

# Investor update

EOL's addressable market is increasing

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Global energy markets are transforming,  
and we're evolving with them...

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And taking the next steps in the  
company's development...

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Facilitating the renewable energy revolution

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EOL has entered a new market that is growing rapidly. The result - our addressable market is now much larger

### Overview

- 1) A massive amount of renewable energy is coming to markets globally.
- 2) Increasingly this energy will be supplied by fragmented (smaller) renewable generators, not traditional utilities
- 3) These smaller renewable generators are not equipped with trading rooms or 24/7 capability
- 4) Whilst all software vendors might be expected to benefit from this increased market size, only EOL has actively focused on the services and software for the physical market that will play a big part in the delivery of solutions for renewable generators
- 5) By combining our software (auto bidding, algo trading, battery management, business process automation) with the move into energy services EOL is well placed to expand out of its traditional niche into a much large addressable market

# A large new opportunity is emerging...

Situation:

Energy markets are evolving and expanding rapidly

Problem

Solution



# The news is being dominated by climate change and the need to reduce emissions...

**Net zero electricity needs to be five times bigger than it is today**

*Resources-heavy ASX could be penalized on climate risks*

**PM won't budge on 2030**

*Climate summit wants nations to return next year with tougher 2030 targets*

**Net zero cinches noose on oil, gas firms**

*Island nations rise up as their homelands start to sink*

*'Our land is fast disappearing': High hopes replaced by despair at climate summit*

**Global stage for markets to solve climate crisis**

# The solution is a “Net Zero” economy. And renewable electricity will be at its core...

A recent report by the International Energy Agency titled, “Net Zero by 2050 A Roadmap for the Global Energy Sector” stated:

“The energy sector is the source of around three-quarters of greenhouse gas emissions today and holds the key to averting the worst effects of climate change, perhaps the greatest challenge humankind has faced.

As the major source of global emission, the energy sector holds the key to responding to the worlds climate challenge

Electricity becomes the core of the energy system. It will play a key role across all sectors, from transport and buildings to industry. Electricity generation will need to reach net-zero emissions globally in 2040 and be well on its way to supplying almost half of total energy consumption.”

# Making renewable energy the core of a net zero economy will require massive investment...

To achieve Net Zero by 2050 the International Energy Agency identifies the following priority actions:

- Making the 2020s the decade of massive clean energy expansion
- Driving a historic surge in clean energy investment

The International energy agency and IMF forecasts total annual energy investment surging to USD 5 trillion per annum by 2030 <sup>1</sup>



