

20.12.10.

House of Representatives Standing
Committee on Regional Australia,
PO Box 6021, Parliament House,
CANBERRA. ACT. 2600.

Submission Number: 02.1
Date Received: 20/12/2010

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Committee Secretariat, email: ra.reps@aph.gov.au Website: www.aph.au/house/committee/ra

Dear Secretary,

The Hon. Tony Windsor, (Chair) House of Representatives Standing Committee on Regional Aust., has asked me to provide a submission to the inquiry. This is based by my updated "COW" paper.

Tony Windsor has read my COW paper, but for your consideration I submit a more detailed draft, for urgent action on model creation to implement the new low cost water and electricity we need, so farmers/graziers/citizens survive Australian Climate Change Variation. (CCV) To understand it better, see "Why Ancient Egypt Fell", ABC 2, 2.30pm, 19.12.10. The drought of 4,200 years ago in Egypt, destroyed the Egyptian civilization, costing countless lives, and ruined their society.

For Australia to beat CCV, said to be caused by Greenhouse Gas Emissions, (GGE) and to prosper, moving forward in the 21st Century, twelve main strategies are necessary, as illustrated below:-

1. We must stop wasting water, save what is practicable, to reduce carbon footprints and GGE.
2. We must create variable, but adequate, new pristine desalinated (**D**) water from unlimited ocean supplies by solar/hybrid/LFTR Power, at half the coal price, with no GGE pollution.
3. We must use the largest Artesian Basin in the World, The Great Artesian Basin, (TGAB) to:-
 - (a.) Cap all flowing bores to end the waste.
 - (b.) Recharge/store newly created **D**/diverted water in TGAB to prevent huge losses by evaporation, so much of our four eastern States are drought proofed in the future.
 - (c.) Let Farmers/Graziers generate electricity, desalinate TGAB water for irrigation from their flowing bores, so green carbon sink areas soak up to 50% of GGE by 2020.
 - (d.) Divert excess river water into TGAB; store it for **D**, irrigation and river eco-health.
 - (e.) End groundwater Mining Company pollution; the volume of coal gas/salt water extracted from Australian Basins, must be continually replaced by pristine **D** water.
4. Some **D** water stored at TGDR creates very low cost hydro power generation. (HPG) The flowing bores create electricity at no ongoing cost to Farmers/Graziers. We now know HPG production can be well above estimates; it's a big task calculating total HPG for our system.
5. Build the Asian Express (AE) on very heavy, high speed (350 Km/hour) special rail. We looked at Shanghai's Magnetic Levitation Rail, but thought it too expensive/unnecessary. An added benefit of AE, a vermin proof fence, to prevent wild dogs, etc crossing to the east.
6. The Asian Express may require a referendum so the Commonwealth has full power to act.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

- (a.) We may need to include protection of the farming land from mining. (See "Land Subsidence, Earth Fissures Change Arizona's Landscape," by Joe Gelt.)
- 7. Build the north/south canal to protect The Great Barrier Reef, (TGBR) and allow Project Iron Boomerang (PIB) to reduce steel production costs and improve value adding by 300%.
- 8. Build nuclear repositories/enrichment plants so Australia is a major nuclear fuel supplier. The North South Canal combines well with the East West PIB Tropic of Capricorn rail line.
- 9. We must build NQ stock havens above flood level to prevent losses/provide feed storage.
- 10. We must connect Tasmania to the mainland by a rail/road tunnel like the Channel Tunnel.
- 11. We must appoint a "Water Commissioner" to mirror Sir William Hudson's SMA excellence.
- 12. **WE MUST ACCESS WORLD MARKET OPPORTUNITIES FOR OUR HIGH TEC D & E PLANTS. SIGNIFICANT R AND D WORK IS REQUIRED; COST IS \$1B. TO DEVELOP LFTR PROTOTYPES OVER FIVE YEARS.**

Usual objections over the years have been the cost of pipelines and cost of pumping and storing water for hydro, at and over The Great Dividing Range. (TGDR) New Metamaterial pipes promise very low cost pipelines stronger than steel, having great flexibility and very low friction resistance. Further, new very low cost thorium power, (half the price of coal) make it economically feasible.

New thorium nuclear electricity/desalination generation, provides changed circumstances for the future if we plan now to make it happen. We need large scale models to show how it all can work.

i.e. A 30 ft internal diameter pipe with a friction coefficient (FC) of 0.014, to flow at 10,400 ft³/sec, (velocity 15 ft/sec) a head of 5.4 ft is required for a kilometre of pipe. (7,020 ft for 1,300 Km.) FC of 0.009 for the same numbers requires 4,513 ft of head and FC of 0.007 requires 3,510 ft of head.

(Ten 30 ft x 1,300 Km pipes to the Burdekin River, depending on flow rate, can move 200,000 Gl pa, of purified PNG water by gravity, so if the Burdekin Falls Dam is raised sufficiently, (it was built so this can be done) allows water to gravity feed through Carnarvon Range to the Condamine, Maranoa, Warrego and Murray/Darling Rivers; extra "Bradfield/Reid" water can also be utilised.)

$$\text{Head} = f \frac{L}{d} \frac{V^2}{2g} \quad g = \text{gravity constant } 32 \text{ ft/sec}^2$$

$$= .014 \frac{\text{-----}}{30} \frac{225}{64} = 5.4$$

Table 2-2 Manning coefficient n for several commercial pipes.

(Welded steel 0.012 Polyethylene (PE) 0.009 PVC 0.009 Asbestos cement 0.011 Ductile iron 0.015 Cast iron 0.014 Wood-stave (new) 0.012 Concrete (steel forms smooth finish) 0.014)

I'm writing to Dr. Michio Kaku, Professor of Theoretical Physics at Phys. Dept., C.U.N.Y., 138th St., Convent Ave., NEW YORK NY, UNITED STATES 10031 mkaku@AOL.COM + 1.2126508448, to seek precise details in regard to friction coefficients for large Metamaterial water pipes and the type of machine that constructs the pipe on site; i.e. how many miles of pipe per 24 hour day can be constructed on prepared sites, etc.

