

**Submission
No 640**

INQUIRY INTO COAL SEAM GAS

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Submission

Coal seam gas

I have a concerns about the exploitation of coal seam gas.

Methane had several advantages over coal.

It can produce less greenhouse worming than coal:

It has twice the heating value per KG of coal.

It produces less CO2 than coal by virtue of having more hydrogen than carbon.

It can be burnt in a combined cycle gas turbine that is about twice as efficient as a normal gas turbine or coal fired power station.

So under ideal conditions it produces 22% of the CO2 of coal.

Further efficiency can be had in trigeneration. As long as the waste heat is use d for air conditioning. If not it is not specially efficient.

It is also cheaper to transport than electricity or coal, can be stored, and is very pleasant to cook on.

Disadvantages of methane

It is 72 times worse than CO2 as a greenhouse gas measured over 25 years. So even small leaks can negate all the advantages.

For example: If methane is being burnt in a Combine Cycle Gas Turbine power station, then a 4.2% leak at the well would negate any greenhouse benefits over coal.

My main objection is that we need to stop producing CO2 ASAP. Building more gas fired power stations does not do this. It is a 50 year investment and builds up an industry that will lobby strongly against any change that will threaten them in the future.

How much CO2 would be produced?

Our reserves of methane are 2.6 billion tonnes. If we burnt it all it would only increase the CO2 in the atmosphere by 1 ppm from 390 to 391.

However, we have only 2% of the worlds methane, If everyone burnt theirs the CO2 would rise by 50 ppm to 440 ppm. That is the scientists' estimate of the maximum possible level we can allow the CO2 to get to.

But that is just gas, there is coal and oil to add on top of this.

Gas is good, but not good enough, we've left the transition stage 40 years too late. We cannot afford to emit any more CO2.

John Davis

	MJ/KG
Hydrogen	143
Methane CH4	50
petrol, etc	47.2
Fat (animal/vegetable)	37
Coal	24
Carbohydrates - sugars, wood, peat	17

Methane leak	Greenhouse compared to coal	Greenhouse compared to coal.
	Combined Cycle Gas Turbine	Gas turbine
	0%	50%
1%	42%	85%
2%	60%	120%
3%	76%	150%
4%	95%	190%
5%	110%	225%

- Aust. methane is 2% of world total
- Will increase world CO2 by 1 ppm
- At present CO2 is 390 ppm.
- World methane increase CO2 50 ppm
- PLUS coal and oil.
- 450 ppm could cause 2 deg temp. rise.
- 350 ppm most likely safest