# More electricity capacity than ever before will be built to achieve a net zero economy

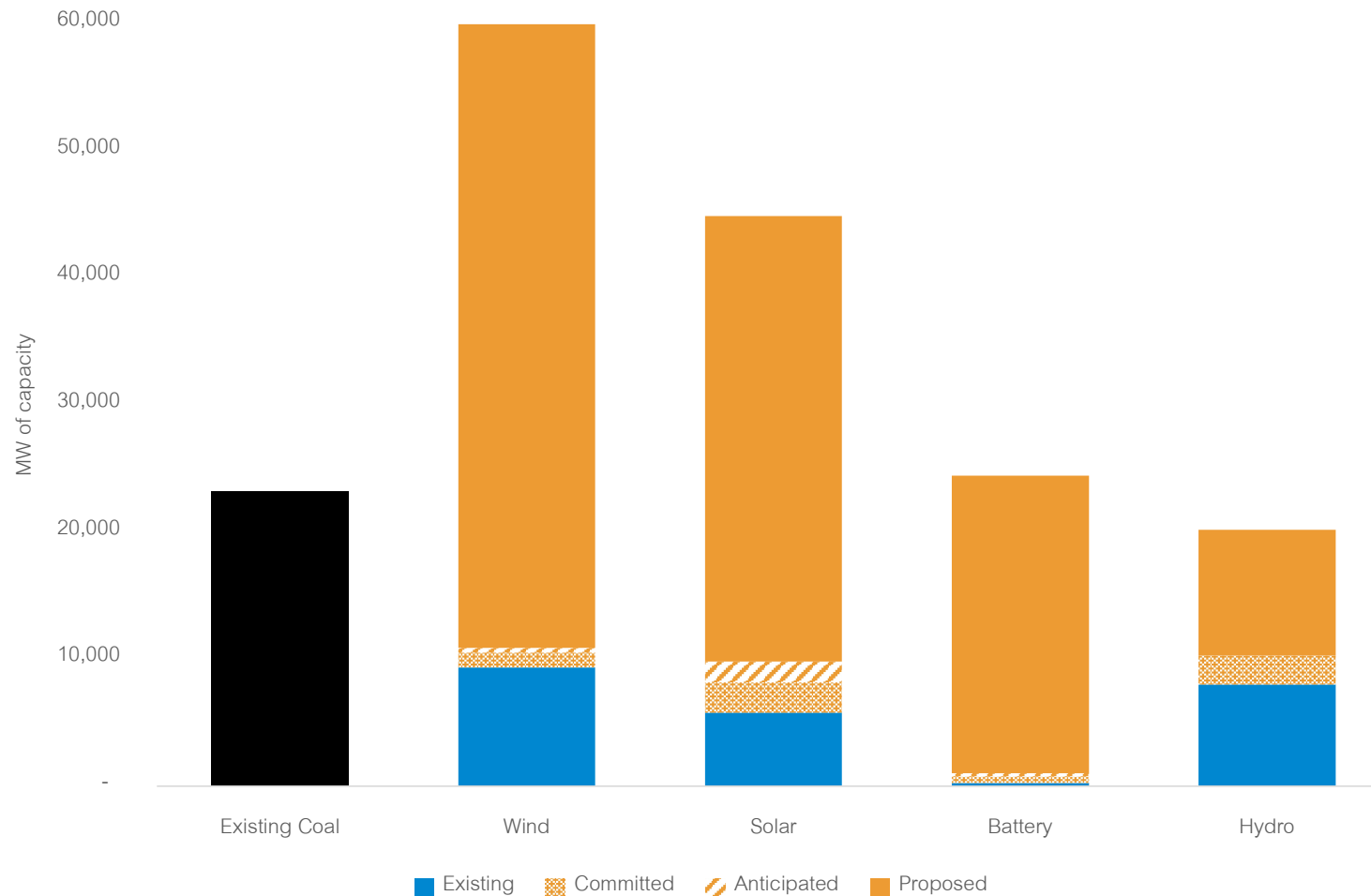
Achieving net zero emissions is not just about replacing existing coal and gas generation. As economies electrify on the back of renewable energy electricity total demand is set to double by 2050.<sup>5</sup>

In addition to this increased demand extra capacity will also need to be built in a geographically diverse way to compensate for the intermittent nature of renewable generation.

“A nine-fold increase in utility scale renewable energy generation is need to replace coal and meet higher demand for power as the economy electrifies”<sup>5</sup>

Batteries will also needed to provide renewable energy 24 hours a day

# Australia alone has announced 126,000MW of new renewable capacity



The Australian Energy Market Operators classifies almost 126,000MW<sup>6</sup> of new, grid connected, renewable generation capacity as either committed, anticipated or proposed by 2031. By way of comparison existing coal fired generation capacity is 23,201MW.

# While Australia's growth in renewable energy is strong – Europe will be even stronger



On a per capita basis, Australia added four to five times more renewable energy than the European Union, the USA or China in 2018-19. The NEM now needs to maintain that record rate every year for the decade to triple renewable energy capacity by 2030 – then almost double it again by 2040, and again by 2050 <sup>5</sup>

By 2050 grid connected renewables in Australia will increase from 15GW today to 140GW <sup>5</sup>

Similar trends are occurring in Europe and Bloomberg research<sup>2</sup> predicts that for power generation software, China and Europe will be the biggest markets globally

In Europe even more renewable generation will be needed with 40,000MW added every year through to 2026

By 2026 the European Union's renewable capacity is expected to reach 750 GW, expanding by 40 GW per year on average.<sup>8</sup>

Europe not only needs to manage the phase out its coal fired generation but many of the nuclear power plants built in the 1970's and '80's will reach the end of their lifetime in the next 20 years. Germany, Belgium and Switzerland have already announced phase out plans for nuclear energy.

