Meriton Group submission Energy prices in embedded networks

We are writing to provide valuable insights from a property developer's perspective regarding the ongoing review of embedded networks' prices in New South Wales, specifically the proposed method for setting maximum prices for the sale of electricity, gas, and hot or chilled water to customers in embedded networks. As a stakeholder deeply involved in the development of such networks, we appreciate the opportunity to contribute to this critical discourse.

We consider that a methodology for setting maximum prices for embedded network customers, where practical, should:

- *a) Ensure there is no interruption to energy supply*
- *b) Ensure that an efficient embedded network provider is able to recover its efficient costs of supply*
- *c) Respond to changes in the costs of supplying customers*
- *d) Incentivise customers and embedded network operators to supply and use energy efficiently*
- *e) Be simple for customers to understand and easy to apply*
- *f) Allow for cost-reflective pricing*
- *g) Be enforceable.*

1. Are these the right criteria to use for assessing the different pricing options? Are there any criteria we have missed?

The listed criteria cover important aspects of assessing pricing options for embedded networks. They consider both customer interests and provider efficiency. However, keep in mind that their suitability can depend on the specific context and regulations.

Please find following some extra criteria to consider:

Fair Cost Distribution: Make sure pricing spreads costs fairly among different customer groups in the network, so no one group bears an unfair burden.

Long-Term Sustainability: Pricing methods should encourage sustainable energy solutions and grid resilience, for a greener and economically viable future.

Adaptability for Innovation: The pricing framework should be flexible to accommodate new energy technologies and distribution innovations.

How should maximum prices be set? There are a number of issues that we will need to consider when recommending an appropriate price methodology, including the factors set out in our terms of reference. Our approach needs to be able to be applied to a very large ***number*** *of sites, with different metering arrangements, and different combinations of services being provided under different business models.*

2. **How should maximum prices be set?**

Market Analysis: Analyse the supply and demand dynamics for embedded network services in specific areas. This can help determine pricing based on what customers are willing to pay.

Benchmarking: Compare prices to similar services in the industry or region. This helps ensure competitiveness and prevents overpricing.

Cost-Based Approach: Calculate the cost of providing services for each LNSP zones, including operating, maintenance, and capital expenses. This method ensures that prices cover all costs while preventing excessive charges.

Pricing regulations should consider factors such as the cost of production, distribution, and a reasonable profit margin for energy providers.

3. **Is the Commonwealth Government's Default Market Offer the appropriate maximum price for electricity embedded networks? If so, why?**

The DMO aims to ensure that consumers are not charged unfairly high prices for essential services.

However, the application of the DMO to electricity embedded networks might raise some complexities. An embedded network is a private electricity distribution network that serves multiple premises, often within apartment buildings, shopping centers, or gated communities. These networks can have different cost structures and operational considerations compared to standard retail electricity markets.

There could be an introduction of an 'EN DMO' based on a lower energy consumption reflecting an apartment v's the market average...either total cost p.a. like the DMO or actual c/kWh rates.

4. **How should different metering arrangements be taken into account? For example, how should prices be set where services are unmetered, or where water is metered rather than energy?**

Metering arrangements play a crucial role in various industries, including utilities like water and energy. Setting prices appropriately in these cases requires a thoughtful approach to ensure fairness, sustainability, and effective resource management.

1. **Metered Water Services:** Metered water services provide an accurate measurement of consumption and often promote responsible water use. Pricing for metered water

should ideally be based on the volume consumed. However, there are other factors to consider:

- **Basic Needs:** Pricing should be structured to ensure that essential water needs are met at an affordable cost, especially for lower-income households.
- **Conservation:** To encourage water conservation, increasing prices per unit of consumption as usage rises can be effective.
- **Infrastructure Costs:** Pricing should reflect the costs associated with maintaining and expanding water infrastructure.

In all cases, transparent communication about pricing structures is essential. Customers should understand how their bills are calculated and how their usage impacts costs. Regulatory bodies also play a role in overseeing pricing to prevent unfair practices and ensure that the public's interests are protected.