Purified water from PNG and Ord River water delivered by gravity to generate hydro electricity, without power lines or towers and convenient irrigation close to diversified areas at very low cost and replacement and storage of Great Artesian Basin water. (TGAB) Power lines cost \$20 M./mile.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

Extraction of this water from high pressure pipes or flowing bores produces hydro-electricity within TGAB, and bore desalination creates pristine water for agriculture to "drought-proof" those areas fortunate enough to have this unique underground resource. It's vital to avoid polluting this groundwater. (See "Land Subsidence, Earth Fissures Change Arizona's Landscape," by Joe Gelt.)

Costs/earnings set out in a number of areas of "COW", need treasury modelling/feasibility checks by the best Engineers on the Planet, for good alternatives. Competitions to lure quality Engineers to Australia, for alternate choices may be a great idea. Note particularly, "A Voyage of Discovery", Emeritus Professor Lance Endersbee's, "Food production disaster looms as groundwater declines."

"Around the world, groundwater from deep wells is the main source of water for over three billion people. In addition, a large proportion of the food supply in many countries is based on irrigation from wells. However, almost all the world's wells have falling water levels and declining yield and already, many have run dry."

"Endersbee argued that we must expect a groundwater water crisis soon with today's six billion people, without considering two billion more mouths to feed in prospect by 2050. The populous United States, China and India are among the countries at most risk of drawing down on finite groundwater that will not be replenished for that extra two billion to drink and to grow food."

"Lance Endersbee was the retired Pro Vice Chancellor of Monash University, in Victoria, Australia. He was a world-leading civil engineer who had a clear understanding of the planet's macro-geology and what it means to our future as inhabitants of a dynamic space-ship. His book is worth reading for its clarity of insights that many of Endersbee's peer group (especially in government services) appear to have a faulty grasp."

"Over half a century of massive exploration, far greater than any possible rate of recovery, most of the groundwater basins of the world are close to the limits of the resource, Endersbee stated."

"The exploitation of ground water is the very reason why we've been able to support six billion people. Groundwater has been drawn down to produce rural food. But it is now unsustainable food production because the groundwater is running out. There will just not be enough groundwater for another two billion people to exist using current rural resources."

"Endersbee has breathtaking - undoubtedly controversial - explanations of the geological basis of many problems we currently face in climate change, fossil energy use and our ultimate destiny as a species. After reading his step by step analysis of our macro-geology I think he's got it right."

Dennis Jones & Associates. Email orders@dennisjones.com.au

"The United Nations' bar chart shows how serious the rural water supply problem is to the world's food security. At present 70% of the world's fresh water is used by rural food production. If that water supply is declining (or is erratic because of climate change) then the six billion current population is in jeopardy. It is unlikely humankind can support eight billion on the planet, unless we invest massively in urban agriculture where water and nutrients can be well recycled."

Most Australians now know Climate Change Drought is much worse; (See Prologue, "People of the Inland" Jeff Carter) like Cubby Station, even Sid Kidman, and Patrick Durack would not survive . (See COW, p.20, report from the World Water Week Conference, at Stockholm. CM, p.28, 8.09.10)

CSIRO's Climate Survey shows a 30 year drought; death/taxes; no Continuity of Production. (COP)

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

The war we're now fighting, is just as serious as the 39/45 world war; chances of winning the war are good if we use our intellect, and employ modern technology. We must have more new water to beat Climate Change Variation, (CCV) or we're finished as a great Nation. Underground water is out of sight/out of mind, so the over-pumping/declining water table effects are difficult for many people to envision, much less conceptualize. Very low cost ocean desalination, electricity at half the cost of coal fired plants, is needed to shift huge quantities of pristine water, but is not factored in.

The World has insufficient fresh water. "The issue of balance between the environment and the needs of water dependent regional communities is a contentious and difficult issue to resolve."
(Line 4, Tony Windsor's 9.12.10 letter)

The usual objections to "new" schemes applies; No need, no interest or no money is available. However, we are fighting for our survival, just as we were in W.W. 11, when Uncle Sam introduced the "Lend Lease Scheme", a great success which enabled the "free" world to win the war, even if the Nations who participated had to pay off the loans over many years after peace was declared.

We need every means available, to beat CCV; with 400 nuclear (N) plants being built/planned in the World, safe N, LFTR options are the way to go; opportunities presented by lease of N fuel, storage of spent N fuel in repositories, reconstituting N fuel, and especially sale/lease of our new very low cost Desalination/Electricity plants to the World where the Rivers are running dry.
(See, ABC, DVD, "Rivers and Life;" The Yangtze, Ganges, Nile, Rhine, Amazon and Mississippi.)

With good planning, we can become a leading Nation with a great future, but we need to accept the advice of experts such as Professor Kemeny and David Suzuki; if we ignore good advice, we will end up the poor multicultural trash of Asia. (See my letters to Penny Wong, enclosed.)

"The Parliament shall, subject to this Constitution, have power to make laws for the Peace, Order and Good Government of the Commonwealth with respect to:" S.51 (Farmers need water for COP.)

The Inquiries terms of reference, remind me of Professor Lance Endersbee's admiration for the stakeholders involved in the Snowy Mountains scheme, who cooperated very well with each other.

COW provides stakeholders with the necessary Power/Water to do it. It requires the training of a massive number of Construction workers (CW's) for various disciplines. Australia is very short of skilled labour; COW provides the barter, lend lease, labour exchange, nuclear plant lease/nuclear fuel lease by CW payment, a Development Bank to kick-start the United Nations CW's needed for COW. I helped build Tarong Power Station over five years; lived at Yarraman's T-accommodation. But many COW projects are isolated in difficult locations, needing large Construction or Mining Company input. They should be encouraged to take up the challenge, by a 10% tax deduction on their earnings from existing developmental / mining operations, to fast track COW.

We need adequate accurate modelling, with permanent, not temporary towns established. We need marketing skills so quality seven day shelf life food products sell to northern neighbours. We need firms like Screw Turners "Flight Centre" to capitalise on the massive increased tourism. We need input from our leading Universities, particularly in the modelling stages of the planning. We need a competition to attract the World's best engineers to deliver the best options for COW.

Thank you for reading my submission,

Kind regards,

Rob Lemon.

Mr Robert A. Lemon

27 – 03 – 08

The Honourable Penny Wong
Minister for Climate Change and Water
Parliament House CANBERRA 2600.

