

Hughes, Timothy

From: Wilson Tuckey
Sent: Thursday, 21 October 2010 11:24 AM
To: Committee, Economics & Industry Standing
Subject: Domestic Gas Pricing Inquiry

Dear Tim Thank you for the opportunity to make a late submission to your Standing Committee which I hope might be given some consideration.

As I am sure the Committee has been advised the price of gas will be driven by supply and demand principles but in this case whilst there is no shortage of the product the shortage is in the delivery infrastructure and more particularly the Capital to finance it which has its own supply and demand issues.

The demand for Domgas in WA is heavily distorted by what in my view is an overdependence upon pipeline gas for Southwest electricity generation. This practice is also unwise from a supply security perspective.

Anecdotal evidence indicates that over 60% of WA generation is now reliant on pipeline gas.

Some figures provided to me by the Fed Parliamentary Library based on the pipeline owners estimate of their financial cost to pay an emission tax indicate the following.

That the gas consumed in pumping this gas to Perth has an energy equivalent of 250 MW (about the size of one Collie coal fired generator) and approx 750,000 tonnes of C.O.2 emissions.

This is both an highly inefficient use of a valuable resource and the utilisation of a capital asset required to deliver gas to those who use it in its natural state.

The answer lies in generating all future S.West. electricity requirements in the Pilbara or adjacent supply points and transmitting it into the S.West network for instance at Geraldton.

The means of transmission would be by an High Voltage Direct Current (H.V.D.C) system.

I recently visited such a system commissioned in China with the converter station technology supplied by the Swedish ABB company and the line construction by the Chinese. The converter station package cost \$700 million The 2,000 Km transmission line is comparatively low cost as unlike our A.C. system there are no transformers required and only two cables.

The specification is as follows--Voltage 800,000 V--Capacity 6.4 Gigawatts (approx. double WAs total installed capacity)--Line Losses only 7%.

ABB Australia estimate that an approx 3GW system could be constructed in Aust. at one million dollars per kilometer or about \$1.2 billion Pilbara to Midwest.

HVDC systems are Bi Polar meaning electricity can be transmitted in either direction.

To meet the increasing demand in the Mid West Westernpower is well advanced in planning a 330 Kv AC line from MUCHEA to the region That is a process by which gas will be pumped all the way south thus placing further capital demands on the pipeline infrastructure, converted to electricity and transmitted over the least efficient system with estimated line losses of 25%. The announced capital cost is \$700 million. The mind boggles.

I have corresponded with Western Power Whose reply which I can supply is best summarised with a statement that they just build transmission lines and the issues I raise are for others in the supply chain to address. It is also obvious to me that their expertise is in AC transmission and they do not wish to depart that comfort zone. Other relevant but misguided comment is that current demand is too small for this technology WA can be grateful that Charles Court ignored this criticism of his decision to enter a take or pay contract for otherwise unwanted N.W Shelf Gas and construct the pipeline infrastructure.

Additional Opportunities-- Were an HVDC trunkline available the option then exists for smaller on or

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offshore deposits to be converted at the well head to electricity (even as a floating facility) for transmission to the network .

Of more importance however is the longer term option of extending the HVDC system to James Price Point so as to firstly supply Pilbara power for construction then Browes gas fired electricity to the south instead of another pipeline. The bonus then arrives in the available access to the massive TIDAL resources of the Kimberly. The Koreans will commission a 250mw tidal power station at Sihwa at a capital cost of \$350 million (about half the price of an equivalent coal burner) in December Using what I consider is dated technology from both a cost and environmental aspect.

I trust this brief summation might assist your committee members to consider some "outside the square " solutions to a difficult problem.

Wilson Tuckey