# Europe's ambition: to become the world's first carbon neutral continent by 2050

In July 2021 the European Commission adopted a package of proposals to reduce net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels with an ambition to become the world's first carbon neutral continent by 2050.

Energy production and use accounts for 75% of EU emissions, so accelerating the transition to a greener energy system is crucial.

The Renewable Energy Directive will set an increased target to produce 40% of energy from renewable sources by 2030<sup>9</sup>





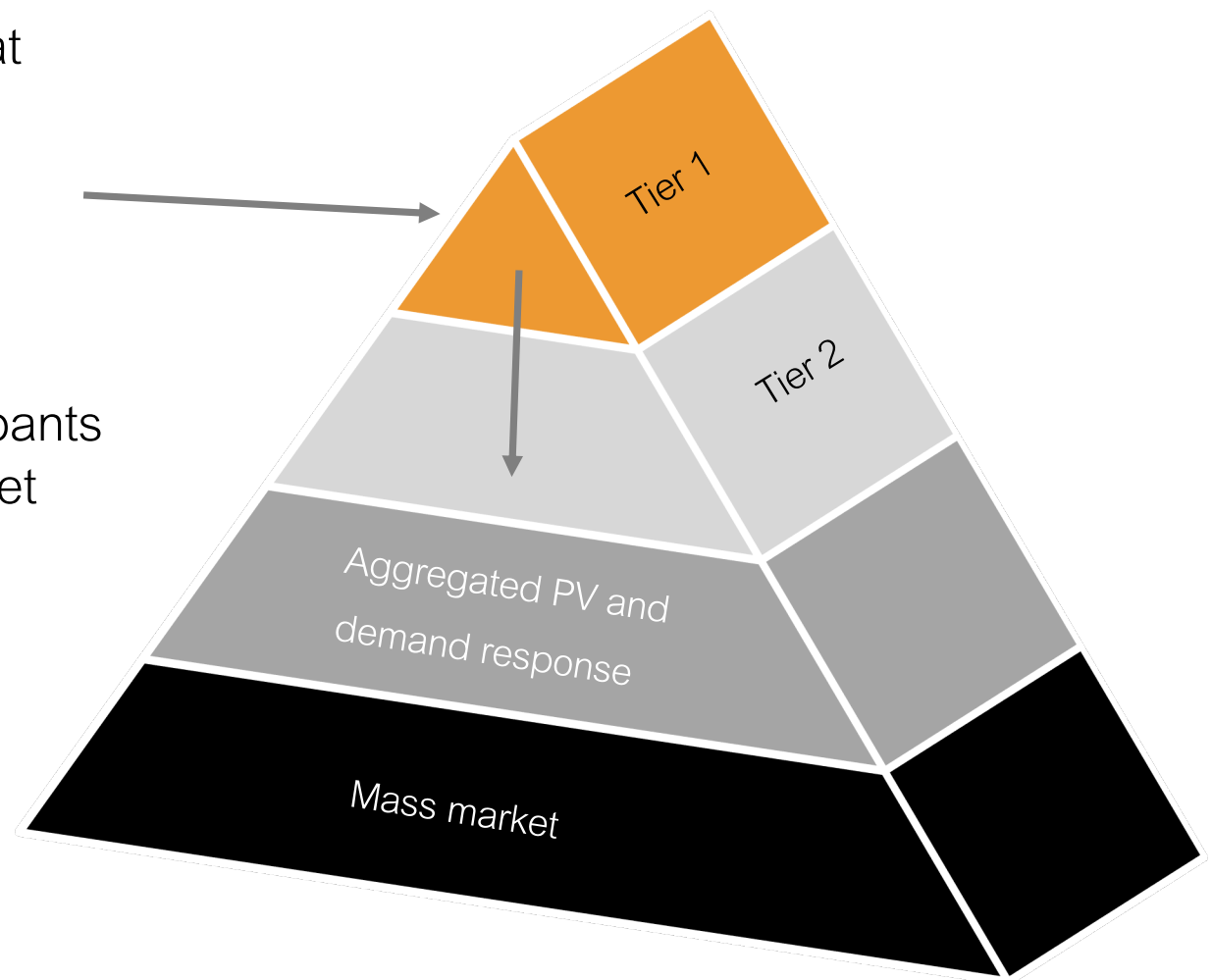
# We've been providing software to renewable energy for years. What's changed is the rapid emergence of a new market segment...