Subject: Creating adequate low cost water, and a suitable climate for Australia.

Dear Senator Wong

Further to your announcement, broadcast on ABC news bulletins on 26.02.08, and the AFR report p.3, 27/02/08, "Wong offers \$50m to buy back water", that government will allocate \$50 billion to buy water licences from owners, "in an attempt to reduce the over allocation of water in the beleaguered river system", and return water to the Murray / Darling (MD) system so its environmental condition is restored.

You said, "This is a down payment on the future of the Murray". Victorian Farmers' Federation president Simon Ramsay said: "Taking water out of an already stressed system will distort the water market and will ultimately hurt rural communities".

This has disturbed many informed people; it shows government have not provided enough water for the Bush, where few votes go to Labor. It shows leaders have not learned or have forgotten the rules of survival. Bureaucratic memory ability to recover information about past events or knowledge, apparently has not focussed on how information is encoded, stored and retrieved, and the processes of recall, recognition and relearning. It lacks the required range of thinking; deductive and inductive, convergent and divergent and lateral. Only things that one has learned can be retrieved from memory. It does not matter how they are learned, whether incidental, accidental or whether one deliberately tried to learn them, they must be learned first so that they can be encoded and hence will be able to be retrieved from memory.

The process of being aware, knowing, thinking, learning and judging, must be done.

My Mother used to say, "**Talks cheap**". Why so much talk, and no lasting solutions? "Effective leadership means taking an approach that is appropriate to the situation. If a CEO is not efficient, proactive, and persistent, nothing gets done and it is extremely de-motivating to the people below the CEO. (See Professor Stephen Kaplan's study, "Which CEO Characteristics & Abilities matter" Louise Tickle p.60, AFR, 24.1.08)

"Action speaks louder than words". If action is taken to return Farmers and Graziers to profitability, the drought famine will be avoided. The ideas of specialists, for large Solar / Hybrid / 4th generation Nuclear / Vacuum Desalination Plants; water priced at 5 cents a 1,000 M³; in my 9.1.08 letter to the PM, (see copy) to which he hasn't yet replied, need consideration in sufficient detail. Have you been adequately advised?

The Government must create the water, (not steal it) for Australian's to "weather" the big droughts, to ensure continuity of production, for an adequate standard of living.

See p.4, Time, 31.3.08, article re Lake Mead, on the Colorado River by Brian Walsh;
"Europe now looks like a model worth following" Mark Lawson Special Report AFR, p.2, 26.03.08,
and "Hot topic", Contributions to total net greenhouse emissions (2005)

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

The Canberra bureaucracy seems to have abandoned me and the beau-ideal I outlined. I've not received an invitation to attend the Australian 2020 Summit, despite my application and over 60 years experience in bush business.

Water licences may be leased from licensees who aren't using water presently, but licences must be retained by farmers who own the land titles, and who work their properties. With new water and a good Agricultural Bank, the grand larceny will end. Financial need is no reason to sell the farm silver. Government must grant the survival money, as nothing has been done about water since the Snowy Scheme, for Australian conditions. This has brought instability to the Bush, distorting values long held, and our leaders knew what they were doing. (See German low interest unification Bank)

The Labor Party's pledge to return 1,500Gl to the MD in the next ten years, is 1/1,233,333 parts of what is needed for the MD, the lakes and the four eastern states.

We need 1,500 m. ac.ft, (1,850 m. MI) for the four eastern states, the M/D and lakes.

You said the Government will consider all the advice given, on Australia's real issues.

May I remind you of the CSIRO Australian Climate Report going back 1,000 years, which found a 30 year gap in our rainfall, with many others over five years or more.

You might give consideration as to what you want Australians to be. "The poor white trash of Asia, or a great people who are able to hold their own against all others."

In the "five keys to democratic statesmanship", historian and best-selling author Paul Johnson, describes what great statesman have to teach us. I enclose a copy for you.

Please note the AFR OPINION, p.70, 25.03.08; "A good start on path to reform".

"Federal regulation is no panacea. It has to be the right sort of regulation, and there is already too much of the wrong sort".

I trust you will focus on the main game; that of providing *new water* for the Nation.

Yours faithfully Rob Lemon.

"Five keys to democratic statesmanship"

"Historian and best-selling author Paul Johnson describes what great statesmen have to teach us".

"1. First, ideas and beliefs. The best kind of democratic leader has just a few – perhaps three or four – central principles to which they are passionately attached and will not sacrifice under any circumstances.

This was true, for instance, of US President Harry Truman, of Konrad Adenauer of Germany, Alcide de Gasperi of Italy, and Robert Schuman of France – all the outstanding men who did most to raise Europe from the ashes of the Second World War and who built up the West as a bulwark against Soviet advance and a repository of a free civilisation. It was also true of Ronald Reagan and Margaret Thatcher, the two outstanding leaders of the next generation who carried on the work.

2. Convictions. I am not impressed by leaders who have definite views on everything. History teaches it's a mistake to have too many convictions, held with equal certitude/tenacity. They crowd each other out.

A great leader is someone who can distinguish between the essential and the peripheral - between what must be done and what is merely desirable. Mrs Thatcher really had only three musts: uphold the rule of law at home and abroad; keep government activities to the minimum, and so taxes low; encourage individuals to do as much as they can, as well as they can. There are also, of course, statesmen who are necessarily dominated by one overwhelming object dictated to them by events or destiny. Thus Abraham Lincoln felt all else had to be sacrificed to the overwhelming necessity of holding the Union together, behind the principles of 1776.

Likewise, Charles de Gaulle, in 1940, advanced the simple proposition that France was not defeated and incarnated it in his person. The way in which both men concentrated all their thoughts, energies, and skills on one end are lessons in single-mindedness and power this can bring to action.

A statesman must also be able, for a spell, to place one object of policy before all others, and this Winston Churchill did in 1940, when keeping Britain in the war by successfully preventing a Nazi conquest took precedence over all other aims. Such concentration of effort is itself a product of clarity of vision which includes a strong sense of proportion.

3. **Next comes willpower.** I think the history of great men and women teaches that willpower is the most decisive of all qualities in public life. A Politician can have immense intelligence and all the other virtues, but if will is lacking he is nothing.

