ENERGY POLICY – BRIEF

The Regionals Energy Policy is a substantive policy and shall not be subordinate to or compromised by any other policy.

The Regionals Energy Policy shall:

- **guaranty the energy needs of the Australian nation, its citizen, their defence, industries, businesses and services.**

- **enhance Australia's national security and self-reliance.**

- **prioritize the utilization and maximization of Australia's natural resources, industries, expertise and manpower.**

- **make provision for the delivery of uniformly cheap, dispatchable, high inertia, synchronous, base load electricity, distributed as widely as possible by a resilient, simple distribution network (Grid).**

- **protect the integrity of the Grid through regulation that mandate Electricity Generators meet the specified inputs of the Grid.**

- **where the Grid is accessible, provide no incentives to consumers to source electricity other that supplied by the Grid.**

- **require electricity generators and distributors to meet the expectations of industry, business and householders alike to be able to access Grid electricity, instantaneously, 24/7 to meet their peak requirements.**

- **require the operators to maintain and upgrade the Grid such that it can distribute current peak power requirements while ensuring planning and development to meet future growth is advanced in a timely manner.**

- **require the delivery of dispatchable baseload power from all large-scale electricity generators. All large-scale intermittent electricity generators shall be required, at their cost, to retrofit or secure the necessary backup supply to guaranty that its nameplated capacity can rated as dispatchable baseload power.**

- **support the exploration, extraction, marketing and processing of our natural energy resources.**

- **provide for the reservation of natural energy resources to guaranty affordable supplies for the domestic market.**

- **support the Doctrine of Tenure and the proposition that the wealth beneath the ground, there exploited should provide revenue to the State for the benefit of all residents. However, owner-occupier landholders shall be adequately compensated for disruptions, diminishment of liveability together with loss of land use and production.**

- **in respect owner occupied land, whereby there is no requirement to vacate, provide that the property owner-occupier landholders receive a non-transferable on-going payment, equal to 10% of the royalties earned from energy resource extraction.**

- **require that the national petroleum reserve be increased from 90 to 180 days.**

- **provide for the national petroleum reserve storage facilities to be located across all states and territories and be integrated into the commercial distribution system.**

ENERGY POLICY - DETAILED

INTRODUCTION

There are a number components to the provision of the essential energy needs of the Australian nation, its defence, industries, businesses, services and citizens. All energy policy must enhance Australia's national security and self-reliance. Accordingly, energy policies shall be substantive, not subordinate to others. Electricity generation sources of oil/natural gas, coal seam gas, coal, petroleum, wind, solar and battery storage shall be addressed separately in this policy document. Other energy sources not currently utilised in Australia, such as nuclear and hydrogen shall be the subject of separate policies

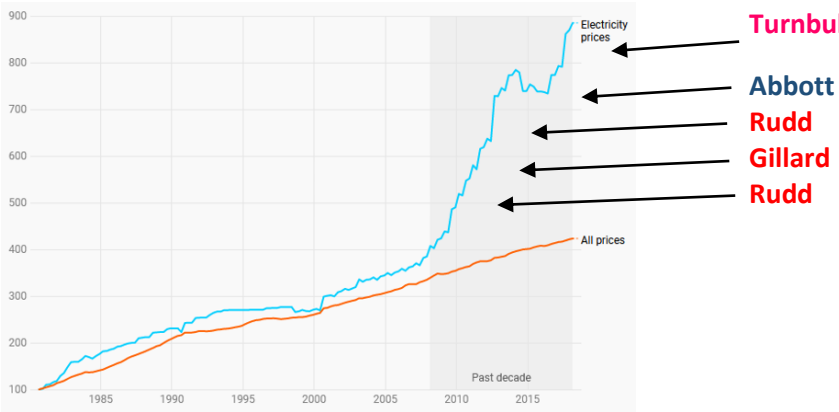
Electricity

The Regionals are committed to the provision of cheap, dispatchable, high inertia, synchronous, base load electricity, distributed as widely as possible by a resilient, simple distribution network (Grid). While the Regionals acknowledges the role of the Australian Energy Market Operator (AEMO), the Regionals recognize that the State Government is ultimately responsible for the delivery of the current and future supply and distribution requirements of electricity.

Regional, National and International economic competitiveness in today's global economy is intrinsically tied the cost of electricity. Additionally, the wellbeing of households and businesses is adversely impacted by high electricity prices.

