

Public Enquiry Submission – Energy Efficiency

REGULATION

State by State Regulation

- GridX has found it difficult to access and comply with the regulatory landscape which is different in each state. It is an extremely costly process to obtain approval and licences for our projects within the various states of Australia and it would be better to have one framework.

Building Energy Efficiency Standards

- The system for new building efficiency [ie. BASIX (NSW) and Energy Star (Vic)] does not seem to have the flexibility built into the programmes to accept innovation and hence choice for consumers. The 'rule books' within these programmes seem to be inflexible to accept innovation such as the MiniGrid and Hydronic Appliances.
- GridX wants greater incentives given to builders, home owners and innovators (such as itself) for the implementation of energy efficient projects.

GRANT ASSISTANCE

- GridX is finding it difficult to get support in any form for its projects by the Federal or State government.

AusIndustry

- GridX and its shareholders were recently presented a case manager for our pending Commercial Ready grant application. Unfortunately it seems that the background of the person was in Bio Technologies and it was extremely difficult to portray to her the intricacies of the energy industry when she had no engineering experience. It would be beneficial if Company's such as ours were appointed case managers who had the relevant experience in the field being applied for.

State Grants

- GridX was granted a state grant by the Sustainable Energy Development Authority in May of this year. Within a week of the funding being placed we were told that Treasury had pulled their funding and we would not be receiving our grant. This was terribly managed by the Government and was extremely difficult for our Company to explain to our shareholders.

ON SITE GENERATION

- The GridX model of onsite cogeneration for new housing estates will provide a holistic approach to the augmentation of the electrical network experienced as a result of urban sprawl. GridX will provide all the energy requirements for the estate through the use of highly efficient onsite generators. GridX is able to provide a negation of downstream infrastructure, provide export capacity and give customers greater ability to demand side manage within their home.
- GridX would like to see the promotion and incentive given for onsite cogeneration at a residential level.

HYDRONIC APPLIANCES

- GridX has developed a range of Hot water Appliances (eg. dishwasher, washing machines and clothes dryers) that will take much of the high electrical loads away from electricity and put them onto gas, within homes. This will ultimately reduce the emissions per household and hence increase the energy efficiency of these premises.

RECs, NGAC AND WHITE CERTIFICATES

- GridX would like to see the implementation of energy efficiency or 'White Certificates' for the abatement of emissions nationally. Not all energy efficiency projects are renewable and it seems that the federal government has not provided a quota for utilities to implement energy efficiency through certificate trading. It is noted that GridX does qualify under the NGAC (NSW) program however for smaller projects it is an extremely expensive process to register for our smaller projects.
- A national trading platform for the trading of energy efficient certificates would be greatly beneficial rather than the current framework of bilateral agreement with energy utilities.

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GRIDX POWER OVERVIEW

THE COMPANY

GridX Power is an Australian owned company incorporated in 2002 with the purpose of becoming an Independent Power Provider (IPP). The Company's objective is to develop a new energy Business that will revolutionise the way energy is currently provided and is currently being recognised by major property developers as imperative, to sustain their growth.

'Placing power production close to the consumer'

GridX has developed, in close cooperation with Deloitte, a strategic alliance based business model that can deliver a real-time, economic energy alternative to combat society's growing greenhouse and energy constraints. Our patented intellectual property enables the GridX System to efficiently monitor and operate a suite of localised generation and distribution assets that deliver energy 24 hours a day, 7 days a week.

The patented **GridX "Cellular MiniGrid"** is the missing link between Micro Distributed Generation ('DG') technologies and delivering a commercial solution to the consumer. This product is configured to provide the most eco – economical energy available given the geography of any development.

The MiniGrid Controller is combined with the most proven and advanced Micro DG technologies which enables GridX to provide a specifically designed, modular, decentralised, sustainable power solution for new housing estates, high rise buildings, hospitals, airports or defence installations whilst in addition, having the ability to export excess electricity back to the traditional grid at times of peak demand.

DISTRIBUTED GENERATION (DG) TECHNOLOGIES - A PREFERRED SOURCE OF ENERGY

The current pace of deregulation within the utility industry has provided a sound landscape for the introduction of new energy developments founded on DG based solutions. The energy (both thermal and electrically) is produced and delivered to consumers locally by way of the MiniGrid's distribution network. This technology replaces the need for traditional and inefficient, transmission lines and centralised power plants and as a result increases reliability. The United States independent cooperative 'Micropower' forecasts that Distributed Generation energy supply will meet more than 20% of future global electricity needs.