Usually a leader has it in abundance. Will springs from unshakeable confidence in being right, but also from a more primitive instinct to dominate events which has little to do with logic or reason. Churchill had it. De Gaulle had it. Margaret Thatcher had it, to an unusual degree. It could be seen that, surrounded by her male Cabinet colleagues – whose knowledge/technical qualifications were often superior – she alone possessed will, and one could almost watch them bowing to it.

Of course, will is often in history the source of evil. Hitler came from nothing to power, and the absolute control of a great nation, almost entirely through the force of his will. And it remained in him virtually to the end." "Stalin's dictatorship in Russia, and Mao Tse Tung's in China, were also largely exercises in personal will. Mao's overwhelming will, we now know, led to the deaths of 70 million fellow Chinese. The cost of a misdirected will is almost unimaginably high. Those three or four simple central beliefs behind the will must be right and morally sound.

A third virtue is pertinacity. Mere flashes of will are not enough. The will must be organically linked to resolution, a determination to see the cause through at all costs. There are dark days in every venture, however just. Washington knew this in his long, eight-year war. Lincoln knew this in his long and often agonising struggle with the South.

One aspect of pertinacity is patience. Another is a certain primitive doggedness. One learns a lot about these things by studying Martin Gilbert's magnificent record of Churchill's leadership. "It's dogged as does it" is an old English proverb. True enough. But doggedness should not be confused with blind obstinacy – the obstinacy of a George III or a Jefferson Davis. As with will, resolution must be linked to sound aims.

Fourth is the ability to communicate. The value of possessing a few simple ideas which are true and workable is enormously enhanced if the leader can put them across with equal simplicity.

Ronald Reagan had this gift to an unusual degree – quite unlike his co-worker Margaret Thatcher. While Reagan charmed and mesmerised, she had to bludgeon. There was a comparable contrast between Washington, who had no skill in plausible speechmaking, and Lincoln, not only a

great orator for a set occasion, but a man whose everyday remarks carried enormous verbal power.

But where words fail, example can take their place. Washington communicated by his actions and his personality. He was followed because Americans saw that he was an honest, incorruptible and decent man. Mrs Thatcher too governed by personality. The Russians called her the Iron Lady. You do not need to charm when you are manifestly made of iron; a form of communication in itself.

The fifth and last of the virtues we learn about heroes is magnanimity: greatness of soul.

It is not easy to define this supreme quality that few even among the greatest leaders possess.

It is a virtue which makes one warm to its possessor. We not only respect and like, we love Lincoln because he had it to an unusual degree. It was part of his inner being. And Churchill, who also had it, made it one of the top quartet of characteristics which he expected the statesman to show.

A passage he penned as the first World War was about to end reads: 'In war, resolution. In defeat, defiance. In victory, magnanimity. In peace, good will.' This is a sentiment which all those in public life should learn by heart. It encapsulates the lessons of history better than entire books"

* * *

"I would like to end by stressing that my perception of heroic virtues is not inclusive. I merely stress the central and essential ones. One thing you learn from history is that a hero who can make the public laugh as well as admire is likely to have a strong and lasting hold on its affections.

Here again Churchill stands high. He made us laugh even in the darkest days of 1940, when in reply to the Nazi jibe that 'England in three weeks will have her neck wrung like a chicken', he said, simply but forcefully: 'Some chicken! Some neck!'

Abraham Lincoln, too loved irony. He often achieved an effect with jokes where mere oratory would not work so well. Mr Reagan communicated/ruled through his enormous collection of one-liners, which he suited to all occasions. And a joke can often enshrine truth, as for instance when I heard him say: 'I'm not too worried about the deficit. It's big enough to take care of itself.'

Margaret Thatcher was criticised for having no sense of humour. Not true. I once heard her tell a joke to great effect. At the end of a long dinner with 10 speeches, she as Prime Minister was scheduled to speak at the end. I could see she was furious. She began: 'As the last of ten speakers, and the only woman, I have this to say. The cock may crow, but it is the hen who lays the eggs.'

I reminded Mrs. Thatcher of this recently; she was delighted. She said: 'My father told me that joke.' And that itself is a reminder that we learn from our parents at the fireside in our childhood perhaps as much or more than from anyone.

But from the heroes of the past we learn, too, and what they teach, by the example of their lives/words, has the special quality of truth by personal example. Thus the good hero lives on, in our minds, if we are imaginative; in our actions, if we are wise."

"Paul Johnson is a historian, journalist and author of several best-selling books, including the classic Modern Times: The world from the Twenties to the Nineties and most recently Heroes: From Alexander the Great and Julius Caesar to Churchill and de Gaulle. This article is an extract from his recent speech 'Heroes: what great statesmen have to teach us', reprinted by permission from Imprimis (December 2007), the national speech digest of Hillsdale College, Michigan USA."

13 – 07 – 08

Senator the Honourable Penny Wong
Minister for Climate Change and Water
Parliament House CANBERRA 2600

For Attention of Dr Rob Wooding

Dear Senator Wong

This is a courtesy letter thanking you for sending me some sort of reply (your ref. C08/8158) to my 27.3.2008 letter. However, as usual, you have avoided dealing with the "real" issues I raised, using a standard form letter, which treats me with absolute derision and contempt. Despite years of pleading for water security, you do nothing. See ABC Landline noon 13.7.8.

At p.63, AFR, 3.7.08, "Get real: nuclear the sane option", - Minister Penny Wong continues to pursue 20% renewable targets in addition to an emissions tax, notwithstanding advice from the Productivity Commission that it will add needless further costs." **And no new water.**

Also at p.63, AFR, 3.7.08, we see how government can get it wrong. "Poverty not reduced by foreign aid", by Hristos Doucouliagos, a professor of economics at Deakin University school of accounting, economics and finance. "But when the empirical literature on foreign aid is examined, a clear and uncomfortable pattern emerges; after 40 years and billions and billions of dollars, the evidence shows that aid has not been effective in alleviating poverty."

"Development aid programmes, begun in the 60's were meant to generate development. Instead they have generated a large body of academic literature on foreign aid." no water

"Development aid has proved difficult to get right. When something is difficult, it is of paramount importance that it be transparent – that it is done by simple, clear and easily controllable rules. But the allocation of development aid is surrounded by complex politics.

