

Sir Thomas Mcllwraith Address – 2019

- By Trevor St.Baker AO

I have to say first that I am humbled by this invitation, and by all of you present tonight. I hope however to do justice to this opportunity to speak on **how best to capture the enterprise potential of a community for the development of the State and for the public good**, as Sir Thomas Mcllwraith is reputed to have delivered over a thirty-year period in government, including three terms as Premier, more than a century ago.

What I want to do tonight is to give you a personal view, through the lens of my own experience, of how public and private entrepreneurship can work together to build wealth, and also how it can be destroyed.

I want to start with one of the most progressive achievements of last year's Sir Thomas Mcllwraith Lecturer, Sir Leo Hielscher. On behalf of the State he negotiated for non-coking "steaming coal tops" over the open-cut coking coal at the Utah Development Company's Blackwater mine to be sold to the state, free-on-rail, at the net cost of otherwise disposing of this non-coking coal as waste.

This was to support what was then a discounted electricity generation and supply price to a possible major aluminium smelter at Gladstone.

As a five-year newcomer to Queensland in 1974, appointed to set up a new Resources Division in the State Electricity Commission, my first job was to project manage the construction of the Blackwater steaming coal "tops" crushing and rail-loading facility, and to administer the supply contract with the State.

I well remember the "shock-horror" reaction of the Blackwater Mine Manager that a mere government employee would refuse to approve the "very fair" \$20/tonne invoice from the Blackwater coal company nor approve any price over and above the approximate \$1/tonne net price negotiated by Sir Leo.

In the event, Utah Development Company got paid \$1/tonne, ie about 3½cents per GJ, for 1½mt a year.

This enabled the Queensland Government to offer blocks of low-priced power from an extension to the new Gladstone power station to a consortium of international partners with Comalco, to commit to the construction of the Boyne Island Aluminium Smelter at Gladstone. It would be the largest smelter in Australia, employing 1,000 permanent direct workers, and creating this major new industrial centre in Queensland.

This was very much in the mould of Sir Thomas Mcllwraith.

I then had the role of implementing the transformation of coal procurement for all State electricity generation. This involved

- Negotiating with coal owners and coal mining unions to end the Queensland Coal Board's oversight and determination of coal supply allocations and supply prices, and negotiation of long-term coal supply contracts for supply to all existing power stations;
- Calling tenders for coal to new power stations, leading to the construction of new low-cost mine-site power stations at Tarong and at Callide 'B'; and
- Readyng the Curragh coal resources for tender to supply the 50% non-coking steaming coal fraction to the State Electricity Commission, at a discounted price, for the next new Stanwell power station.

Curragh deserves special mention. It involved an area north of Utah's Blackwater mine which it had relinquished as not prospective enough for coking coal. I organised for the State Electricity Commission to acquire the exploration licence, prove up a resource of 50% steaming and 50% coking coal, and manage the tender for its sale, on the basis of the lowest price to the State Electricity Commission for the 50% steaming coal. Approximately 4mt/a of coking coal was exported while an equal amount was supplied to a new Stanwell power station at Rockhampton.

The successful planning and construction of the Gladstone power station, and interconnections by high voltage 275kW transmission from the Central Electricity Board, south to the Southern Electricity Authority and north to the Northern Electricity Authority, to all be merged into the Queensland Electricity Generating Board, and the establishment of Gladstone as such a major industrial centre, with the construction of the major aluminium smelter, was part of one of the most outstanding two decades of development in this State, by public enterprise and private enterprise working together, under the Premiership of Sir Joe Bjelke-Petersen.

Within a decade of this transformation of coal procurement electricity generation costs in Queensland improved from the most expensive of all States in 1975, to the lowest of all States in 1985, at the same time as reducing electricity sector debt to minimal levels and returning the greatest dividend returns to the Queensland Government plus equity/debt swaps while maintaining the lowest debt gearings of all States for the State-owned electricity businesses, at nominally 33% debt gearing.

This may not have been the enterprise and innovation story that you might have been expecting me to start with, but it has always underlined for me that private enterprise has its own failings and deficiencies, as does public enterprise, and both have to be nurtured for productive outcomes and for the common good.