Historically, due to the abundance of coal, the Australian economy has been the beneficiary of low-cost electricity which contributed to our international competitiveness while enhancing disposable household incomes. In little more than a decade those advantages have been completely eroded as a result of numerous Commonwealth and State legislative acts which have contributed to increased cost to users, reduced reliability of supplies and caused instability of the Grid.

Consumer price index of electricity 1980 – 2018 (https://www.abc.net.au/news/2018-07-18/electricity-price-rises-chart-of-the-day/9985300?nw=0)



Prices at 1980 Q3 are indexed to 100.
Percentage change per quarter of each price group.

Government legislation and regulation has been responsible for the increased electricity cost beyond CPI.
In addition to the direct cost to consumers, governments have redirected tens of billions of dollars of taxpayer funds from public infrastructure and services in support of the legislation and regulations.
THE REGIONALS is opposed to this huge impost on the economy without a cost/benefit analyst and guarantied outcomes.

The significant increase in the cost of electricity has fuelled increases in the cost of the vast majority of other goods and services and has resulted in the loss of industries and the closure of businesses. The Regionals shall oppose any legislation that increases the cost of electricity that is not directly associated with generation and distribution costs while seeking to repeal all legislation that has driven the divergence of electricity costs markedly beyond the CPI increase.

Generation

Queensland's electricity generation was almost exclusively and is still primarily provided by coal fired power plants that are not only capable of meeting the state's peak power requirement but have excess capacity to feed into the National Grid to meet shortfalls in other states when required. The eight power stations have a capacity of more than 8Gigawatts (GW) and all have at least 20 or more years of operational life. However, commitments to provide replacement and additional, high inertia synchronous baseload power generation need to be made now.

Since 2007 Kyoto Agreement, western nations have 'committed' to reduce carbon dioxide emissions. As a result, unnecessary, intermittent capacity from "renewable" generation sources have be added to the Queensland Grid.

Both small and large scale "renewable" installations have attracted high levels of tax payer subsides and guarantied 'feed-in tariffs' which have imposed additional costs on both taxpayers and consumers. Small scale generation has effectively transferred wealth to those who had suitable rooftop space and could afford solar panel installations from other electricity consumers. Additionally, large scale generators favoured by mandatory Renewable Energy Targets (RETs) are the preferential source of supply, when available, disrupts the supply from base load generators reducing their efficiency and revenues.

A level playing field for all power generation technologies is essential such that, market forces, not government interference should determine the technology that best meets the State and National interest. With all power generation systems, cost and benefits shall be assessed on the guarantied 24/7 capacity of the facility to be connected to the Grid. Additionally, all requirements for Grid stability are to be meet by large-scale power generators.

Distribution Network (Grid)

Industry, business and householders alike have the expectation to be able to access Grid electricity instantaneously, 24/7 to meet their peak requirements. The Regionals shall require the operator/s to maintain and upgrade the grid such that it can distribute current peak power requirements while ensuring planning and development to meet future growth is advanced in a timely manner. The Regionals shall protect the integrity of the Grid by ensuring that provisions are made requiring Electricity Generators satisfy the Grids input requirements and that where the Grid is accessible, no incentives are provided to consumers to source electricity other that supplied by the grid.

Fossil Fuel Generation

Coal Fired

Queensland has 8 Coal fired generation facilities providing dispatchable, high inertia, synchronous, base load electricity with a nameplated capacity of 8.3GW. This is sufficient to meet Queensland's current peak power requirements.

Australia and Queensland have strategic reserves of high quality thermal and coking coal that enhance Australia's national security and self-reliance. The Regionals supports the continued operation of Coal fired generator facilities and their timely replacement with new High Efficiency Low Emission (HELE) technology as they reach their life of type (LOT).

Gas -Open and Combine Cycle

Queensland has 20 existing and planned Gas fired generator facilities with a nameplated capacity of 4.2GW. Many of these facilities are located outside the National Grid in areas that have access to natural gas supplies. Open Cycle Gas generators are best suited to provide large scaled power needs and manage the variations in demand and peak power requirements of these remote regions.

Open Cycle Gas generators are responsive and suitable to provide for load variations and the additional demands of peak loads. Gas turbine generators should be co-located with Coal fired generator facilities to provide timely response to load fluctuations and during ramping periods between average and peak demand periods. The Regionals supports the continuing operation of Open and Combined Gas Cycle generation facilities and their timely replacement as they reach their LOT.

