

## 2016 – The tide is turning...

After several turbulent years with little certainty as far as energy efficiency, renewable energy and subsidies for both are concerned, we now seem to be headed for a clearer path. That does not mean that there will be no challenges or obstacles on the road to a sustainable economy – however, when all world leaders agree on one thing, namely that climate change is real and needs to be addressed 'fast and furiously', it will become increasingly difficult to be the 'pariah' state.

We have compiled a brief summary of what we anticipate to happen in 2016, and what we think you, our valued client, need to know and prepare for.

### *The noose is tightening...*

#### **Energy retailers and network providers are feeling the pinch**

With more and more renewable energy getting installed, the traditional business model of energy retailers such as Origin, AGL and Energy Australia as well Essential Energy (our regional network distributor) is falling apart.

The once lavish profit margins, predominantly for peak time power, have been greatly reduced. The retailers scramble to secure what's left of their profits.



Because of the so-called 'gold-plating' of 'poles & wires' in the past, Essential Energy has been forced by IPART to cut their charges for kVA peak demand by almost half – great for large customers, but a huge challenge for the network provider. While this ruling may still be contested in the courts, it is not very likely to go away.

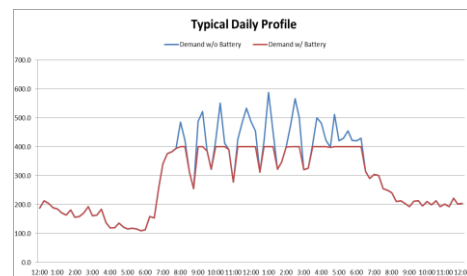
As a consequence, Essential Energy has already reduced staff numbers, potentially leading to longer service response times in times of severe weather.

Retailers will, and have already started to become more 'difficult' to deal with, notably when it comes to setting up their meters for solar export. We expect that to continue unabated in 2016.

Some retailers in other states are advocating surcharges for solar power customers or peak demand charges even for residential users. While politicians have been reluctant so far to approve that, the danger is real.

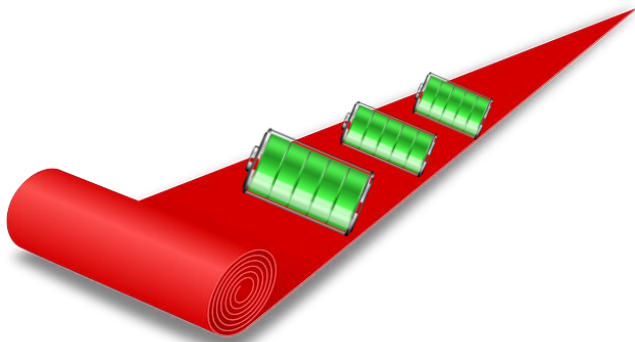
#### **What can customers do to take advantage of the situation?**

- *Do not shy away from getting solar power if you don't have it installed already.*
- *Consider small scale battery storage systems to cover your kVA demand peaks.*
- *Implement all energy efficiency measures that have a payback period of less than 5 years.*
- *Have a master plan for the retrofit of major power consumers such as air conditioning, large scale refrigeration, large electric motors and pumps etc.*
- *Make sure you have power factor correction if your power factor is less than 0.9 at the point of highest demand.*
  - *Negotiate carefully when your contract comes up for renewal – don't get rushed into a new contract, particularly not into a multiple year contract.*



## Let the games begin...

### 2016 The year when distributed power becomes reality



Everyone has been talking about batteries for months or years – During 2016 the rollout of storage batteries will commence in numbers. As with many booms before, customers are advised to be wary, as the market will be swamped by a lot of companies trying to take advantage of the boom:

- **Power retailers** trying to gain a foothold in the 'new' market – often at higher than market prices.
- **Fly-by-nighters** that offer low-cost solutions with products of doubtful quality and reliability.
- **Online sellers** offering turn-key solutions for those with the skills to do the installation themselves.