The Bjelke-Petersen era in the 1970's and 1980's were decades of outstanding development as were the decades of the 1880's and 1890's of the McIlwraith era, and the recorded description of McIlwraith, as:

"a big man with big ideas, who was rugged and masterful, possibly on occasions not over scrupulous, with a habit of getting his own way by sheer force of character rather than by intellectual ability, but for 25 years one of the greatest personalities in Queensland",

may very well have been written to describe Sir Joe Bjelke-Petersen.

More to the point for me, the Bjelke-Petersen era, directed by outstanding State Department Heads at the time, Sir Sydney Schubert, Sir Leo Hielscher, Jack Woods, Doug Murray MC, and Neil Galway, delivered growth, development and public benefit across the State, and proved that well-managed public enterprise is as important for the public good as well-managed private enterprise.

The mismanagement of the State Electricity Commissions of NSW, Victoria and also the Electricity Trust of South Australia in the 1980's and into the 1990's were examples of the failure of public enterprise.

Not only did this lead to the growth and emergence of Queensland as the development powerhouse of Australian States, but it was the genesis of the competition law of the 1990's, providing for level-playing fields for private-sector power producers in competition with government-owned corporations. This eventually led to the establishment of the National Electricity Market in NSW, Victoria and South Australia, and the interconnection of Queensland to the NEM in 2002, and Tasmania years later.

In most States the open and competitive generation and retail sectors were sold to private sector companies, bringing great price benefits to electricity consumers for nearly two decades, while generous generation supply/demand balances prevailed, as a result of major refurbishments undertaken on power stations taken over, and greatly improved operation and business performances under private enterprise control.

But the sale of the State-owned monopoly transmission and distribution network assets, as regulated monopolies, was a disaster for electricity consumers. Network prices grew to be even greater than wholesale generation prices, because of demonstrable poor regulation, and government imposition of supply reliability rules, guaranteeing investors returns on regulated investments.

Move to private sector & private enterprise

I left the Queensland public sector in 1980 to join then well-known Queensland private sector entrepreneur, Ian Howard-Smith, in an ultimately unsuccessful bid to develop an export coal prospect. The company vehicle

which I established for this bid, Energy Resource Managers Pty Ltd, was to become, 28 years later, ERM Power Pty Ltd, and then ERM Power Limited.

I subsequently set up my card table in a two-room office in Eagle Street, as Principal of Australia's first energy consulting practice, ERM Consultants, and this quickly grew to 17 highly qualified and skilled energy analysts, electricity fuel utilisation specialists, and generation development and supply consultants. We consulted to public and private clients, nationally and internationally, for a decade.

This was a time of totally technology-agnostic electricity generation planning, evaluating the competing costs of different fuels for generation at different locations, to get to demand centres at lowest-cost against competing primary energy sources, different fuels and different generation technologies.

Optimum generation fuel technologies were mainly indigenous coal and gas-fired generation in Australia. Internationally-traded coal and LNG were becoming increasingly competitive around the world. We became a leading adviser and consultant internationally, supporting Australia's rapidly emerging steaming coal export industry in the 1980's, and consulting internationally on new generation planning and development, and coal utilisation testing for a number of coals from Australia and Indonesia.

This was a far cry from the government mandating and subsidising of renewable generation technologies today, producing grossly sub-optimal electricity price outcomes from the wrong generation fuel and technology mixes, and at the expense of electricity consumers, particularly Australian businesses struggling with internationally uncompetitive energy costs.

This is epitomised in the protests from "so-called developers" of wind and solar generation projects with government legislated subsidies, claiming that they had no way of knowing that they would be up for the costs of getting their renewable generation from remote locations to city electricity customers. Really? This is a generation planning 101 development concept hurdle.

After 1990, I reduced the consultancy arm of the business, concentrating more on my enterprise arm, Energy Resource Managers Pty Ltd, and was ultimately successful in winning one of the first private power development opportunities in Australia with a bid for a gas-fired peaking power station at Oakey.

My backers for the Oakey power station bid to the Queensland government, Siemens GmbH and the Australia Industry Development Corporation (AIDC), were the most surprised at our win. I might say that the joint venture process to then deliver the project and the business case was a test of steel for this new-start generation business development entrepreneur, at the "mercy" of such major Partners' "heavy-weight" implementation executives that move in to deliver great business outcomes for their corporations.

It was a test I must have passed as my ERM Power ended up as 100% owner of the asset 15 years later.