In the end, we need to find the right balance between being affordable, saving resources, keeping things working, and making customers happy while still being commercially viable for the Operator.

5. **Should prices be set differently for different types of customers, and different types of embedded networks? For example, residential customers, land lease communities, small businesses.**

Establishing varied prices for different customer groups and embedded networks can be a practical approach that acknowledges the diverse needs, consumption patterns, and cost structures across customer segments. However, any distinctions in pricing should be founded on clear and transparent criteria, with the aim of achieving fairness, efficiency, and compliance with regulations. Here are some factors to consider when implementing differentiated pricing:

i. **Usage Patterns:** Various customer segments often have distinct usage habits. For example, residential customers may use energy differently from small businesses or industrial facilities. Pricing can reflect these differences to ensure that each group pays for their actual usage.

ii. **Cost Recovery:** Serving different customer types can incur varying costs. For instance, providing energy to a small business might involve different infrastructure and maintenance expenses compared to serving a residential customer. Differentiated pricing can help providers recover their costs more accurately.

iii. **Affordability and Vulnerability:** Residential customers, especially those with limited income, may require special attention to keep energy affordable. In some cases, regulatory authorities may implement pricing strategies to safeguard vulnerable customers.

iv. **Energy Efficiency:** Pricing can be used to incentivize energy efficiency. Offering lower prices to customers who adopt energy-saving technologies or practices could encourage more sustainable energy use.

v. **Administrative Complexity:** While differentiation can be advantageous, it's crucial to consider the complexity involved in managing various pricing structures. Excessively intricate systems could lead to confusion and potential errors.

vi. **Transparency and Fairness:** Differentiated pricing should be transparent and clearly communicated to customers. It's essential to ensure that pricing structures are fair and do not discriminate against any specific customer group.

vii. **Data Availability:** Setting differentiated prices might require access to accurate data on customer characteristics and usage patterns. Adequate data collection and management processes are crucial for effective pricing differentiation.

viii. **Competitive Market Dynamics:** In competitive energy markets, differentiation can reflect market realities, allowing providers to offer tailored solutions to different customer segments.

Ultimately, the decision to implement different prices for distinct customer types and embedded networks should consider local regulations, market dynamics, and energy policy goals. Striking a balance between fair pricing, efficient cost recovery, and sustainable energy practices is crucial. Regulatory authorities play a pivotal role in ensuring that pricing differentiation aligns with broader policy objectives and safeguards consumer interests.

6. **Are there any issues or systems constraints on using the common factor to calculate the units of energy for heating and chilling water?**

For common hot water systems, a "common factor" is the factor applied to litres of hot water consumed at each individual residence to determine the consumed energy for which the residence is charged for (MJ/litre). It is typically calculated by dividing the energy consumed at the master gas meter by the total hot water used for the building.

Using a common factor to calculate the units of energy for heating and chilling water can be practical in many contexts, but there are also potential issues and constraints that need to be considered:

i. **Different Heat Capacities:** Water's heat capacity varies with temperature. This means that the amount of energy required to raise the temperature of water by a certain amount is not constant. It changes as the temperature of the water changes. When calculating energy units, especially across different temperature ranges, this variability needs to be accounted for to ensure accurate results.

ii. **Equipment Efficiency:** Real-world heating and cooling systems are not perfectly efficient. Energy losses occur during the transfer process, which can vary based on the equipment used. Ignoring these losses can lead to overestimation of the energy available for heating or cooling.

iii. **System Dynamics:** Heating and cooling systems are often dynamic, with changes in flow rates, temperatures, and operating conditions. These variations can impact the energy required or produced and need to be considered for accurate calculations.

iv. **Variable Demand:** Heating and cooling demands can vary significantly based on factors such as weather, building occupancy, and industrial processes. Using a fixed common factor might not capture these variations accurately.

v. **Environmental Considerations:** Energy calculations frequently involve environmental factors such as greenhouse gas emissions. To ensure accuracy, it is essential to account for the emissions associated with the energy source used for heating or cooling.