As electricity markets de-carbonize they are de-centralising and fragmenting creating new market segments.

Energy One has been very good at providing software to traditional Tier 1 customers (including large renewable generation companies)

With a growing number of smaller renewable generators and participants (~100MW or less) coming to market there is a rapidly expanding Tier 2 segment we aim to address.

At this stage Tiers 3 and 4 are *behind the meter* and not tradeable in a wholesale sense unless aggregated indirectly by a retailer or aggregator.



# The evolving market sees 1 customer becoming 25, or more...

The result of de-carbonisation and de-centralisation means fewer large generators and more distributed energy resources

For example rather than a single 2,500MW thermal coal generator there might be 10 x 100MW solar farms plus 5 x 200MW wind farms combined with 10 x 50MW batteries.

# Our addressable market is set to grow rapidly

Massive investment is required to:

- Replace existing thermal generation
- Build additional capacity to meet growing demand as economies begin to electrify
- Build extra generation capacity to deal with the intermittency of renewables generation
- Build energy storage to provide renewable electricity 24 hrs a day

Much of this new capacity will be made up of smaller decentralised generation. This segment has shown an increase use of outsourced services to compliment their software.

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The change is already upon us with energy markets changing at an unprecedented rate

Energy markets are:

- De-carbonizing; and
- De-centralizing

As a result energy markets are becoming increasingly:

- Complex
- Volatile; and
- Data intensive

Australia is installing renewables, on a per capita basis, faster than anywhere in the world and 10x faster than the world average.<sup>5</sup>

So as markets expand and decentralize a much larger number of participants will require sophisticated software to operate effectively in national energy markets....



Situation:

Energy markets are evolving and expanding rapidly

Problem:

Scheduling distributed energy resources is difficult and can't be done with software alone

Solution



# Renewables by their very nature pose challenges to grid stability

Renewable energy is:

- Intermittent
- Geographically diverse
- Smaller scale

This leads to:

- Reverse flows in distribution networks
- More variability in frequency
- Negative demand

The result is increased:

- Market volatility
- Complexity managing grid stability
- Regulatory oversight and compliance

# Scheduling distributed energy generation in national grids can't be done with software alone

Expecting the unexpected...

The market operators of many national electricity markets require grid connected generators to have a phone number with a person on the other end should they need to curtail generation at short notice or require additional generation be rapidly brought on-line in the event something unexpected occurs to ensure the security and stability of the grid.





# The services market is growing rapidly because of the difficulty scheduling renewable energy

Given the smaller size of distributed energy resources it is often uneconomical for operators to man 24/7 control rooms to dispatch energy and meet regulatory compliance obligations.

At the same time complexity and volatility in energy markets is increasing.

So a large number of renewable generators will require advanced software and a service provider to operate effectively and efficiently in national energy markets.



# Accessing wholesale markets is made a lot easier through a service provider

Using an easy to consume service takes away some of the headaches for renewable generation companies including:

- Providing a broad supervisory overlay
- Hiring a trading team
- Managing a 24/7 control room
- Meeting regulatory and compliance hurdles
- Local help lines
- Ensure manual overrides are possible when markets become erratic or unstable





## And we've seen first hand the emerging demand for services

- eZ-energy and Egssis already offer software to facilitate market operations and a bureau service to submit market notices on behalf of customers.
- This is done based on an agreed set of operational/commercial parameters. (EOL do not take energy market risk)

European services are centred around two sided nomination and balancing markets. We believe something similar will eventually happen in Australia.

Australian services focus on facilitating the dispatch of renewable generators into the National Electricity Market

We also see potential for traditional utilities to outsource certain tasks to a service provider

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While proprietary trading will always remain an in-house function we do envisage a time when large utilities will begin outsourcing tasks such as generation dispatch, scheduling, nominations and hedging to a third party service provider.

Having an established team of sophisticated technically adept personnel and a global presence will make Energy One a reliable partner for global entities looking to outsource these functions.