Diesel Combustion

Diesel generation facilities are primarily used for localized emergency backup generation and remote off the grid locations. The Regionals support the continuing expansion of the Grid as far as practical to connect remote localities with significant electricity demands. Additionally, the Regionals support the installation of Renewables with sufficient battery or pumped hydro at remote locations where it is not practical to provide Grid electricity.

Renewable Generation

Renewables include Hydro, Biomass, Wind and Solar. As at 31MAR21, the current and planned nameplated capacity of this mix of electricity generation is 29.3GW which is more than three times the current Queensland peak demand. The vast majority of Renewable electricity is supplied by Wind and Solar Generation facilities.
Source: https://maps.dnrm.qld.gov.au/electricity-generation-map/

To provide equivalent of Queensland's 8GW of dispatchable base load peak power would require Wind and Solar Generator operators to the installation of at least 36GW of nameplated capacity, complete with at least 67.2GWh of storage back up in the form of batteries or pumped hydro, allowing for a 50-50 solar wind mix.

Optimum equivalent requirements to replace 1GW of Dispatchable Baseload Power:
Solar – nameplate capacity 4.55GW plus 15.75GWh of Battery or Hydro Storage, equivalent to 45 x $200M, 100MW Yarranlea Solar Farms, each with 372,833 x 360watt solar panels complete with battery backup storage equivalent to 81 x $172M, Hornsdale Power Reserves at an approximate cost of $23B.
Wind - nameplate capacity 4.04GW plus 10.1GW of Battery or Hydro Storage, equivalent to 9 x $850M Coopers Gap Wind Farms each with 123 x 3.75MW turbines complete with battery backup equivalent of 52 x $172M, Hornsdale Power Reserves for an approximate cost of $17B.

Accordingly, the approximate cost of providing the dispatchable baseload equivalent, 50-50 mix of wind and solar power to replace Queensland's 8GW would be $160B.

Note: The less the available storage nameplated capacity the greater the nameplated capacity of the generator is required. Installation of nameplated capacity six times that of the required dispatchable baseload requirement will minimize the need for battery/hydro backup.

Source: Kenan Institute of Private Enterprise - Measuring-Renewable-Energy-as-Baseload-Power
https://www.kenaninstitute.unc.edu/wp-content/uploads/2018/05/Kenan-Institute-Report-Measuring-Renewable-Energy-as-Baseload-Power-v2.pdf

The requirement to install nameplated capacity of Wind and Solar Generating facilities six times that of peak demand power and replace the capital generation equipment approximately every 20yrs from overseas manufacturers is not in the national interest.

With the requirement to install renewables six times that of peak power demand comes with a massive footprint, a footprint devoid of biodiversity. The Coopers Gap, 123 turbine Wind Generator facility with a nameplated capacity of 453MW will has a footprint of 102km^2 while the Stanwell Coal fired Generator facility with its nameplated capacity of 1.4GW has a footprint of less than 2km^2.

To achieve a nameplated capacity of 1.4GW the Coopers Gap Wind Generator facility footprint would have to be increased to 315km^{2}to accommodate the required 373, 3.75MW turbines. To replace the dispatchable base load 1.4GW of the Stanwell Coal fired Generator facility the Coopers Gap Wind Generator facility would need 1506, 3.75MW turbines, have a foot print of 1272km2 and would need to be supported by 14GWh back up battery storage or pumped hydro. Without significant battery/hydro backup, Coopers Gap Wind Generator facility would need 9036, 3.75MW turbines, have a foot print of 7632km2

The Photovoltaic Large-scale Daydream Solar Generator facility with nameplated capacity of 150MW only has a footprint of 4.5km^2. To achieve a nameplated capacity of 1.4GW the Daydream Solar Generator facility footprint would have to be increased to 45km^2 while to replace the dispatchable 1.4GW of the Stanwell Coal fired Generator facility the Daydream Solar Generator facility have a foot print of 270km2 and would need to be supported by 22GWh back up battery storage or pumped hydro. Without significant battery/hydro backup, Every square metre of a Solar Generator facility is 'dead' ground, devoid of biodiversity.