7. How can the maximum price for hot and chilled water be set to provide incentives for energy efficiency?

Setting maximum prices for hot and chilled water that provide incentives for energy efficiency requires a nuanced approach. The goal is to encourage energy-efficient practices while also ensuring that the prices remain affordable for consumers:

i. **Cost Analysis:** Perform a thorough cost analysis to find the right balance between cost-effective solutions and energy efficiency. Evaluate factors like the initial investment in energy-efficient technologies, potential long-term energy savings, and the effect on consumer expenses.

ii. **Time-Sensitive Pricing:** Implement time-sensitive pricing, where the cost of hot and chilled water fluctuates based on the time of day. Higher prices during peak hours can encourage users to shift their consumption to off-peak periods, easing the burden on the energy system.

iii. **Graduated Pricing:** Explore graduated pricing models where the cost per unit of hot and chilled water increases with higher consumption. This incentivizes conservation and rewards those who use water more efficiently.

iv. **Public Awareness Initiatives:** Educate consumers about the significance of energy efficiency and its impact on their utility bills. Public awareness initiatives can inspire individuals and businesses to embrace more efficient practices.

8. How can the maximum prices provide incentives for low emissions energy generation?

Maximum prices can be used as a policy tool to incentivize low emissions energy generation by setting a cap on the price that can be charged for energy produced from high emissions sources. This approach is often implemented through mechanisms like cap-and-trade systems or carbon pricing. Here's how maximum prices can provide incentives for low emissions energy generation:

I. **Cost Competition:** When there is a maximum price set for energy produced from high emissions sources, it creates a competitive environment where low emissions energy sources become more attractive due to their cost advantage. Energy producers using low emissions technologies can offer their energy at a price lower than the maximum set for high emissions sources, making them more economically viable.

II. **Market Signal:** A maximum price sends a clear market signal that high emissions energy sources are less desirable from a cost perspective. This encourages energy producers to explore and invest in alternative energy sources that have lower emissions, such as renewable energy (solar, wind, hydro), nuclear power, and energy efficiency technologies.

III. **Technology Innovation:** With a maximum price in place, there is an incentive for innovation in the energy sector. This drives research and development efforts to create more efficient and cleaner energy generation technologies. Energy companies are motivated to develop and adopt technologies that enable them to produce energy at a lower cost while adhering to emissions limits.

IV. **Transition to Low Carbon Economy:** Maximum prices contribute to the overall goal of transitioning to a low carbon economy by discouraging the use of high emissions energy sources. This transition is crucial for addressing climate change and meeting emission reduction targets.

V. **Awareness for Consumers:** Maximum prices make consumers aware of the environmental impact of their energy choices. When they see prices tied to emissions, they're more likely to choose energy-efficient options.

VI. **Investor Confidence:** Setting maximum prices sends a strong signal to investors that there is a clear direction towards low emissions energy generation. This can attract investments in renewable energy projects and technologies, driving further growth in the sector.

VII. **Long-Term Planning:** Energy companies and investors often make long-term decisions based on regulatory and pricing frameworks. Maximum prices provide a stable framework that supports long-term planning for low emissions energy projects.

VIII. **Market Flexibility:** The cap-and-trade approach, where emissions allowances are tradable, allows for flexibility in meeting emission reduction goals. Energy producers that exceed their emissions limit can purchase allowances from those who have emitted less, providing an additional financial incentive for emissions reduction.

The success of maximum prices depends on factors like how strict the price limit is, how it's enforced, the availability of clean technologies, and overall policies. Coordinated efforts, like incentives for renewables and research funding, are also important for effective emissions reduction.

9. How should the maximum prices be enforced?

Legislation and Regulation: The first step is to establish clear legislation and regulations that define the maximum allowable prices for different types of energy services.