What a contrast it is to today. 15 months ago the ACCC reported to the governments of Australia, that the 'energy-only' National Electricity Market model did not have the capacity to attract essential long-term finance for essential base-load dispatchable generation, resulting in base-load generation deficiencies following the closures of the Northern and Hazelwood power stations. This in turn threatened the viability of Australian businesses with high and unreliable and internationally-uncompetitive electricity supply prices.

The ACCC went on to recommend that the federal government underwrite beyond the term of off-take contracts with commercial and industrial customers, the long-term debt financing proportion of new 'capital-intensive' 24/7 dispatchable power supply of whichever technology can secure off-take contracts of up to five-years into the future.

Shockingly, despite expressions of interest being invited eleven months ago, the underwriting process is still tied-up in bureaucratic knots, with no indication that Australian businesses can expect any future of stable internationally-competitive 24/7 electricity supply, on which to plan any ongoing investment in their businesses.

It is history now that my family-owned enterprise company, in partnership initially with AIDC's successor, Babcock & Brown, went on to produce half the scheduled generation constructed in Australia in the 2000's with ERM Power Pty Ltd constructing and operating these power stations.

Later ERM Power took its ownership share of the partnership, expanded downstream into retailing to the commercial & industrial sector, winning a 20% share of that market. It listed on the ASX as ERM Power Limited, and is the 2nd largest electricity retailer to business electricity customers in Australia, and a strong competitive force keeping Business Energy retailing gross margins at low and competitive levels.

ERM had a lot of scale and diversity, but we were never daunted by it. Head-quartered in Brisbane, we had developed more than \$4billion of investments across the country, and turned over \$3billion per annum in our retail arm. We were also a gas explorer and producer, in Western Australia. At one time we were the Nation's largest gas pipeline developer, and also a transmission line developer.

The take-over of ERM Power by Shell Energy Australia is a testament to the ERM organisation, its personnel its business strategies, and its direction, to some extent generally under the radar of public attention.

Shell Energy has the potential to take ERM Power to another level in the sector, for the good of the industry and of electricity customers, as a result of the greater level of competition Shell Energy will be able to venture in to, and the government and the business community in Queensland will hope that this business continues to benefit from being head-quartered in Brisbane.

The ERM Power business will benefit from not having ASX 300 Analysts telling shareholders how the company should be run, although I believe that the business will miss the counsel of one of the best team of directors in the energy sector.

The ERM story is testimony to the most important ingredient of new business development: that is stick to what you know, and make sure you really know your business.

There are other observations on successful private entrepreneurship, and the public good that it can deliver, that I guess I have been asked to reflect on in this address, from my experiences, in founding ERM Power, in resuscitating a loss-making Delta Electricity, which I acquired from the NSW Government, in a separate partnership, and in mentoring a whole range of new-start energy innovation companies through R&D commercialisation, in my StBaker Energy Innovation Fund, if I may, as follows:

- Fair and equitable and ethical leadership is fundamental to engaging and retaining committed teams to create successful businesses.
- Respect and concern for others at all levels in growing organisations is vital in avoiding the factions that can develop in larger companies, and in public enterprises and the public service.
- I concur with the Warren Buffett quote that **"businesses run by able and owner-oriented people are more likely to deliver enduring competitive advantage"**, although this can only be an objective test, not a subjective assessment.
- In my experience, **executive leadership is where the "most able and competent" business skills are required**, but these must be tempered by owner/major investor-oriented direction at Board level, of course in consultation with able and competent financial and legal experienced business people.
- **Entrepreneurship is a most subjective capability**, and is an entirely different capability at the founding and R&D level, from the commercial business case evaluation level, and from the marketing and profitable production and sale level.
- There are different entrepreneurial challenges that unfold along the path to a profitable business. **Having been a "founder" myself**, I can say that one of the most complex questions in progressing the commercialisation and business development of a new-start company, is where best for the Founders to reside at the different stages of business development.

So what of electricity supply and the future? We have to convince Australian governments that the current policies of just loading-up with wind and solar and allowing other technologies to wither is not sustainable.

Internationally, intermittent wind and solar are not projected to supply more than 25% annually, any time soon.