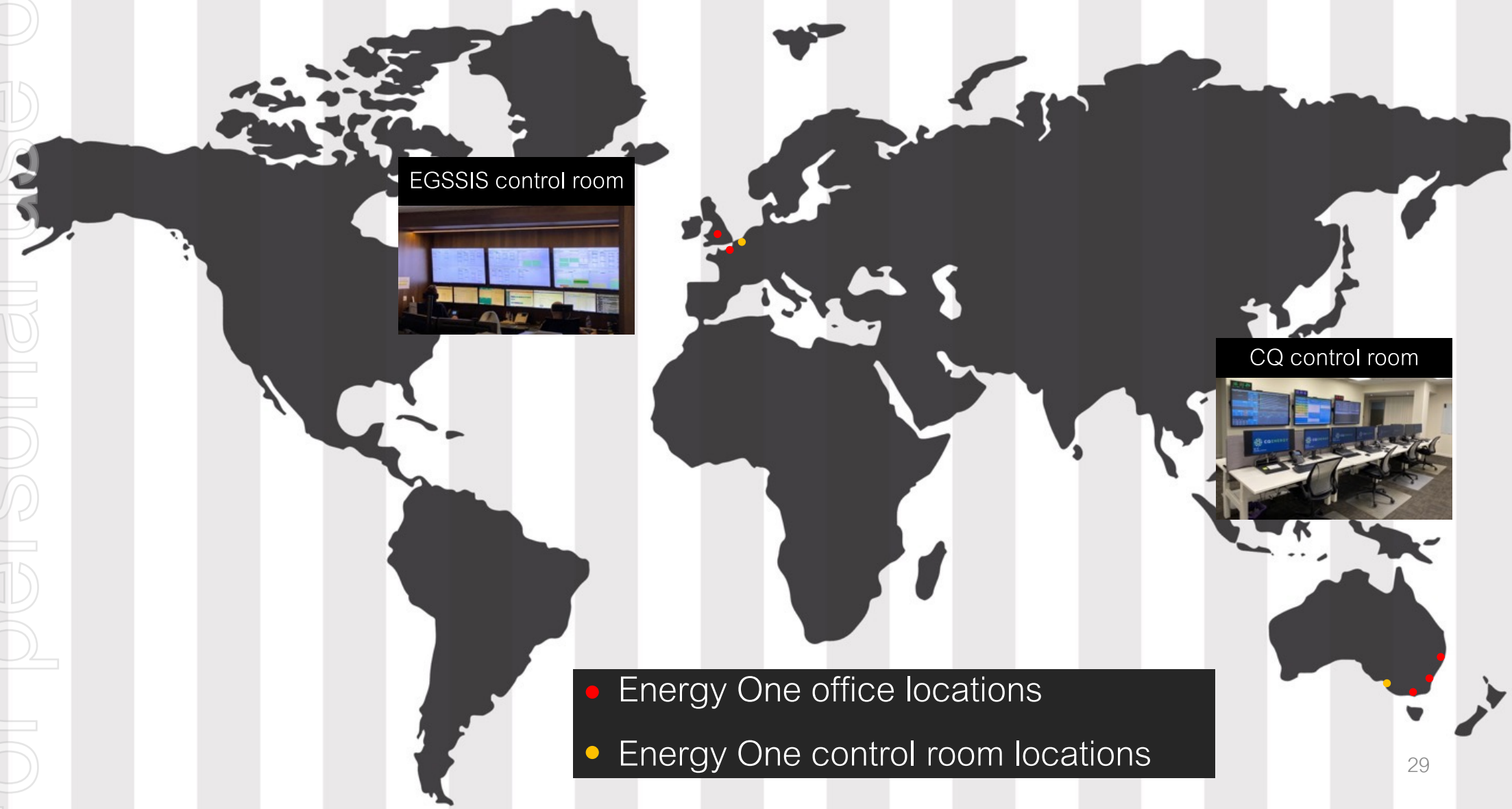
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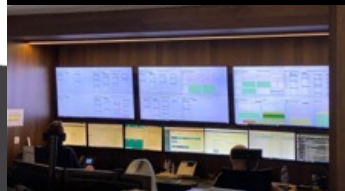
-12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 +1 +2 +3 +4 +5 +6 +7 +8 +9 +10 +11 +12

None of our traditional competitors provide 24/7 operational control room services...

