time of day, in a particular season and is often driven by demand in a particular customer class (residential, commercial etc).

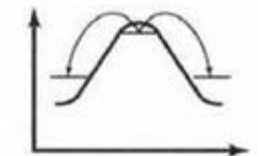
Reducing peak demand simply requires removing some of the consumption on the network at the peak time of day and season by reducing consumption in the customer class that is driving the demand.

There are a number of methods for achieving this:



Peak clipping

Solutions in this category target the complete removal of some of the demand at the time at which it occurs. Examples in this category include load curtailment or provision of alternate energy supply (generation) for the period in question



Load shifting

Solutions in this category aim to move consumption to a different time of day in order to lessen demand. Examples might include off peak hot water or building management systems



Energy Efficiency and conservation

Solutions in this category aim to remove consumption throughout larger parts of the day which has the added effect of reducing consumption during the peak demand period. Examples might include gas conversion programs, solar PV and energy efficient appliance roll-outs

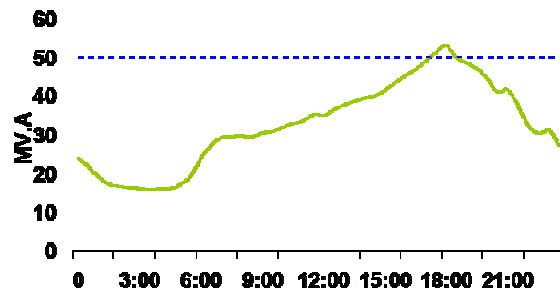
EXAMPLE: DEMAND MANAGEMENT

Finding the best option for residential network users

The green line on Chart 1 shows forecast the maximum expected consumption for a theoretical residential network area in an upcoming summer.

The forecast maximum peak demand assumes the hottest summer conditions (maximum air conditioning load) and therefore the largest expected consumption.

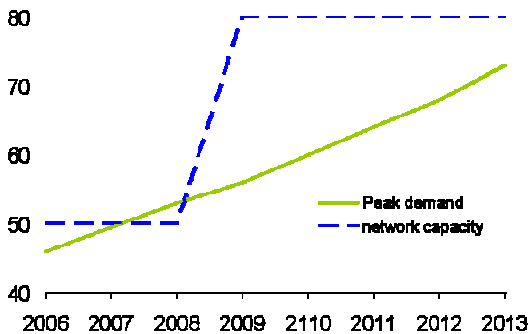
The forecast indicates that consumption in this area increases throughout the day, reaching a peak (peak demand) of 54MV.A at 18:00 in the afternoon.



The blue line in the chart indicates the available network capacity in the area. Clearly, this forecast indicates that the network will not be able to cope with that potential maximum demand if the forecast is achieved and alternatives must be found:

- Increase the network capacity before the predicted summer peak
In this case the upgrade would need to be more than 4 MV.A to ensure the network can cope at 18:00. In reality a network upgrade would involve a much larger upgrade, say 30MV.A.
- Reduce the peak demand (consumption levels at the peak time)
In this case, the reduction would need to be greater than 4MV.A at 18:00 to reduce total demand below the available network capacity. **This is where a non-network solution could be installed to address the limitation.**

Now consider the green line on chart 2. This chart shows that the maximum forecast annual summer peak demand for the same area in the coming years. Clearly, the peak demand is expected to grow from the upcoming 54MV.A to more than 70MV.A by 2013.



The blue line shows that a possible network response to this growth might be to build an extra 30 MV.A of capacity in the area by replacing equipment (bigger transformers, higher capacity power lines).

The alternative might be to continue to install non-network solutions, keeping peak demand below 50MV.A for as many years as possible, deferring the network upgrade for as long as possible.

This chart will enable us to identify that non-network solutions would have to be able to:

- Reduce demand by 4MV.A in 2008 to keep demand below 50MV.A and thereby defer network upgrades by 1 year.
- Reduce demand by 7MV.A in 2009 to keep demand below 50MV.A and thereby defer network upgrades by 2 years.
- Reduce demand by 10 MV.A in 2010 to keep demand below 50MV.A and thereby defer network upgrades by 3 years, and so on.

ENERGEX will seek to find the most reliable, lowest cost option to address peak demand:

- Upgrade network capacity immediately
- Fund non network options for 1 year and then upgrade network capacity.
- Fund non network options for 2 years and then upgrade network capacity,
- Fund non network options for X years and then upgrade network capacity.

SCHEDULE 1 - ACKNOWLEDGEMENT

To: ENERGEX
 Tender Box
 Ground Floor Foyer
 150 Charlotte Street
 Brisbane QLD 4000

Closing Date: 24 November 2008

Closing Time: 2:30pm

The Respondent:

- (a) confirms that each of the Schedules listed in the attached Schedule Checklist have been completed and are attached to this Tender Form;
- (b) acknowledges and represents that in the preparation of this Expression of Interest Submission, the Registrant has not relied on any information provided to us in any form by ENERGEX or its agents;
- (c) waivers any right to recover costs associated with the preparation of this Expression of Interest;
- (d) waivers any right of appeal against any decision arising from the Expression of Interest process; and
- (e) warrants that the Registrant has not engaged in any collusive conduct in the preparation of this Expression of Interest.