The requirement to install nameplated capacity of Wind and Solar Generating facilities of more than four times that of peak demand power also creates a massive additional demand for many minerals, including a suite of elements that are commonly referred to as 'rare earths. This will result in the greater mining operations, mineral processing and disposal of toxic materials. Additionally, many of these required minerals are mined in countries with poor environmental standards and labour practices. The REegionals shall require all Renewable Energy project to provide a certified bill of materials (BOM) together with details origins of raw materials and subsequent processing operations.

Note: A bill of materials (BOM) is a comprehensive inventory of the raw materials, assemblies, subassemblies, parts and components, as well as the quantities of each, needed to manufacture a product.

Hydro

Queensland has 8 Hydro facilities with a plate capacity of 223MW. The Regionals support, where practicable, the incorporation of hydroelectricity generators in all future dam and water distribution projects.

Pumped Hydro

Queensland has one existing and two planned Pumped Hydro facilities with a plate capacity of 2.25GW. The Regionals supports, power generator owned and operated pumped hydro facilities to support their contract commitment to supply continuous 24/7 power.

Biomass

Queensland has 36 Biomass facilities with a plated capacity ranging from 1 to 70MW for a total 550MW. Sugar mills account for more than 80% of the plated capacity. Fuel availability is seasonal and generally supplies power for in-house requirement as such, the feed-in of excess generation power to the Grid is deemed disruptive. The Regionals do not support the connection of small scale, intermittent, fluctuating levels of power generation to the Grid. Biomass power generation needs to be consolidated into large fewer, large-scale facilities or coordinated to provide scheduled continuous, constant level of synchronous of power to the Grid.

Battery Storage

Queensland has 13 existing and planned Battery Storage facilities with a plate capacity of 2.4GW. These facilities are primarily backup Renewable Solar and Wind power generators to compensate for their intermittent and fluctuating output. The Regionals support, power generator owned and operated Battery Storage facilities to support their contracted commitment to supply continuous 24/7 power. The Regionals shall require all operators of Battery Storage facilities to provide comprehensive plans for decommissioning and disposal of batteries. Battery disposal and decommission shall be the responsibility of the operators.

Wind

Queensland has 26 existing and planned Wind Turbine Generator facilities with a plate capacity of 7.1GW. Wind turbines at best are 50% efficient at 'peak wind' but for most part operate at 30-40% efficiency and do not operate at wind speeds lower the 8kph or higher than 90kph.

The Regionals do not support the connection of intermittent, fluctuating, asynchronous, low inertia power generation to the Grid. The Regionals require that Wind Turbine Generator facilities to be co-located with battery storage or pumped hydro and their guarantied plate capacity to the Grid shall be rated at their 24/7 capacity. In the event that a Wind Turbine Generator facility cannot supply its guarantied plate capacity to the Grid, the operator shall buy the supply shortfall from another generator facility.

As Wind Turbines are not manufactured in Australia and have a life of type of 20years, The Regionals deem that the installation and replacement of Wind Turbine Generator facilities is not in the national interest.

The Regionals shall require all operators of Wind Turbine Generator facilities to provide comprehensive plans for decommissioning and disposal of turbines, blades and pylons. The operator shall be responsible for the cost of all decommissioning and disposal requirements.

Small-scale Solar (Rooftop)

The Regionals do not support the connection of small-scale solar systems to the Grid. The advent of rooftop was facilitated by government energy policies whereby the Commonwealth government provided substantial tax payer funded rebates to households and businesses that installed rooftop solar systems while State Government provided feed-in tariffs to those households and businesses for their excess power to the Grid at several times the wholesale price paid to the operators of base load power generation facilities.

These policies have significantly increased the retail price of electricity, redirected tax payer funds from other government services and public infrastructure while transferring wealth to those who had rooftop space and could afford solar panel installation from the rest of the consumers. The Regionals do not support tax payer funded rebates or the transfer of wealth from one consumer to another. Householders and business shall be responsible for the decommissioning and safe disposal of their rooftop solar systems.

With limited periods of operation, intermittent output and high density in some localities, small-scale solar systems can have highly varying levels of input to the Grid, that necessitates load shedding by other generating facilities supplying the Grid. This compromises the integrity of the Grid.