- The International Energy Agency's latest projections are for 50% zero-emissions energy sources for the electricity sector globally by 2040, made up of 22% wind & solar, 28% dispatchable nuclear, hydro-generation and bio-mass, and 50% fossil fuel-fired generation.
- Bloomberg project that electricity will increase from 35% of global energy supply, to 60% of global energy supply by 2060, with the electrification of the transport sector and the fixed energy sector.
- While Australia is already close to achieving 22% Wind & solar generation annually, more than double the present uptake of wind & solar globally, with only 8% hydro-generating capability, and a nuclear power generation ban, it is difficult for Australia to achieve much greater than 35% zero-emission generation for the electricity sector, and it will therefore be reliant on fossil fuels for up to 65% of total electricity generation without an economical energy storage solution, and of an increasing electricity proportion of total national energy demand, according to Bloomberg.

Electricity supply grids need synchronous generation supply for at least 40% of electricity demand at any time, and intermittent non-synchronous wind & solar, at around 30% annual capacity factor, typically, cannot supply much more than 20% of annual electricity demand in any interconnected electricity system, anywhere in the world, without such an economic energy solution, and certainly not across the Australian continent.

And nowhere in the world is pumped storage promoted as a major solution to base-loading intermittent wind and solar. – Certainly, the flattest and driest continent in the world is not going to lead the world with a pumped hydro energy solution to increase the annualised wind and solar generation above the 20%'s.

Electrification of the transport sector however will come mainly from solar in the middle of the day, and will enable more wind at night. It has the capacity to lift the cap on wind + solar from 25% annually to somewhere around 40%. And, the batteries on wheels, with the uptake of EV's and the creation of DC platforms in premises where EV's will be on longer slow charging, will transform electricity retailing, further increasing the potential contribution from wind + solar to more than 50% annually.

Electrification of the transport and fixed energy sectors, have the potential therefor to increase electricity demand in Australia by more than 50%, with wind & solar accounting for half that increased electricity demand, and total zero-emission generation accounting for 55% to 60%.

Coal will be a major portion of the non-zero-emission proportion of this increasing electricity generation demand for many decades into the future, and we have to nurture such capability for it to be as economical and clean as possible, and convince the public this is the part of "the action on climate change" that is necessary, not shutting down power stations and business in Australia, as the zealots would have.

If Australians want to seriously reduce CO2 emissions, then nuclear power generation needs to be part of the mix, and my SMR Nuclear Technology Pty Ltd is breaking new ground in getting the nuclear ban in Australia removed, with Parliamentary inquiries at both federal and NSW State levels at the moment.

In respect to electrification of the transport sector, two of the best performing start-ups backed by my St Baker Energy Innovation Fund are Tritium and Evie Networks.

Since selling its first Electric Vehicle DC fast charger in January 2015, two years later, and still today, Tritium became the technological leader and major international supplier of EV DC fast and ultra-fast chargers in global markets - all developed, manufactured and exported from Brisbane. Tritium has more than 3,000

charging stations in 26 countries. Its head office and R&D & test facilities are in Brisbane, with manufacturing spread across Brisbane, Amsterdam and Los Angeles.

Tritium ultra-fast chargers are being constructed in 249 highway service stations throughout Europe, in an export achievement that has won for Tritium well-deserved export achievement awards.

Evie Networks is constructing between Cairns and Adelaide 42 similar highway EV ultra-fast charging stations, at a cost of \$55m, with the first, just north of Caboolture, between Brisbane and Noosa, being officially opened by the Minister for Transport & Main Roads in four weeks' time, on 31st October.

Other St Baker Energy Innovation Fund investments include:

- Evie Networks, a backbone of EV ultra-fast charging stations along the east coast of Australia.
- Novonix, which has over 30 years combined experience in battery research, cell testing, and materials development.
- PUREV's, which is contracted, with a local Philippine partner, to supply electric tricycles for urban transport services, replacing existing diesel trikes.
- CareWear Corporation, a manufacturer of wearable therapeutics using pulsing printed light, for non-opioid pain relief and advanced sporting PBM (PhotoBioModulation) treatment technology.
- Printed Energy, which has acquired patents and IP for promising, but partially developed technologies for printed batteries and printed photovoltaics.

The challenges in power generation we face are huge, but history suggests that governments and entrepreneurs, working together are up to them. It also suggests that it doesn't happen by accident, but takes leadership. Queensland has led in the past, and it can do so again. If we can solve the challenges here, the rest of Australia will follow. They've done it before.