Even if it would cost some support in the short term, accepting that foreign aid has failed might **contribute to more effective ways to employ development aid and reduce poverty." As would the provision of adequate continuity of water.**

See, "Making sense of carbon-trading", Westmore, News Weekly p.24, 23.6.07. "If Australia was serious it would forget about emissions trading & invest in bio-fuel technology instead."

If we shut down our dirty coal-fired power stations by 2015 for 50% pollution reduction, and do five p.9 basics, of my 4.2.08 PM letter, we need just a small emissions tax. (Appendix C)

"The only way deep emission reductions are achievable is by comprehensive nuclear power shift. Rudd has said we can do the CO₂ reductions without nuclear power but he will change his mind once he's got the avalanche of climate change reports he has commissioned."

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

As Paul Johnson said in, "Five keys to democratic statesmanship".

1. **IDEAS AND BELIEFS.**

"The best kind of democratic leadership has just a few – perhaps three or four – central principles to which the Leader is passionately attached and will not sacrifice under any circumstances."

2. **CONVICTIONS.**

The best Leaders, "can distinguish between the essential and the peripheral. What must be done and what is merely desirable."

Our overwhelming objective dictated to us by events or destiny is in providing the essential additional new water to turn around Climate Change in Australia.

"We should for a spell, place this object of policy before all others. Such concentration of effort is itself a product of clarity of vision which includes a strong sense of proportion."

3. **WILLPOWER; pertinacity.**

"Will springs from unshakeable confidence in being right."

"Mere flashes of will are not enough. The will must be linked to resolution, a determination to see the cause through at all costs.

There are dark days in every venture, however just."

"One aspect of pertinacity is patience. Another is a certain primitive doggedness. 'It's dogged as does it'; not to be confused with blind obstinacy.

Will, resolution must be linked to sound aims."

4. **ABILITY TO COMMUNICATE.**

"The value of possessing a few simple true and workable ideas, is enormously enhanced if the Leader can put them across with equal simplicity."

"Where words fail, example can take their place, by actions and personality. Leaders are followed if people see them as honest, incorruptible and decent."

5. **MAGNAMIMITY: GREATNESS OF SOUL.**

"CHURCHILL: 'IN WAR, RESOLUTION; IN DEFEAT DEFIANCE; IN VICTORY, MAGNAMIMITY; IN PEACE, GOOD WILL.'

To summarise, here's what I asked of you, once again. This time, though, I would appreciate that you take my concerns seriously. The basic problems of our country are well known and written about, but

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

implementation of the five options (Appendix C, P.9, 4.2.08, PM letter) which I have been pointing out for years in discussions for the proposed solutions, would turn this country around from its downward spiral, and renew hope and prosperity.

The hard evidence is everywhere: our water has been stolen; our farms ravaged; our credit destroyed; families crushed beyond repair; children stolen from us; our politicians are so involved in the charade of "Yes Minister" that we now see an unseen hand lurking behind everything, totally controlling our "leaders;" our standard of living has declined to a new low; our interests rates, food and fuel prices are escalating to a class of being luxury items;

1. I would like you to build a solar desalination plant yesterday! Another heat source would be required to keep production going once the sun sets, e.g. electricity, geothermal, safe fourth-generation nuclear power.
2. I would like my land to be converted to a title that allows creation of a Co-Operative, Eco-village, or community-supported farm so I can sell most of it or shares in it, to restore my financial security. I can then purchase another property with adequate continuity of water, to bring success into my life. The bush is entitled to civilized life. (See "Appeal of farms is growing", Susan Saulny, p.73, AFR, 11.7.08, New York Times)
3. A Stanthorpe Co-Operative to aid in purchase of farm needs, seed, fertilizer, etc. Also to assist in the marketing of farm produce, from trout roe at \$120 a kg to cheese @ \$50 Kg, yogurt, milk, vegetables, stone fruit, wine, lamb, sheep and cattle.
4. A Brisbane to Stanthorpe fast train. (See Train giant eyes Russia", AFR, p.13, 7.7.08) "Alstom, the world's largest train maker, is seeking acquisitions in Russia as the country's rail monopoly pursues its biggest rail modernisation since the Soviet era. We have targets and partners we want to talk to in Russia, 'Philippe Mellier, head of Alstom Transport, said yesterday at the Economic Forum of Aix-en-Provence in Southern France. We hope to have good news to announce in the next few months.'

Russia in may announced a \$US570 billion program to 2015 for transport networks. Alstom announced a contract worth E280 million to automate the signalling on the Sao Paulo metro line. Their new generation high-speed train last year broke the international speed record, won a E1.1 billion contract with the Argentine government in April to build the country's first high-speed network. The French company has built two-thirds of the world's high-speed trains, including the Eurostar that runs between Paris and London. Alstom will also compete for a contract to supply 800 electric trains to India and hopes California will vote in favour of a high-speed train link in a November referendum."

This time I anticipate an honest reply from you, so please don't claim we can't afford it.

Your 29.4.08 notice of a "new \$12.9 billion national plan on water, *Water for the Future*, and a \$5.8 billion commitment over ten years under the 'Sustainable Rural Water Use and Infrastructure' program to improve efficiency/productivity of water use and management" does not explain the details of how water / Eco-village solutions will help or provide for me.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

In the AFR heading on 14.5.08 p. B22, Budget 08 Environment; "Wong maintains faith in renewable energy targets". Headed "Clean Coal", Mark Ludlow listed a mix of outlays.

"New technologies received \$2.3 billion over five years; and to develop clean coal technology, \$500 million over eight years", **A HOAX**; "renewable energy over six years, \$500 million; energy innovation over four years, \$150 million".

"A green paper due in July, and a renewable energy target of 20 per cent – by 2020, which the government believes will guarantee a renewable energy market".

"\$1.2 billion to the Department of Resources, Energy and Tourism to support energy technologies". "About \$100 million from the \$150 million Energy Innovation Fund will be allocated for solar thermal and photovoltaic research and development, including the establishment of an Australian Solar Institute. The remainder will be committed for research into clean energy technologies in areas such as energy efficiency, energy storage and hydrogen transport fuels".