Large-scale Solar (LSS)

Queensland has 118 existing and planned Photovoltaic Large-scale Solar Generator facilities with a plate capacity of 19.6GW. Solar Generator facilities only operate at maximum efficiency for less than 6hours per day subject to weather conditions and provide no output during the peak demand periods 5-9 am and 5-8pm. In effect the limited and intermittent output of LLS Generator facilities is a disruptive loading on the Grid

The Regionals do not support the connection of intermittent, fluctuating, low inertia power generation to the Grid. The Regionals require that LLS Generator facilities to be co-located with battery storage or pumped hydro and their guarantied plate capacity to the Grid shall be rated at their 24/7 capacity. In the event that a LLS Generator facility cannot supply its guarantied plate capacity to the Grid, the operator shall buy the supply shortfall from another generator facility.

As Solar Panels are not manufactured in Australia and have a LOT of 20years, the Regionals deem that the installation and replacement of LLS Generator facilities is not in the national interest.

The Regionals shall require all operators of LLS Generator facilities to provide comprehensive plans for decommissioning and disposal of solar panels. The operator shall be responsible for all the cost of decommissioning and disposal.

Oil/Natural Gas.

Oil and natural gas in most instances coexist together. However, the ratio of oil to natural gas can vary markedly from field to field. For most parts major Australian fields have been offshore in the Bass Strait and the Timor Sea. There are several onshore fields with minor oil reserves but significant natural gas reserves.

Australia is dependent on oil imports while having adequate reserves and production of natural gas. However, both the Federal and State governments have failed to provide for adequate reservation of natural gas production for the domestic market. The Regionals shall require all new oil and natural gas projects to provide reservation for the domestic market.

Oil and natural gas are strategic national requirements. The Regionals shall support the exploration for and extraction of oil and natural gas deposits. Where there is an ongoing deficiency of supply for domestic demand the Regionals shall support the necessary infrastructure build to facilitate the storage of strategic holdings of imported oil and natural gas.

Coal Seam Gas (GSG)

Onshore Coal Seam Gas (CSG)exploration and extraction has been conducted since the early 1990s and has become a significant part of Queensland's and the nations energy mix. However, it has not been without controversy with landowners' rights, impact on water tables and hydraulic fracking the major ongoing issues.

Currently the largest known proven reserves are in Queensland's Bowen and Surat basins and the continued commercialization of CSG is essential to Queensland's and the nation's energy needs and economy. The Regionals support the extraction of CSG on a project-by-project basis. The Regionals shall require all new CSG projects to provide reservation for the domestic market.

Much of the CSG fields lies beneath privately owned land that is currently used for other industries including agriculture. In Australia, minerals, oil and gas are 'reserved to the Crown' which means Australian state governments retain the rights to these resources if they are found on freehold land. The Regionals supports the Doctrine of Tenure and the proposition that the wealth beneath the ground, there exploited should provide revenue to the State for the benefit of all residents. However, landowners must be adequately compensated for disruptions, diminishment of liveability together with lost of land use and production. In respect owner occupied land, whereby there is no requirement to vacate the property, owner-occupier landholders are to receive a non-transferable on-going payment, equal to 10% of the royalties earned from energy resource production.

Coal

Australia and Queensland have strategic reserves of both high grade thermal and coking coal. These reserves enhance Australia's national security and self-reliance while providing a major economic benefit to both the State and the nation. Export earnings from coal is second only to iron ore.

The Regionals supports the continuation of private enterprise coal exploration and mining to meet the demand of domestic and oversea markets. Accordingly, the market should determine the longevity of Australian coal mining, not government legislation.

Petroleum

Petroleum is a strategic resource and as such the Commonwealth is currently required to ensure the nation has at least 90days reserves. Successive Commonwealth governments continue to fail to meet this obligation to the Australian people and the nation's defence as reserves are routinely less than 30days.

Australian oil refineries in the past processed imported oil to produce aviation fuel, kerosene, petrol, diesel, bitumen and other hydrocarbons for the chemical and plastics industry. Over the period of the past 20years the number of refineries has dropped from 8 to 2. Australian 'OIL' companies now import refined products from 'mega' refineries in Asia and the Middle East.

While Australian ‘OIL’ companies are free to make decisions based on their commercial interests the closing of refineries is a loss of national capability. However, unlike oil, refined petroleum products have a typical shelf life of six months. Specialized storage may extend the shelf life to 12 months.

With the lack of domestic production and the diminishment of Australian refining capabilities, the Regionals supports the increasing of the strategic petroleum reserves from 90days to 180days and the upgrade of storage facilities as required. Strategic petroleum reserves storage facilities shall be located in all states and territories and be integrated into the commercial distribution system.