Transparent Pricing: Ensure that the maximum prices are transparently communicated to consumers. Energy providers should clearly display the maximum prices for different services, allowing consumers to easily understand what they are being charged for.

Penalties and Fines: Implement a system of penalties and fines for energy providers that violate the maximum price regulations. These penalties should be significant enough to deter non-compliance while also being fair and proportional.

Complaint Mechanisms: Set up an easy system for consumers to file complaints about potential price violations (e.g., EWON). This could involve a hotline, online forms, or other accessible methods for reporting concerns.

Auditing and Review: Periodically audit and review the pricing practices of energy providers to identify any discrepancies between the maximum prices and actual charges. Regular audits can help maintain compliance and address any emerging issues. Additionally, require embedded network operators to provide annual pricing report to regulators.

Market Competition: Ensure that the energy market remains competitive. Competition can naturally help keep prices in check. If there is healthy competition, energy providers are less likely to exceed maximum prices for fear of losing customers.

Consumer Education: Educate consumers about their rights and the maximum energy price protections they are entitled to. Empowered consumers are more likely to report violations and hold energy providers accountable.

Common hot water systems are prevalent within high density apartments across NSW. Customers within these common centralised hot water systems are often billed as a gas or electricity service and therefore subject to the National Energy Consumer Framework (NECF). However, there has been significant growth in hot water embedded networks, with or without centralised hot water systems, where customers are billed based on the quantity of water consumption and therefore are not protected by the NECF. However, hot and chilled water embedded networks may offer opportunities for innovation in the provision of these services and take advantage of energy generation or storage on site.

10. **Should new hot and chilled water embedded networks be banned? What are the benefits and costs of supplying these services through an embedded network?**

No, we do not agree with banning hot and chilled embedded networks. This would have a significant negative impact to the builder and developer in delivering the required infrastructure to deliver these essential services. We estimate that it would increase costs by up to 30% if hot water embedded networks would be banned. This will negatively impact the supply of residential multi-unit buildings to support the urgent need to deliver high volumes of housing required in Sydney.

Hot and chilled water embedded networks offer several advantages in terms of energy efficiency, environmental benefits, cost savings, and comfort. Rather than banning them outright, they may be better regulated and encouraged to promote sustainability and innovation in building heating and cooling systems.

Advantages:

1. **Efficiency**: Embedded networks can boost energy efficiency by optimizing how hot and cold water are distributed in a particular area. This can lead to less energy use and fewer greenhouse gas emissions.
2. **Savings**: Embedded networks can save money for operators, developers, and consumers. Centralized systems can cut down on redundant infrastructure and maintenance costs, creating economies of scale.
3. **Reliability**: Embedded networks are more reliable because they include backup systems and redundancy measures. This ensures a consistent supply of hot and cold water, even during disruptions.
4. **Customization**: Operators of embedded networks have more control, allowing them to tailor services to the community's specific needs.

We are seeking information from embedded network operators, exempt sellers and authorized retailers about your operations. Please indicate where information is confidential.

11. How many customers do you have by site and by embedded network type?
    N/A
12. What are your prices?
    N/A
13. Do you generate, extract or store energy on site? If so, please provide details.

One of our significant advantages is the potential to maximize the use of solar and renewable energy sources. Here's how this can be achieved:

Integration with Renewable Energy Sources: Embedded networks can easily integrate with renewable energy sources such as solar panels, wind turbines, or geothermal systems. By connecting these sources to the network, it becomes possible to generate clean energy on-site and use it for heating or cooling the building. This integration minimizes reliance on non-renewable energy sources, reduces greenhouse gas emissions, and contributes to a more sustainable energy mix.

Energy Storage: Embedded networks can incorporate energy storage solutions like batteries. Excess energy generated from renewables during sunny or windy periods can be stored for later use. This ensures a continuous and reliable supply of clean energy, even when the renewable sources are not actively generating electricity. This is especially beneficial for maintaining the comfort and functionality of a building while reducing grid dependency.