GridX Power has based its development on building a complete and commercial Micro Distributed Generation solution that is uniquely designed to develop a new energy business or an Independent Power Provider.

THE GRIDX MINI-GRID

The GridX MiniGrid will 'break the mould' of traditional electricity generation; from old, dirty, and inefficient coal burning power stations towards the inevitable transition of an efficient means of locally producing cleaner and more reliable power.

MiniGrid Overview

In simplistic terms, the MiniGrid Co-Generation System ('MCS') is the unit that generates the energy. The MCS utilises natural gas as its fuel, to produce electricity, cooling and heat. This is demonstrated in figure below.

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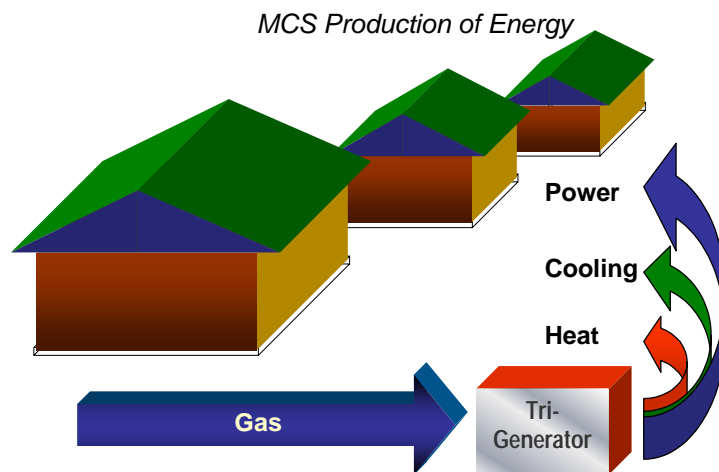
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In this way, an MCS unit will produce energy at an 85% level of efficiency, compared to a coal burning power station producing the same amount of electricity at an overall efficiency of less than 30%. The primary reason for the significant difference in efficiency levels is that any by-products produced during the generation process of a coal power station are released to the atmosphere. MCS utilises its' by products such as heat to provide heating systems in winter, and air conditioning in summer.

GridX will economically and competitively provide a holistic energy solution for the sale of heat, cooling and power to consumers. This will be achieved by cost-effectively integrating, controlling and tailoring a variety of energy sources as selected by GridX into its MiniGrid. These energy sources may include a mixture of fuel cells, photovoltaic, micro-turbines, mains electricity, heat storage devices and the GridX - Mini Tri-generation Systems ('MTSs').

By using a series of highly efficient natural gas fired MTS as the core nucleus within the MiniGrid, GridX will be forming a new type of customer relationship based on energy supplied from Micro DG. Thereby it is providing an alternative and economically sound solution for customers, developers and retail energy providers alike.

BENEFITS OF THE MINIGRID

Central to the GridX team's capability is an appreciation of the commonly missed element of all emerging technologies – commercial viability. This focus has enabled the Company to configure the operation of Distributed Generation at residential, commercial and light industrial levels toward an outcome that exhibits returns which are outstanding - this is a GridX MiniGrid.

Apart from providing a commercially viable alternative energy supply, the GridX MiniGrid also delivers the following benefits:

Lower Cost of Energy

- A MiniGrid is modular, thus it can be installed quickly and at a relatively low initial cost.
- The procurement process of Natural Gas fuel collectively provides an attractive alternative to the Gas Retailers. GridX will purchase gas at industrial rates.
- The mass procurement of common hardware will dictate attractive prices to the benefit of GridX.
- As the 'load', or electricity demand, of a particular site grows, the MiniGrid can be enlarged in a modular fashion. This reduces the amount of upfront capital required, and ensures a 'just in time' energy solution is provided to its customers.
- A MiniGrid has a built-in data monitoring capability that enables it to serve the needs of its customers more efficiently. And generating less excess supply than large power stations. This results in lower electrical costs for all users.
- In addition, the thermal energy generated as a by product of the MiniGrid can provide cheaper heating and/or cooling for customers.