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EGSSIS control room



CQ control room



- Energy One office locations
- Energy One control room locations

# Our competitors aren't focused on the physical side of wholesale energy markets

Our traditional competitors typically focus on ETRM software to manage financial derivatives. For a long time we have also focused on the physical side of energy markets offering dispatch and scheduling software to provide a more holistic solution.

We believe adding services to the physical side of our business puts us ahead of the curve and provides us with a strong first mover advantage.



The recent acquisition of Egssis saw Energy One become the second largest provider of 24/7 operational energy services in Europe

Situation:

Energy markets are evolving and expanding rapidly


Problem:

Scheduling distributed energy resources is difficult and can't be done with software alone

Solution:

Energy One is establishing a global energy services business providing software with a service to meet the rapidly growing market need





## Over the last few years we've been strategically putting the pieces of a puzzle together...

We've acquired companies with specialised software and we've developed new software in house.

The result is a suite of software, that once packaged together, will cater specifically to the management of decentralized renewable energy, specifically the provision of market interfaces for grid connected renewable generation.

The acquisition of Egssis (December 21) and CQ (January 22) is the latest piece of the puzzle. The next piece relates to building out the provision of these services on a global basis...

In addition to our SaaS business we now have all the components in place to build a global energy services business...

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# We see two business segments going forward: Software and Services

With the energy market changing so quickly we have seen the emergence of a new rapidly growing segment, the provision of energy services.

Having observed the emergence of this new market in both Europe and Australia we have concluded it is a highly desirable segment and one we are ideally suited for given our world class software.

Over the last five years a number of acquisitions have been integrated into the Energy One group. Each operating under their own brand. Going forward all business within the group will now operate under the Energy One brand.

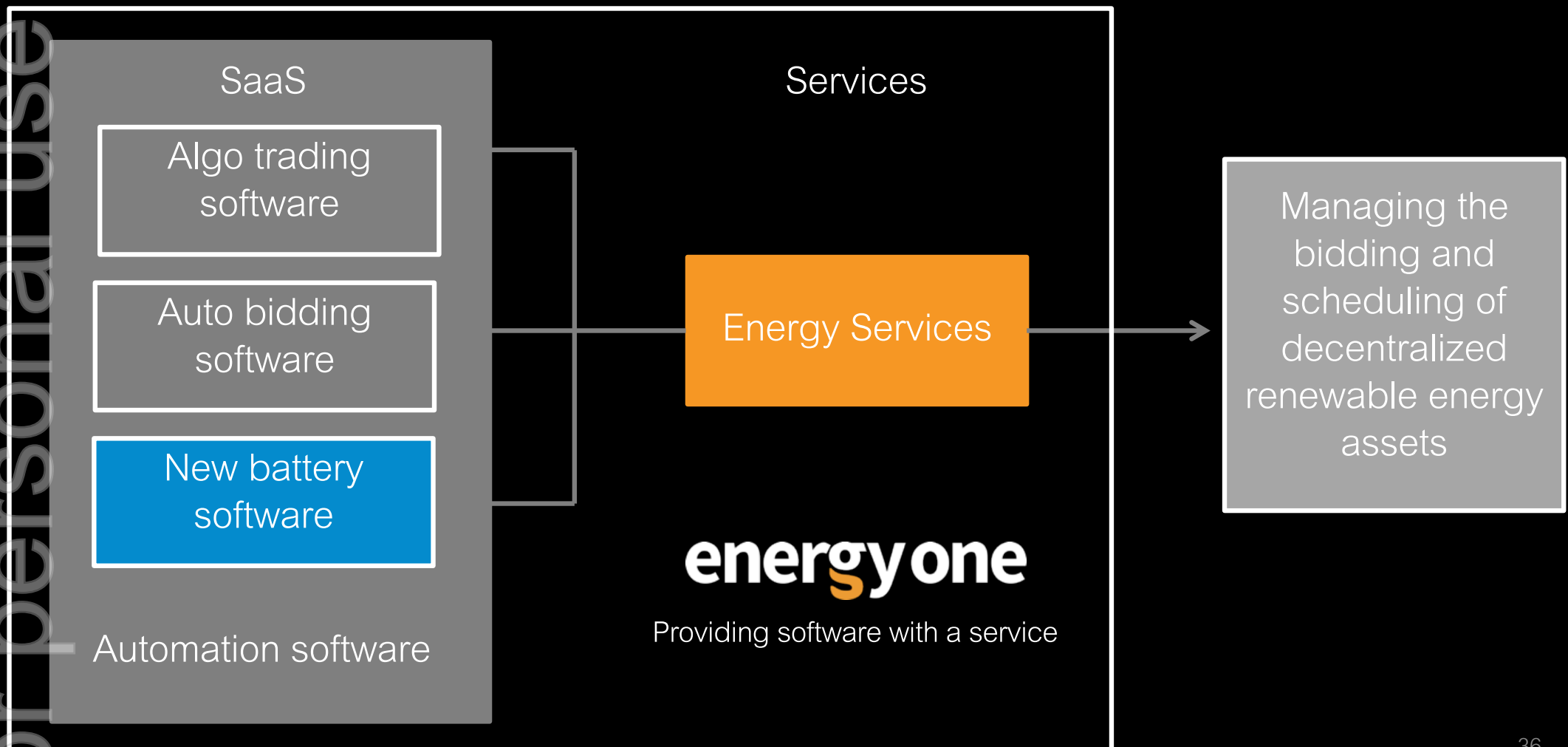
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Software