Smart Grid Technologies: Embedded networks can be equipped with smart grid technologies that optimize energy consumption based on real-time data. This includes prioritizing the use of renewable energy when it's available and seamlessly switching to traditional sources when necessary. Smart grids can also enable demand response programs, allowing buildings to adjust their energy usage during peak times or when excess renewable energy is available.

Community Energy Sharing: In multi-building developments with embedded networks, surplus renewable energy generated in one building can be shared with others within the network. This concept of community energy sharing maximizes the utilization of renewable resources across the entire development, making it more efficient and sustainable.

Energy Monitoring and Management: Embedded networks often come with advanced energy monitoring and management systems. These systems provide real-time insights into energy consumption patterns, helping building owners and operators make informed decisions on when and how to use renewable energy sources most effectively.

In contrast, non-embedded new buildings may face limitations in integrating renewable energy sources efficiently, especially when it comes to sharing energy among multiple buildings or optimizing energy use across a development. Therefore, embedded networks offer a more holistic and adaptable approach to harnessing solar and renewables, ultimately contributing to a greener and more sustainable built environment.

Additionally, we are engaged in a comprehensive exploration of prospective Power Purchase Agreement (PPA) frameworks to ensure sustainable future arrangements.

Furthermore, our strategic initiatives encompass an in-depth assessment of battery storage integration for upcoming project sites.

14. What are your costs, and how do you recover these?
    N/A
15. Please describe your chilled water service, including the energy sources used, the network configuration, and the relevant metering arrangements.
    N/A
16. How are the short- and long-term interests of consumers considered when designing an embedded network?

When designing an embedded network, a thorough approach is taken to account for both the immediate and enduring interests of consumers. In the short term, the design emphasizes seamless accessibility to reliable energy supply, competitive pricing structures, and efficient energy distribution. This entails optimizing the network's infrastructure to minimize downtime and enhance energy availability while maintaining cost-effectiveness for consumers.

In the long term, consumer interests are safeguarded through strategies that promote sustainability, scalability, and adaptability. The network design incorporates technologies and practices that align with evolving energy trends and regulatory frameworks, ensuring consumers' access to cleaner and more resilient energy solutions as the landscape evolves. Moreover, long-term considerations encompass predictive maintenance protocols and system upgrades, which help maintain a high standard of service and reliability over time.

By harmonizing short and long-term interests, the embedded network is engineered to provide consumers with a balanced and enduring energy solution that caters to their immediate needs while fostering a sustainable and progressive energy future.

17. Do you offer "energy-only" offers to customers in embedded network?
    N/A
18. Do you charge customers on "energy-only" offers with another provider for their use of the network?
    N/A

Benefits for Developers and Customers:

1. **Centralized Infrastructure**: The embedded network operator takes care of water, electricity, and data infrastructure, providing expertise from evaluation to billing, making life easier for developers while established long-term befits for occupants.
2. **Streamlined Processes**: One provider handles utilities setup, ensuring quality control and reducing the need for multiple consultations with various providers.
3. **Reduced Capital Costs**: Developers save on building expenses and accelerate project completion by choosing embedded networks, as the operator handles utility infrastructure and materials
4. **Improved Marketability**: Developers can offer bundled solutions and renewable options, allowing residents to move into units with pre-connected utilities, along with cost-saving energy rates.

Embedded networks also future-proof development through:

5. **Smart Home Automation Technologies**: Smart home automation enhances residential developments by enabling energy savings and providing tools for monitoring and optimization.
6. **Smart Meters**: These devices offer consumers real-time data on their electricity consumption, enhancing transparency and enabling remote control of appliances through smartphones or tablets.
7. **NABERS Energy Ratings**: These ratings assess the environmental performance of buildings in Australia, promoting efficiency, cost savings, and environmental benefits. Higher ratings attract buyers and tenants.

To stay competitive, integrating solutions like solar panels, LED lighting, EV charging, central water systems, and smart home automation, giving our developments an edge in the market.