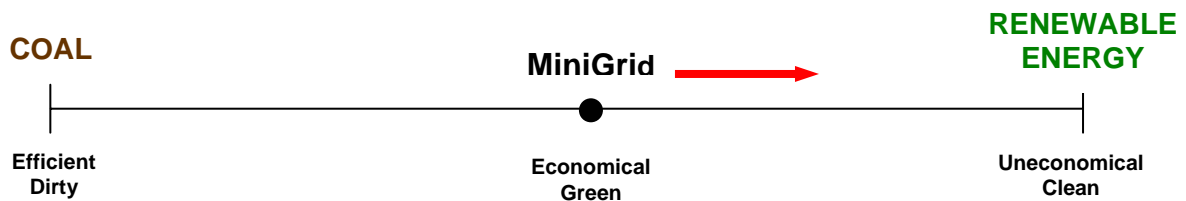
Higher Power Reliability & Quality

- By providing an energy source that is connected to, but not reliant on the electricity grid, GridX is providing a solution to the impending blackouts and energy shortages predicted for the Australian market.
- The connection of a large number of small generators (MCSs) within the MiniGrid, rather than the reliance on a single large generator, will ensure a higher reliability of the system itself, due to the multiple redundancies provided by this setup. That is, the shutdown or failure of one MCS unit will not stop the generation of power. The other units within the MiniGrid will merely share the increased power demand until the problem is solved. In this way, the MiniGrid eliminates the need for backup generators and UPS systems, further reducing the delivered cost of power.
- MiniGrids will help customers build a reputation for innovation and added value. Multiple generation units capable of superior frequency and voltage regulation, along with system design that allow fault currents to be isolated; allow them to offer customers higher power quality and reliability compared to grid-supplied energy.

Green Energy Solution

- Through the use of natural gas rather than coal as its input to produce energy, the MiniGrid contributes to significant reductions in greenhouse gas emissions.
- The MiniGrid also enhances its 'green' status by utilising the heat that is produced as a by product (and normally discarded) to provide energy to electrical appliances such as dishwashers, clothes dryers, air conditioners & heaters etc.
- On an ongoing basis, the GridX team will review new 'green' technologies as they become technically and commercially mature, with a view to upgrading the existing energy generation devices in the MCS. It is important to note that this would *not* require the extraction and reinstallation of the entire grid, merely the replacement of individual components of the MCS unit. This process provides GridX with the unique ability to the take up of new emerging technologies by gradual integration over time, in doing so reducing the single technology risk significantly, GridX will be further responsible in reducing the MiniGrid's greenhouse gas emissions. This transition towards a 'clean' method of providing energy is demonstrated in Figure 1 below.

Figure 1. Transition of the MiniGrid Power Source Over Time



- In addition, through the application of 'greener' technologies, GridX will be providing a market to 'green' energy products that may otherwise not become economical for some time.

Network Benefit

GridX will not put any further constraint on the main electrical network. consequently deferring down and up stream capital expenditure required by the Government and consequently will in fact bolster the network during peak demand times.

The GridX MiniGrid will demonstrated the following:

- Real time Demand Management
- Reduce stress on the existing infrastructure
- Reduce Greenhouse emissions
- Reduce dependency upon ongoing governmental support in the medium term

THE TRIAL AT GLENFIELD

GridX, in conjunction with Mirvac, intends installing three natural gas-fired Mini Co-generation Systems ("MCS") in a MiniGrid network at the Mirvac Glenfield Housing Estate in Campbelltown, NSW. The anticipated maximum electrical output from any of the three MCS will be up to 60kW with an aggregated deliverable maximum load of 100kW in total. The MCS units will be installed below the roadway and footpath level in the verge of the street. Exhaust fumes from each MCS will be vented by a purpose designed light pole which will be suitable for street lighting should Integral Energy wish to utilise the pole for this purpose. GridX will install two chiller units in the vicinity of the MCS'.

The project will provide electricity, gas, hot water and climate control water (hot or cold depending on season) to 16 dwellings located in a "greenfield" site owned by the Developer ("Site"). The electricity, hot water and climate control water will be generated primarily from three gas-fired MCS's and two chillers located within the Site.

PROJECTS IN THE PIPELINE

Mirvac Homes

- Canberra, Contracted for 1,000 Homes

ING Real Estate

- Bourbon and Beefsteak Hotel and Aussie Rules Hotel, Kings Cross

Villa World

- Melbourne, 4,000 home satellite suburb

Clean & Green Developments

- Cairns, 1,200 home eco-resort / villas

Drapac Property

- Melbourne, medium density developments

Mayo Developments

- Newcastle, 3,000 homes on coal seam site.

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Also, please see our website www.gridxpower.com and the fly through.exe attached.