"The Renewable Energy Fund (\$500 million over seven years) will be used to expand and accelerate the development, commercialisation and development of a range of renewable technologies in Australia. There will also be \$500 million over four years for the car industry to develop and manufacture low emission cars". (An electric car with nuclear motor wins)

No mention of the hybrid Solar / safe 4th generation nuclear vacuum desalination power generation plants to rescue Australia and the World from Climate Change. No mention is made about the five requirements listed at Appendix C in my letter to the PM, needed to restore Australia's climate.

The reply to my 27.3.08 letter, and my updated 4.2.08 copy to the Prime Minister, should have dealt with urgent matters raised. The title "Minister for Climate Change and Water", says it all. Please don't fall into the trap of being unable "to see the wood for the trees".

Farmers and Graziers can't function, without water. What advice do you give in a 30 year drought, if we still have 20 years to go before it ends? "Swift action to cut back on unsustainable irrigation licences", is weak, ill-timed and unfocused. Water licences must remain with land titles leased to government until new water arrives to turn around CC.

King Canute, couldn't hold back the sea. You can't "sustain irrigation activity in the face of reduced water availability into the future", without new water. Do you understand what is meant by adequate new water? Please read the A B C H appendices in my 4.2.08 PM letter.

If I had the water, I could produce 5,000 Kilograms of Trout Roe at \$120 per Kg for \$600,000 pa. The sturgeon fish are almost extinct, so caviar is almost unattainable. With 500 milking ewes, production is \$2.5 million from cheese, milk and yoghurt. (Based on Spain's Co-operative, 4,000 ewes can earn \$20 million p.a.) Do you understand that present policy is not making the most of our opportunities?

Divert the Clarence, Nimboida and Macleay Rivers into the Murray-Darling Basin. A fish-farm with desalination plant and Emu Swamp Dam for Granite Belt water. (See Endersbee paper)

Note: "Federal water policy will add to world food shortage"? See Patrick J. Byrne's report, p.6, News Weekly, 26.4.08 and pamphlet produced by Murray-Darling Basin Water Crisis Management Council, National Civic Council and the Growers Action Group Inc.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

You say, "It is important to understand that the Australian Government is only buying entitlements from willing sellers who specify the price they are prepared to accept in return for their water entitlement". That's 'unconscionable'. Your other comments may seem realistic, "if you believe there are fairies at the bottom of the garden". Certainly, there are initiatives outlined by Professor Lance Endersbee in his reports, which you are right about.

Solar, Hybrid, safe Fourth Generation Nuclear, Vacuum Desalination, Power Generation Plants, (S/H/s4th GN/VD/PG/Ps) and the five Appendix C options in the 4.2.08 PM letter which you describe as "innovative solutions", provide what is required, with no need to keep dredging the "mouth" of Murray River.

We need about 25 S/H/s4thGN/VD/PG/Plants, each producing 60 million Acre Ft of pristine desalinated water, to total about 1,500 million acre ft. (1,850,000 Giga litres) for a cost of one cent per 100 m³, or \$10,000 per Giga Litre, for Qld, NSW, Vic, SA, the M/D and the lakes.

Each plant of 640,000 Solar Stills, needs 100 sq miles of space per Plant. (Ten per acre, Fig.1) To produce 60 million acre ft., per year, of pristine water, and need sea wall protection, like the Dutch Dykes (Dikes, causeways or embankments) as in Holland.

Ideally, the Plants need to be built close to the high dams that save our water, by diverting it from the big coastal rivers, when big rains or cyclones visit. (A cost saving, by killing two birds with one stone.) Once the water is pumped into the high dams, it flows by gravity through the Great Dividing Range, down to South Australia, by wide canal divergence.

Leasing Australian/Canadian uranium to the world, will provide a United nations workforce to build our infrastructure. This is vital, to limit the emissions trading effect on the economy, government and society. (See "Emissions policy a big challenge", AFR, p.62, 3.7.08)

Most of the water purchased under your plan will evaporate as will the tax money, right down to our last dollar. If the present "crop" of Politicians can't see the requirements for our Planet and can't enact lasting solutions to fix the problems to save mankind, we will just have to form another Party to do the job.

\Yours Sincerely Rob Lemon.

Robert A. Lemon,

7.12.10.

**The Prime Minister of Australia,
The Hon. Julia Gillard,
Parliament House, CANBERRA 2600.**

Dear Prime Minister,

**Further to my submissions, you announced that you do not believe the nuclear options "Stack Up."
Too bad if the environment is ruined by Climate Change variation caused by dirty coal fired power!**

**Now the Murray/Darling Commissioner has resigned, you must believe I have been vindicated.
Minister Tony Burke did not want a full scale riot on his hands, so he indicated he had Legal advice that people had to have equal rights to that of the environment. When I wrote to Penny Wong years ago I pointed out that the problem was no new water, and provided solutions in COW.**

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

May I ask, has any stakeholder who has Australia's best interests at heart, who is knowledgeable and unbiased, investigated COW's smart nuclear options for our Continuity of Production? (COP)

Professor L Kemeny is the Australian foundation member of the International Nuclear Energy Industry and is a visiting research fellow. He has taught at British, American and Australian Universities and is a Consulting Nuclear Engineer Physicist. He has presented numerous papers to the Australian community on the nuclear options among which are:-

“WHY NUCLEAR ENERGY IS OUR ONLY HOPE.” (AFR, P.63, 19.11.07)

“GLOBAL WARMING NEGATES CONVENTIONAL WISDOM; CORPORATE VALUES WILL BE RECAST ROUND LONG TERM SUSTAINABILITY.” (AFR, P.55, 2.1.08)

“NUCLEAR IS THE GREENEST POWER OPTION; ONLY N.P. PROVIDES ENERGY, WATER SECURITY FOR THE NATION AT A SENSIBLE COST.” (AFR, P.55, 15.1.08)

“TAPPING INTO THE ENERGY OF CREATION; RADIOISOTOPE PRODUCTION FOR USE IN MEDICINE.” (AFR, P.34, 4.2.08)

“URANIUM COULD BE THE NATION'S CARBON CREDIT; DESPITE CLIMATE MINISTER, PENNY WONG'S OPTIMISTIC, CLIMATE PERSPECTIVE ON 'RENEWABLE ENERGY SOURCES' AND 'CLEAN COAL,' SOUND SCIENCE AND INFORMED REALISM INDICATE THEY CAN PLAY ONLY A MINOR ROLE IN A DECARBONISED AUSTRALIAN ECONOMY.” (AFR, 12.04.08)

See, COW, Appendix M. “Emission Cuts Realities, Electricity Generation Peter Lang, Jan. 10. Cost, CO2 emissions projections for different electricity generation options for Australia to 2050. Five options for cutting CO2 emissions from electricity generation in Australia are compared with a “Business as Usual” option over the period 2010 to 2050. The six options comprise combinations of coal, gas, nuclear, wind and solar thermal technologies.

