



# Power Ledger's Response to the Energy Charter Consultation

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Level 6, 218 St Georges Tce  
Perth WA 6000  
powerledger.io  
ABN: 39 612 531 218

Power Ledger

## The Energy Charter Consultation - Power Ledger Response

As a business focused not only on providing more consumer choice, but enabling greater access to cheaper, more reliable, renewable energy, Power Ledger is very supportive of the outcomes the Energy Charter Consultation (the Charter) is aiming to achieve. We appreciate the work that has gone into creating the 5 principles, and will seek to provide a level of feedback on each one, based on our position in the energy industry as an innovative technology provider.

A consumer-driven movement towards a distributed renewable energy future is already occurring. The energy industry needs to reflect on the emerging physical realities of a new energy paradigm – energy systems as a series of dynamic, integrated and distributed energy markets, with distributed energy resources (DER) playing an increasingly important and value-creating role at a distribution level.

### About Power Ledger

Power Ledger is a Western Australian company, formed in May 2016, that uses blockchain technology to provide an alternate model for the reconciliation and settlement of energy transactions. Our platform allows consumers with embedded renewable energy generating technology to sell excess energy to their neighbours. Our ecosystem of applications also extends to offer carbon credit tracking, virtual power plant and various distributed market optimisation mechanisms, all aimed at empowering consumers and encouraging access to more reliable, renewable energy. The technology and business model were devised to support the transition of mature energy systems into dynamic, consumer-centric and renewable distributed energy markets.

The Charter's principles are very closely aligned with Power Ledger's vision for a distributed energy future. In their 2018 Integrated System Plan, AEMO highlighted the transformative impact that DER are having, and will continue to have, on the power system. We are in the midst of an energy transition, a transition that is both centered around and increasingly being driven by consumers themselves. The rapidly falling cost of rooftop solar and battery storage means the reality of a distributed future is not too far away. To optimise the value of this transition for all consumers, we need to be agile and plan for the transition, not the outcome.

Power Ledger's view of the future of the energy system:



The commitment that energy businesses have made to fulfilling the Charter's Principles in Action is a great step towards actively managing the transition, and we support any business that has decided to participate in the process moving forward. We believe that by placing consumers at the centre of the energy system, and providing them with more choice over their energy needs, the benefits of innovation can be more fully realised for all participants. As recognised in the Charter, achieving these outcomes will ultimately require the support and collaboration of energy businesses across the supply chain.

## Principle One: We will put customers at the centre of our business and the energy system

Power Ledger agrees with the central importance that the “consumer” has to the future of the energy system, as outlined in Principle One and reiterated throughout the entire Charter. Consumer empowerment will be essential to a successful transition, and we strongly believe that they should be at the centre of the new distributed energy system.

Energy businesses who make decisions based on the greatest benefit to the consumer should therefore be encouraged and rewarded. “Energy businesses must seek customer insights and act on these to deliver better outcomes.” We agree with this point, and support businesses like Ausnet and their NewReg trial, which is a really innovative way to involve customers in the network pricing process. Though Power Ledger is not a traditional energy business, we have consistently sought the feedback of application hosts (a business who hosts our applications) and their end customers, to help gauge their expectations and measure ongoing satisfaction with our products. It has proven to be an effective way of developing applications and services that are reflective of our customers needs, which is particularly important given we operate in an fairly uncharted space.

We also believe that for energy businesses to truly embrace customer choice, and demonstrate a commitment to achieving these objectives within their business model, they must allow households and businesses to engage with innovative new technologies, especially when they provide clear benefits. We developed our peer-to-peer (P2P) trading platform with the fundamental objective of providing consumers with more choice. Using our platform, consumers with solar panels are given more choice over who they sell their excess solar to, and for how much. Conversely, those without solar are able to share in the benefits of cheaper, cleaner energy.

Allowing customers access to these types of platforms not only benefits them, but in the long term will increase utilisation of the network and reduce the need for network augmentation. Platforms like ours can help energy businesses embrace innovation and collaboration, and ultimately deliver more positive outcomes for consumers. This move would also be an effective step towards regaining the confidence and trust of all types of consumers, at a time when it has been significantly eroded.



## Principle Two: We will improve energy affordability for customers

Rooftop solar, battery storage and home energy management systems all help reduce the cost of energy for those consumers who can afford them, whilst providing obvious environmental benefits. However, for many Australian households and businesses without the ability to access DER, the rising cost of energy is an increasingly serious concern. Without changes to the system, or proactive moves by energy businesses to empower customers, the rising uptake of DER has the potential to disproportionately impact these consumers, whether they are low-income households, renters or those whose house is not suitable for rooftop PV. This is because we are beginning to face a scenario where it is cheaper and easier for “prosumers” to provide 100 percent of their power needs, making the prospect of defecting from the grid entirely more and more attractive.

If we don't find a way to encourage customers with DER to stay connected to the grid and optimise the performance of the system, those least able to afford it will be left to pay the remaining cost of the energy system. To avoid this, prosumers need to be provided with strong social and economic incentives, to motivate them to stay connected throughout the transition to a more distributed energy system. We need to manage the energy transition in a way which addresses the structural issues causing grid defection.