SCHEDULE 2 – COMPANY DETAILS

The Respondent is required to provide a comprehensive statement of its financial capabilities and structure. Supporting material/documents can be submitted as part of the statement.

Company Name:

COMPANY NAME: _____

OR _____

INDIVIDUAL'S NAMES: _____

Corporate Structure (sole trader,
company, partnership, etc.) _____

Trust Details:

Trust Name: _____

ABN _____

GST Registered:
(tick the appropriate box)

Yes

No

Main Office Address _____

City _____

State _____

Postcode _____

Telephone _____

Fax _____

Qld Office Address _____

City _____

State _____

Postcode _____

Telephone _____

Fax _____

Respondents Representative

Respondents are required to identify a person whom it wishes to appoint as its nominated representative.

The details of the proposed Respondents Representative are:

Name: _____

Title: _____

Address _____

City _____

State _____

Postcode _____

Telephone _____

Fax _____

e-mail : _____

SCHEDULE 3 - COMPANY STRUCTURE

Organisational Structure

Respondents are required to attach a copy of its Organisational Chart.

Corporate Details

Corporate Details	Response
Provide names of Company Directors and indicate if they are executive or non-executive directors.	
Details of other directorships held by the Directors.	
Comment on general business activities	
Length of Time Company has been in Service	
Affiliation with Other Suppliers / Manufacturers in Australia	
Details of Chief Executive Officer (or equivalent).	

SCHEDULE 4 - SERVICE PROVIDERS EXPERIENCE

Previous non-network projects

Where respondents have

- Undertaken similar or related projects that can demonstrate the effectiveness of their solution
- Information regarding third parties who have undertaken similar or related projects that can demonstrate the effectiveness of their solution,

they should provide details on the attached Schedule (provide additional schedules if more than one project is included), Respondents should provide the following information:

Details	Respondents Response
Client Name	
Project Details	
Project Location	
Project parameters (size, complexity & outcome)	
Timeframe of Project	
Value of Project	
Reference persons	<p>Respondents should provide the names and contact phone numbers of at least 3 current referees providing the following details:</p> <ul style="list-style-type: none"> • Name of Referee • Details of Contract • Phone Number
Outcome of project	

SCHEDULE 5 – PROJECT MANAGEMENT AND SERVICE DELIVERY

In this Schedule, Respondents are to provide information on the following:

Company

Provide details of any Queensland locations operated by your organisation

Comment on the geographical boundaries for installation of your solution.

Project Design

What resources are available to your organisation to assist in developing a formal project plan for a solution roll-out?

Comment on your project design experience (ENERGEX are seeking to understand your experience in planning for delivering a solution). Include actual examples where available and discuss key inputs into the planning.

Project Delivery

What project management resources are available (or are you willing to employ) for delivery of approved solutions?

Comment on your project management experience to date (ENERGEX are seeking to understand your experience in delivering a solution). Include details of any projects completed and how you measured success.

Project Management – Liaison with ENERGEX

What information would you consider providing during a project delivery as a method of indicating progress against agreed deliverables?

Roll/out details

Comment on the indicative installation time / number of installers required for a project roll-out

Comment on issues that may limit your capacity to deliver a solution (ordering times, lead times, manufacturing period, staff availability, order quantities)

After Sales service

Comment on your capability to maintain your solutions (response times, resources)

Advise any limitations in your response capabilities

Related parties

Detail any third parties likely to assist you in delivering your solutions.

SCHEDULE 6 – PROPOSED PRODUCT DETAILS

In this Schedule, Respondents are to provide information on the following:

Proposed solution/s

How does this solution reduce demand?

How is your solution controlled (automated switching, removes demand immediately, customer activated)?

Where is the product manufactured?

What warranties are offered with the solution?

How long is the solution likely to remain effective before other factors begin to erode its value (e.g. customer disconnection, removal etc)?

How long will the product be supported?

What unit reduction in MV.A (or kV.A) will your product deliver?

What customer sector is your product most likely to impact demand?

- Residential
 - Commercial
 - Industrial
 - None or all of the above
-

What time of the day is your product most likely to be able to reduce demand (tick all relevant boxes)?

- | | |
|--|----------------------------------|
| <input type="checkbox"/> Day | <input type="checkbox"/> Weekday |
| <input type="checkbox"/> Night | <input type="checkbox"/> Weekend |
| <input type="checkbox"/> Early evening (to 9:00pm) | <input type="checkbox"/> Summer |
| <input type="checkbox"/> Full time | <input type="checkbox"/> Winter |
-

What after sales issues exist with the product?

What product development activities are you currently undertaking?

How long have you been associated with this product?

Does your company have any existing relationships with specific market segments that would strengthen your ability to implement your solution??