The conclusions: The nuclear option reduces CO2 emissions the most, and is the only option that can be built quickly enough to make the deep emissions cuts required, and is the least cost of the options that can cut emissions sustainably. Solar thermal/wind power are the highest cost of the options considered. The cost of avoiding emissions is lowest with nuclear and highest with solar and wind power.”

COW sets out what it takes to implement safe nuclear options. Adequate water for farming, will allow farmers to reorganize sowing times of crops to avoid damage to crops from late season wet weather, avoiding downgrading quality/value of crops, as is apparent this season.

COW's use of fourth generation pebble bed reactors in “graphic-moderated, gas-cooled nuclear, **liquid fluoride thorium reactors**, creates less expensive technology for safe **Electricity** and **huge quantities of low cost desalinated water**. They use **TRISO** fuel particles, allowing for high outlet temperatures/passive safety,” providing guaranteed water and power to reverse **CVD**. (http://en.wikipedia.org/wiki/pebble_bed_reactor <http://blogs.howstuffworks.com>)

COW's choice of “modular” **PBR's** or **LFTR's** can use several small reactors in large plants. “New investment can be gradual, tuned to demand to pump water to high dams, for **Hydro**. Sites needing larger generating capacity simply install more reactors. Economies of scale design, help reliability if several reactors share equipment; sets of equipment are switched if some part fails.”

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

“Modular designs also allow a small reactor to be mass-produced, reducing life-cycle costs of safety-certification/design qualification. In the long term, we should invest in 4th generation nuclear Technology as **LFTR's** have little Nuclear waste remaining at the end of the fuel life.”

“Energy cheaper than from coal can solve more than just global warming.



People cannot grow food if there is not steady water from glaciers or ocean desalination or diversion of water from our big rivers, or PNG's wetlands.



Coal soot kills 24,000 people in the US annually.

Thorium Energy and Security Act of 2010 Prior proposed congressional bill language is at Thorium Energy Independence and Security Act of 2009.

You can contact the author at robert.hargraves@gmail.com.

Energy Policy/Environmental Choices: Rethinking Nuclear Power, given at the Institute for Lifelong Education at Dartmouth.

Liquid Fluoride Thorium Reactor: Energy cheaper than coal can solve more crises than just global warming.

The Liquid Fluoride Thorium Reactor (LFTR) is an alternative energy source that is not well known to the public. The LFTR uses inexpensive thorium as a fuel, transforming it to uranium-233 which fissions, producing heat and electric power at a cost less than that from coal power plants.

We can solve our world's environmental crises by launching a NASA-style "shoot the moon" project to complete LFTR development and deploy LFTR technology for inexpensive, safe, clean power. *Aim High!*

Environmental Context

Although we see recent improvement in new oil/energy discoveries in the USA, and other parts of the World, rising energy costs concern the public. The USA annually imports \$350 billion of oil from the unstable Persian Gulf. The world faces environmental crises:

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

1. Global warming is destroying glaciers that provide fresh water critical to millions and shrinking the cold polar seas essential for algae that start the ocean food chain.
2. Deforestation and desertification also dry up fresh water supplies.
3. Land to grow food is becoming scarce."
4. Fisheries are collapsing for tuna, cod, swordfish, and 40% of all other species.
5. 24,000 people in the US alone die annually from particulate emissions from coal power plants.

Overpopulation

Overpopulation is the main cause of many of these environmental crises. It is now 6.7 billion and is growing unsustainably, leading to tragic competition for dwindling food, water, and energy resources that may lead to famine, plague, and war.

The US and other OECD nations' birth rates are less than the population replacement rates, illustrating how prosperity can lead to a sustainable world population. Nations with GDP per capita over \$7,500 have birth rates of stable/diminishing populations.

Prosperity depends critically on energy. Electrical energy powers water supplies, sanitation, lighting, refrigeration, cooking, communications, and machines. Nations with annual per capita electric power of 2,000 kwh per year achieve the necessary prosperity for population stability. (The US number is 12,000.)

Economists study the balance between the economic damage of carbon taxes against the economic damage of global warming. Raising carbon taxes too swiftly damages the total economy and future world prosperity. Europe's \$50 billion cap-and-trade spending did not stop CO2 emissions growth. Developing nations will not accept carbon taxes that limit their growth. Yet even global warming sceptics can support the economic benefit of energy cheaper than from coal.

Liquid Fluoride Thorium Reactor History

The LFTR uses inexpensive thorium as a fuel, transforming it to uranium-233 which fissions, producing heat and electric power. Innovatively, the thorium and uranium are dissolved in molten salt, simplifying fuelling and waste removal compared to today's nuclear power plants. Prototype molten salt reactors were developed and tested by the US at Oak Ridge National Laboratories in the 1960s and 1970s. President Ford stopped the project in 1976.

Scientists in France, the Czech Republic, Japan and Russia are carrying forward the research. Occasional theoretical papers are published by US scientists. In 2006 the Oak Ridge research papers were scanned and posted on the internet. A collaboration of scientists, engineers, and professional volunteers has begun developing an updated conceptual design for the LFTR.

Environmental LFTR Advantages

1. The LFTR produces energy cheaper than from coal, economically forcing closure of coal power plants and their CO2 emissions, checking global warming. The low cost energy also advances prosperity in developing nations, creating a lifestyle that results in diminishing world population without increasing pollution and tragic competition for dwindling natural resources.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

2. The LFTR produces less hazardous waste than coal or other forms of nuclear energy -- less than 1/100 the long-lived radioactive waste of today's nuclear power plants. It can consume spent fuel now stored outside existing nuclear power plants.
3. Ending atmospheric pollution from coal particulates would save 24,000 lives annually in the US and hundreds of thousands in China and worldwide."
- "4. It uses an inexhaustible supply of inexpensive thorium fuel. One tonne of thorium (costing \$100,000) provides 1 GW-year of electric power, enough for a city.