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Services

Combining our software with a premium service offering gives us an enviable position in facilitating the entry of renewable energy into national electricity markets



# Offering both software and services also means we can better serve battery storage

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The Energy One group has already developed new software to manage the market interfaces for assets such as grid connected batteries such as Balance Responsible Parties, semi scheduled and auto bidding.

The recent move to 5-minute settlements in Australia is ideally suited to batteries.

Bloomberg research suggest utility-scale solar and utility-scale batteries will be the fastest growth sectors for software, given the large amount of capacity to be built. <sup>2</sup>

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Expanding the physical side of our business into operational services will also see a considerable increase in our addressable market as we move from a niche market to a much larger market.

# The expansion into services is a logical progression of our long-term strategy

## Diversification

Invest in new products

- Battery software

Cross-sell products

- Combine products
- Offer software with services
- Offer 24/7 operational services

Expand service offering in FY22

## Grow customer base

Target a larger number of smaller customers in the rapidly growing market of decentralised renewable energy

A much larger addressable market

## Grow by acquisition

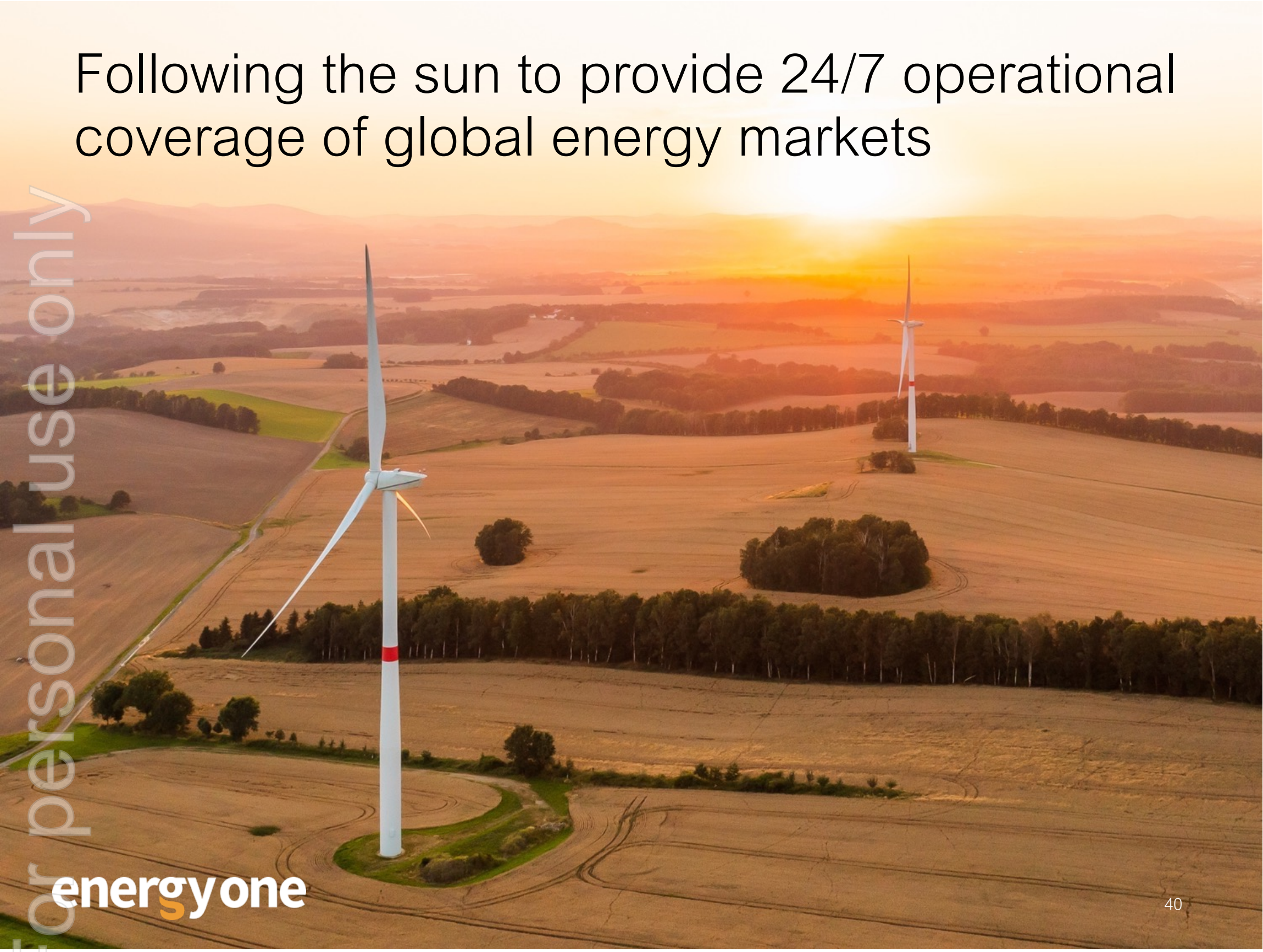
Acquire complementary products/services

- Look for potential strategic acquisitions providing additional synergies

Continue to look for additional acquisitions

Following the sun to provide 24/7 operational coverage of global energy markets

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# Summary

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Making renewable energy the core of a net zero economy will require massive investment in renewable energy

The International energy agency and IMF forecasts total annual energy investment surging to USD 5 trillion by 2030.

# This massive investment in renewable generation has already begun...

Simply replacing existing capacity with an equivalent amount of renewable generation won't be enough.