**Some established and experienced local businesses** have set themselves up to provide top quality and reliable battery storage solutions at affordable prices. Others are in the process to do so.

NSW is in the unique position to have an extremely generous feed-in tariff of 60 cent per kWh expire at the end of 2016. Approx. 150,000 solar system owners will find it difficult to get used to paying for power again, or paying significantly more for their power.

The big battery makers know this – NSW has been earmarked as a market for early adoption of a mass rollout of residential and small scale commercial battery storage systems, paving the way to future economies of scale.

Similar to solar panels (or modules), the mass adoption of battery storage will depend on how quickly economies of scale can reduce today's prices. Most experts expect the price decline to follow a curve similar to solar panels. **Solar panels in itself are expected to become even lower in price and more efficient with the advent of new technologies**

#### What should customers be aware of?

- Currently there is no 'ideal' technology for battery storage. All have their pros and cons, with LiFePo4 (Lithium Polymer) and Sodium Ion being most developed.
- Lead Acid batteries, still promoted by some installers, have limited applications and will be confined to niche markets.
- New technologies, currently in the Lab stage, may well end up winning the race.
- The Hydrogen cycle could well be the fuel of the future if safety concerns can be resolved.
- Complete off-grid systems will become cost competitive in 2016 or the year after for residential or small commercial users of power. Large commercial users will have to wait a few more years before considering leaving the grid altogether.
- A good stepping stone for residential customers are **Hybrid-Solar** systems where the grid connection is used as the backup. These systems can be designed to provide power even if the grid goes down (UPS function).
- Commercial customers can benefit greatly from **Peak Demand Shaving**, that is covering kVA demand spikes with solar power and/or batteries. Batteries can also be useful for bridging blackouts when used as a UPS and charged by solar power or off-peak power at night.<sup>1</sup>

<sup>1</sup> In the long term, it cannot be excluded that Electricity network providers change the definition of what "Peak period" constitutes, for example, if tens of thousands of customers charge their electric vehicle and stationary batteries at night.

*As with any new technology, metering and measuring prior to embarking on installing new technology is the key to getting the best value out of the money spent.*

**Powersmart Energy Efficiency** and **GOODBYE GRID** have the experience, the tools and the skills to assess your individual requirements and to guide you towards the best solution.

## ***Taking back the power...***

### **2016      The year when community retailers and solar farms become established**

With ENOVA Energy commencing its operation, and several community solar farms to be built in 2016, the road to taking back control over the grid in our region has been established.

ENOVA, at first, will have to rely on Essential Energy to provide the network services. In the medium term, however, with more and more local large scale renewable energy assets coming online, the opportunity to leave the grid, or to buy it off Essential Energy, will present itself.

It may well come true that within 10 years from now, the whole of the Northern Rivers will be powered by renewable energy.

A critical part of achieving that is energy efficiency. Every kWh not used doesn't have to be generated. Reducing the energy footprint of each and every individual and business is the main objective of **Powersmart Energy Efficiency**.

Lismore City Council and Byron Shire Council have set themselves ambitious goals to becoming more sustainable. Tweed and Ballina Shire are not far behind. The goals are ambitious and challenging but exactly the kind of aspiration this region needs to promote large scale adaptation of sustainability.

#### ***How can Powersmart and GOODBYE GRID help our customers on the road to achieving just that?***

- We assess every residence or business for the most cost effective way of reducing power consumption, lowering power cost and improving the carbon footprint.*
- We work closely with local Councils and local installers of technology and other government bodies to make the Northern Rivers lead the way.*
- We have a proven track record of providing INDEPENDENT and UNBIASED advice to more than 175 businesses in the Northern Rivers area.*
- Our expertise is second to none, however, our fees are lower than average because we have small overheads and don't drive fancy cars.*

***We wish all our readers a peaceful and  
successful New Year 2016 – the year  
that will enter history books  
as the year of transition.***