Technical LFTR Advantages

1. LFTR has no refuelling outages, with continuous re-fuelling and continuous waste fission product removal.
2. It can change power output to satisfy demand, satisfying today's need for both base-load coal or nuclear power and expensive peak-load natural gas power.
3. LFTR operates at high temperature, for 50% thermal/electrical conversion efficiency, needing half the cooling required by today's coal or nuclear plant cooling towers.
4. It is air cooled, critical for arid regions of the Western US and many developing countries where water is scarce.
5. LFTR has low capital costs because it does not need massive pressure vessels or containment domes, because of its compact heat exchanger and Brayton cycle turbine, because of intrinsic safety features, and because cooling requirements are halved.
6. An LFTR will cost \$200 million for a moderate size 100 MW unit, allowing incremental capital outlays, affordability to developing nations, and suitability for factory production, truck transport, and site assembly.
7. It will be factory produced, like Boeing airliners, lowering costs and time, enabling continuous improvement.
8. It can make hydrogen to synthesize vehicle fuels from recycled waste CO₂, reducing foreign oil dependency.
9. It could convert air and water to ammonia for fertilizer, whose production today absorbs > 1% of all the world's energy.
10. Its molten salt fuel form facilitates handling and chemical processing.
11. LFTR is intrinsically safe because overheating expands the fuel salt past criticality, because LFTR fuel is not pressurized, and because total loss of power or control will allow a freeze-plug to melt, gravitationally draining all fuel salt into a dump tray, where it cools convectively.
12. 100% of LFTR's thorium fuel is burned, compared to 0.7% of uranium burned in today's nuclear reactors.

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

13. LFTR is proliferation resistant, because LFTR U-233 fuel also contains U-232 decay products that emit strong gamma radiation, hazardous to any bomb builders who might somehow seize control of the power plant for the many months necessary extract uranium.

14. In the LFTR, plutonium and other actinides remain in the salt until fissioned, unlike today's solid fuel reactors, which must refuel long before these long-lived radiotoxic elements are consumed, because of radiation/thermal stress damage to the zirconium-encased solid fuel rods."

"15. No plutonium or other fissile material is ever isolated or transported to or from the LFTR, except for importing spent nuclear fuel waste used to start the LFTR.

LFTR Challenges

1. The nuclear power industry, the US Nuclear Regulatory Commission, and the US military all focus on the uranium/plutonium solid fuel nuclear power.

2. There is almost no political awareness of the thorium/uranium fuel cycle. [Recently, James Hansen, a well-known climate scientist from NASA and Columbia and advisor to President Barack Obama, recommended consideration of the LFTR.]

3. There's no US R&D funding, except less than \$100,000 per year on molten salt research papers.

4. Significant R&D work is required; cost is \$1B. over 5 years to develop a prototype.

5. US Nuclear Regulatory Commission would need to learn LFTR technology to license/regulate it.

Summary and Action Recommendation – Aim High!

The world suffers from environmental crises: global warming, pollution, and resource depletion, caused largely by excess CO² emissions and burgeoning population growth.

The liquid fluoride thorium reactor (LFTR) can provide safe, non-polluting energy to address the crisis. We can develop this energy source by launching a NASA-style "shoot the moon" effort to solve the crisis. President Kennedy's moon shot vision was accomplished in eight years. The Manhattan Project took three years. We can develop LFTR in five years. *Aim High!*"

Coal gas pollution can be solved by replacing the gas and salty water extracted by the miners, with the same volume of pristine desalinated water, preventing land subsidence as occurred in Arizona.

Australia has no policies for risks posed by the Global Financial crisis and "two-speed" economy.

"Alan Mitchell warned in the Australian Financial Review; (May 13, 2010) major manufacturing industries (and agriculture, that has no water strategy to beat Climate Variation Drought, {CVD}) are put under real pressure as the "high-speed" mining boom pushes up the value of the Australian dollar. This makes the less profitable manufacturing and farm products sectors more expensive and less competitive overseas and with imports."

"He warns these industries could be 'wiped out' and 'will not be easily replaced when commodity prices and the terms of trade return to normal.'"

Rob Lemon's recommendations to the House of Representatives Standing Committee on Regional Australia.

"The conflicts from a two-speed economy represent a major 'market failure', famously called the 'Gregory effect' or 'Dutch disease.'"

"Named after Australian economist Professor Bob Gregory, the 'Gregory effect' refers to a situation where an export boom, fuelled for example by a strong demand for resources, causes appreciation in the exchange rate. This appreciation makes imports cheaper and exports dearer. The knock-on effect is to hurt the competitiveness of the non-mining sectors of the economy, which, in Australia's case, include manufacturing and agriculture."

"This year's Federal Budget calls this problem the 'resources curse', saying that when commodity prices normalise or when resources are depleted, many non-mining industries 'that have disappeared might not simply reappear.'" (2010 *Budget papers*, no. 1, pp.4-14)

Australians are not prepared to cop Green direction of their terms to our Government, and will not accept the Labor Party caving in to the Greens environmental pledge to ban nuclear options, when all informed people know the smart nuclear option is the only way to go.

Our need is guaranteed water, so Farmers can maintain COP, applying water at the right time, so good quality grain is harvested unspoilt by late season wet weather. It's time it was provided! Or does this Government intend to waste our time, until thrown out of office?

"Large public infrastructure projects require long lead times/confident governments; it's over 50 years since the most recent major national development project started, The Snowy Mountains Scheme.(SMS) A number of important, feasible infrastructure projects now require attention. They are not make-work schemes. They would bring enormous national benefits, orientating Australia to growing markets of the world. We need courage and economic foresight and constructive cooperation of our governments if we are to grasp the opportunities."

"The GDP is now misleading as a measure of progress, especially when it includes increasing ever counter-productive activities. We have thereby diminished actual production as a key element in the Gross Domestic Product. We need new measures of economic progress. I suspect that genuine progress in Australia is significantly less than GDP figures indicate and is probably negative." (Professor L. Endersbee.)

We need to make an immediate start by building Models, so everyone can see what COW proposes.

Regards,

Rob Lemon.