Additional capacity will need to be built to deal with:

- Renewables intermittency
- The extra demand created as more and more transportation, equipment and processes are electrified

Storage capacity will also need to be built so renewables can provide energy 24/7

All of this additional capacity will be provided by a much larger number of decentralised renewable generators.

These new market participants will all require sophisticated software and, in many cases, 24/7 operational services to operate their assets efficiently and in line with regulatory compliance obligations

The critical element needed to access this new rapidly emerging market segment is the provision of operational energy services

- Energy One is the only software vendor providing 24/7 operational energy services and control rooms
- We believe this puts us ahead of the curve, a first mover advantage if you will, that will help us capture market share

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# Demand for Energy One's software and services is set to grow with the market



According to BloombergNEF research<sup>2</sup> the significant growth in renewable capacity and shifting wholesale market dynamics will drive the software market to grow by 60% to \$2.8 billion by 2025.<sup>2</sup> For power generation software, Europe will be the second largest market, accounting for 24% of the global market.

Utility-scale solar and utility-scale battery plants will be the fastest growing sectors for software adoption, considering the large amount of capacity to be built in the next 5 years.<sup>2</sup>

Which means our addressable market just got larger and our runway longer

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# Appendix

Additional information

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# Reference sources

- 1) Net Zero by 2050 A Roadmap for the Global Energy Sector – the International Energy Agency
- 2) <https://about.bnef.com/blog/power-sector-to-spend-5-billion-on-software-by-2025/>
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# energyone

Mr Shaun Ankers – Group CEO and Managing Director

Email: [enquiries@energyone.com](mailto:enquiries@energyone.com)

77 Pacific Highway

North Sydney NSW 2060

+61 2 8916 2200