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Liquid Natural Gas -- A Specious Climate Solution?

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This is a guest post from Stewart Taggart of Desertec-Asia.

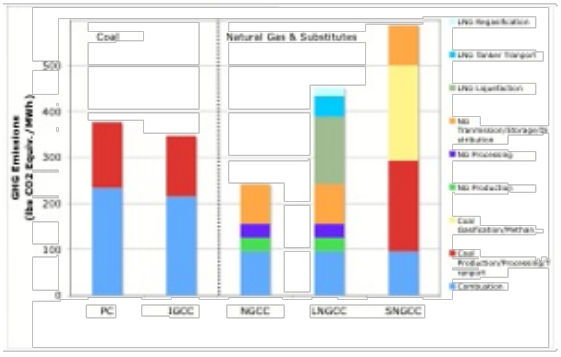
Nearly US$80 billion of investment is slated for developing liquid natural gas (LNG) projects in Australia and the Timor Sea. More are planned for Southeast Asia.

The good news is that these LNG developments are aimed are replacing dirty coal-fired power in Japan, China and South Korea with a cleaner fuel: natural gas.

The bad news is that LNG's environmental benefits are potentially so illusory that Asia might be better served by a common carrier natural gas pipeline.

LNG is natural gas compressed 600 times. It is then shipped in pressurised ocean-going tankers. This front-end compression process burns up roughly 10% of the original energy. The pressurised tankers then draw off more energy for each day at sea. At the far end, regasification consumes even more energy

The cumulative losses are so great that LNG-based natural gas supplies may not be much better than coal as a future energy source, according to researchers at Carnegie Mellon University in the United States.



At present, lifecycle emissions from LNG are little better than coal

Source: "Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electricity Generation," Carnegie Mellon University, 2007

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Worse, shipping LNG requires huge investment in expensive, inflexible, single-purpose

infrastructure. It's a recipe for long-term financial waste.

With nearly a dozen LNG trains slated for development in Australia's Northwest Shelf, northern Queensland, the Timor Sea and Papua New Guinea, this infrastructure could take Asia's climate change battle backwards for decades to come.

Given the huge volumes of gas now involved in this burgeoning trade (nearly 60 billion cubic meters per year), a pipeline connecting Australia to China, Japan and South Korea may be a better deal.

Instead of insular, 'go-it-alone' buyer-seller LNG microeconomics, a common-carrier pipeline would enhance competition, lower prices and encourage development of smaller natural gas fields through increasing confidence in downstream market access.

Better yet, a pipeline could carry future fuels like hydrogen. LNG trains, tankers and regasification plants simply don't have this flexibility. They risk becoming 'stranded assets' if future carbon pricing exposes their financial shortcomings.

If the LNG industry gets entrenched, it could doom Asia to a generation of suboptimal infrastructure. This, at at a time when trillions of dollars must be spent to battle climate change. Getting poor value for investment dollars is a bad way to fight global warming.

DESERTEC-Asia examines the LNG/Pipeline tradeoff in greater detail in "Pipelines Vs. LNG." It lays out a plan by which 30 billion cubic meter pipelines could connect Australia's Northwest Shelf and Queensland to a junction point in the Timor Sea East of the Bayu Undan field.

From there, a combined 60 billion cubic meter pipeline could traverse Asia.

If laid at the same time as High Voltage Direct Current Power line, DESERTEC-Asia envisages a bundle of synergistic economic and environmental benefits that could yield Asia a robust, long-lasting 21st Century energy infrastructure enhancing economic growth, reducing geopolitical tensions over energy supplies, increasing multilateralism and helping to combat climate change.

Open markets benefit all. The worst closed markets occur when infrastructure remains proprietary and new market entrants are discouraged by high barriers to entry. If Asia builds an open, transparent, flexible energy infrastructure, it can have a huge positive impact on battling the planet's climate change problem.

China, Japan, South Korea, Australia and the ASEAN nations will collectively account for nearly 40% of global GSP by 2050, double their combined share today. What happens in Asia matters to the world.

Asia should choose carefully. The economics of LNG could be specious.