These challenges may be resolved by developing structural incentives to monetise DER, and by encouraging or rewarding networks to provide the types of services which will shape consumer behaviour. Utilising a financial settlement system like Power Ledger's may help provide these incentives, and assist in the efficient allocation of capacity. P2P trading offers a chance for energy businesses to “offer customers energy deals that best meet their needs, supported by effective tools and incentives for customers to manage their energy use and cost.” Implementing a platform or mechanism that enables the trading of energy between peers, provides a clear pathway to guarantee an improvement on energy affordability for all types of households.

The rate of technological innovation in the energy space means the energy businesses are spoilt for choice in way of the potential offerings for business and residential customers. In our view, blockchain technology is the most effective solution to create a secure, distributed and trustless environment to allow for energy trading across the electricity network. By providing a transactive platform for consumers to trade energy, they will be incentivised to stay connected to the grid and monetise excess solar generation above their demand.



### Principle Three: We will provide energy safely, reliably, and sustainably

The rising uptake of DER can be utilised to help maintain and improve the reliability of energy supply, whilst promoting the use of renewables. Given their small scale, relatively low cost and predominantly renewable nature, DERs can help address the dual challenge of meeting carbon reduction targets and alleviating electricity poverty, providing low-cost, low-carbon energy. Gone are the days that renewable energy solutions are seen as just an act of corporate social responsibility. Significant reductions in renewable energy costs and maturing market and policy environments have also made them attractive sources of energy in their own right, presenting us with an opportunity to pivot away from traditional, carbon-intensive power generation.

We agree that energy delivery “must consider the environment and facilitate new opportunities and the transition to a cleaner energy mix, while continuing to deliver conventional services.” As recognised by the wider energy industry, the increasingly high penetration of DER in Australia certainly presents some challenges, but also immense opportunities. Any attempt to manage challenges by imposing blanket limits on grid exports, or restricting applications for the installation of rooftop solar at certain locations should be resolutely discouraged by energy businesses. Instead, we should consider how new technologies can be utilised to facilitate engagement with customers and deliver innovative energy solutions.

In our view, the steady-state environment of the distributed energy future would be a local P2P trading market. From there, it is possible to implement an optimised model for a VPP which could help incentivise an uptake in solar PV, result in carbon reductions and provide cheaper energy for all types of consumers. This would also provide capacity without the need for network investment, support grid stability and management and in the long-term result in economic growth. For example, a residence with both solar PV and a battery could be trading their excess solar to their neighbour through a trading platform, whilst providing power quality management services to the network through an aggregator. Energy businesses have a range of “new opportunities and technologies that support cleaner energy solutions” to choose from in achieving these goals.

### Principle Four: We will improve the customer experience

Australian consumers are becoming increasingly more engaged with their energy choices, and many of them are now active players in the energy system. Power Ledger strongly believes in the need to redefine the customer experience,

remembering that consumers are the ones the energy transition is happening for, not the other way around.

The Charter speaks about the need to encourage innovation in products and services driven by customers' needs and preferences. Innovative trading platforms like blockchain provide clear incentives and empower consumers, allowing them to engage in a way which is suitable for them, whilst allowing them to get the fairest outcome.

Our platform achieves a lot of the outcomes listed throughout this principle through the use of blockchain technology. Blockchain allows multitude of energy transactions to be undertaken in a trustless, transparent and immutable way. This creates a level of accountability previously unachievable under the traditional structure of energy businesses. The Power Ledger platform essentially provides an instantaneous and low-cost settlement mechanism that is both secure and fully transparent. Consumers are given more choices over their energy experience, able to trade low-carbon energy with their neighbours, sharing in the benefits. Blockchain is the only technology we have found that is capable of facilitating such a complex transactive environment, in close to real-time.

For those engaged consumers who would like to participate more actively in the system, blockchain can be utilised to provide the appropriate financial incentives as well as a frictionless settlement process to encourage participation. This gives consumers more choice, and also allows them to provide a range of additional support services, from providing capacity to the market, to providing voltage support to the network. Current structures are not sufficient to incentivise DER owners to participate in emerging distributed markets.

## Principle Five: We will support customers in vulnerable circumstances

As energy prices continue to rise, the most vulnerable customers are the ones in danger of being affected the most. The future scenario of load and grid defection discussed above is very real, and we strongly believe energy businesses need to take steps to incentivise customers to stay connected and maintain the value of the network.

In the future, P2P trading platforms can be utilised to allow consumers to donate energy to vulnerable consumers they would like to support. Many customers using our platform have already put forward questions about whether they can donate their excess solar to a house down the road, or to their elderly mother. This is a very real a possibility, and with the support of energy businesses and governments could

create a new dimension to enable the support of consumers who “face additional barriers to engaging with the energy market.”

We support the need for a collaborative approach where partnerships across the energy supply chain are encouraged. There needs to be more transparency in the way energy services are provided, with appropriate levels of support given to customers at greatest risk of vulnerability.

## Conclusion

Power Ledger fully supports the commitment of participating energy businesses to provide a maturity assessment, alongside the publication of their first-year disclosure report which is required to provide metrics and measures to evidence progress against the Principles and Principles in Action. We’d like to thank everyone involved for the work that has gone into producing the first draft of the Energy Charter, and we hope that the wider industry can work cooperatively together to achieve the outcomes that are listed.

