

The New Energy Economy Economic Opportunity for South Australia

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ZENEnergy 
A New Way

The ZEN / Gupta story – what does this mean for SA?

No one person can effect change in the energy sector

- Regulatory / Legislative change (building and elite board and senior team)
- Technology Change (Big Batteries / Pumped Hydro)
- Breaking Monopolies in Generation / Distribution / Retailing (requires a big chunk of demand)

The Arrium / One Steel Plan

- Our plan was in the data room to significantly reduce Arrium's energy costs (enable the sale)
- Killer combination of Solar / Wind / Pumped Hydro and Big Batteries
- Same model that GFG use in the UK to reduce costs by 30% (Australia expected 50%)

The ZEN / Gupta story – what does this mean for SA?

A Bigger Vision...

- Sanjeev Gupta has a grander vision for Australia
- He wants to build an Energy Company under this model to supply the rest of Industrial Australia
- Why re-invent what has been done...Let's make ZEN Energy that company!

It will happen very quickly...

- Building very large scale Solar and Big Batteries (12 months)
- Building and contracting existing Wind (12 months)
- Building Pumped Hydro Plants (2-3 years utilising gas in the interim to firm contracts)

ZEN to build 1GW of Clean Energy Generation in SA



ZEN Board Meeting – Stamford Plaza Hotel Adelaide 30th October 2017

680MW Solar

- 200MW in Whyalla
- Further 480MW to support Industrial growth

120MW / 600MWh Pumped Hydro Facility

- Middleback Ranges (South of Whyalla)

100MW / 100MWh Battery

- Port Augusta - same size as Tesla battery

100MW Cogeneration & DM

- Whyalla Steel Works

Sustainable Economic Growth for Regional Australia

Australia's Industrial Energy Revolution has begun...
Our heavy industry to run on Renewables



A BIG step forward on our road to Paris...

Zero Emissions Electricity by mid-century

- Requirement for all developed countries
- We have to work harder in Australia – Emissions per capita are more intensive
- Electricity still represents 1/3 of emissions (down from 40%)
- De-Carbonisation of electricity spins off to other sectors
 - Transport sector from electric vehicles
 - Many gas applications replaced with clean electricity



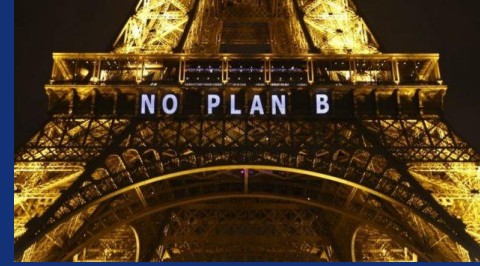
Trump Pulling out of the Paris Agreement

How is the world responding?

- California have announced they will accelerate their commitments despite the US pulling out
- Many US businesses are at the forefront of global action and will continue their commitment
- China and India are outperforming their commitments and going further
 - Coal use in China reached a peak in 2013 and has been falling since
 - Fastest growing energy supply in India is all renewables
- Criticism of agreement not being binding but it is changing behaviour

It's a setback but not devastating

- As long as the framework is kept in place for the US to rejoin in 3 years



South Australia's turn to prosper...

Australia did very well in the Fossil Fuel Economy

- Abundance of Coal and Gas in other States (cheap gas and low-cost coal)
- Could have remained comfortable but would face a change one day
- South Australia doesn't have the deposits of the other States – Wooden Spoon
- Cannot continue to emit CO2 and will be forced to change

Australia also has an abundance of Renewable Energy

- More importantly South Australia has the best resource in Australia (top of the table)
- UN responsibility in South Australia to create new business models (best resource in the world)
- Germany vs Australia (Best solar in Germany is less than the worst in Australia)

Our old energy advantage was already disappearing...

Australia had very cheap gas (much lower cost than the rest of the world) & low cost coal

- We've now made our gas and coal exportable (90's and 00's)
- Prices have now risen to International levels
- As a result gas is now both scarce and expensive (even higher than Japan)
 - Beyond export parity
- Advantages of the old high carbon economy were slowly disappearing

Low cost to high cost delivery networks

- Delivery networks have become privatised
- Managed in ways that have encouraged over-investment
- Built to manage peaks
- Low cost poles and wires are now highest cost in the developed world
- We were losing the advantages of the high carbon economy even before climate change became a mainstream issue
- New “behind the meter” solar & storage can shift the peaks (new integrated networks)

South Australia's Electricity Price Comparison

- South Australian wholesale electricity prices have always been higher than other states
 - Leigh creek coal wasn't very good quality coal compared to other states
 - Difficult to mine, not good quality and had to be transported down from Leigh Creek
 - South Australia is also on the end of the Eastern Grid
 - The price difference is significantly less now that the scarcity of gas and coal is catching up with the other states – lowest wholesale price in last few months
 - Our competitive advantage is coming with Renewables

Turning the Tables “The New World Energy Economy”...

- South Australia missed out under the old world fossil fuel regime
- South Australia has the BEST Renewable Energy Resource in the World!
- Potential for lowest cost energy under the “Post Paris low carbon transition”
- Influx and resurgence of heavy industry plus new industry development
- Economic Development & Prosperity for South Australia



New Industries from an abundance of low cost clean energy...

- Graphite Mining & Refinement (30% of Lithium Batteries)
- Silicon Mining & Refinement (Solar Panels)
- Uranium Enrichment (Value add)
- Hydrogen Export (Clean energy over water)
- Direct connection to Indonesia (Feasibility study)
- Middle East of the new world



The South Australian Clean Energy Money Tree!...

The Gupta's call it Green Energy for a whole different reason!

- It's a cash maker and an economy builder!
- Rejuvenate Rural Australia, will attract energy intensive industry, jobs, youth & cash flow
- Yes we can run a Steel Mill on Renewables...and we do it better and cheaper!

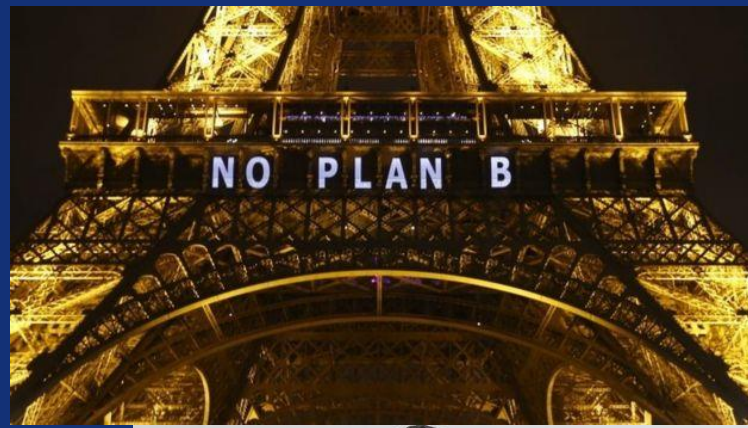


Paired with “Behind the Meter” Solar & Batteries

ZEN Energy’s mission is to bring down the cost of electricity for everyone with Clean Energy
Both in front of the meter (electricity supply) and behind the meter (solar and storage)

ZEN is your long term trusted South Australian Energy Partner (Commercial & Residential)





United Nations visits ZEN Energy

Christina Figueres – Executive Director of the United Nations Climate Change Council

- ZEN was only RE company in Australia selected for Christiana Figueres to visit (May 2015)
- Absolute endorsement and praise for ZEN's Micro Grid and Energy Storage developments
- “ZEN is in a world leading position with exportable technologies and business models”
- We even received special acknowledgement from Al Gore when in Melbourne recently & Prince Charles on his 2012 visit

