

Large scale export of East Coast Australia natural gas: Unintended consequences

National Institute of Economic and Industry Research¹

This note summarizes the major conclusions of the NIEIR study referenced here. Many major projects to export Liquefied Natural Gas from Eastern Australia have been approved and will start to operate over the next several years. This will significantly impact the domestic supply of natural gas. The National Institute of Economic and Industry Research (NIEIR) has done an assessment, reviewing the literature and conducting its own analysis of the sectoral and macroeconomic implications of these developments.

NIEIR has found that:

- If existing plans proceed, gas exports from eastern Australia will rise from 2 million tonnes (0.29 bcf/day) in 2015 to 20 million tonnes (2.9 bcf/day) in 2018, and possibly 24 million tonnes (3.44 bcf/day) in 2023;
- The current policy framework and market settings for the Australian gas industry favor export of LNG without a subsequent assurance of reliable, competitively priced supplies of gas for domestic industry. Such supplies have historically been a competitive advantage for Australian industry, and gas export revenue is insufficient to compensate Australia for the loss of this advantage;
- Natural gas is essential to a range of industries, particularly non-ferrous metals and basic chemicals, but also plastics, pharmaceuticals, paints and cosmetics. Secure local supply at competitive prices is a fundamental requirement for the continuation of a significant part of production and the development of new investment in these industries;
- Contracts for the long term supply of gas to domestic industry have ‘evaporated’ as a consequence of export commitments;
- Australia has only a few years before significant economic loss is likely to be felt from the failure to secure an affordable supply of natural gas to domestic users;
- Domestic gas users are increasingly being offered “surplus” gas volumes and prices that do not reflect domestic supply, demand or extraction costs, but are instead linked to East Asia’s LNG market – the highest-priced gas in the world. This is a radical reshaping of the domestic gas market, constraining supply (in the near term at least) and driving prices to high (and for many industries uneconomic) levels;
- Current gas production and proven reserves will need to expand dramatically in order to support the LNG expansion without significant large scale suppression of gas use on the domestic economy. While the total gas resource is thought to be very large, proving up additional resources and developing them will take time and faces community opposition and other barriers. To ensure gas availability for domestic users, the management of reserves and their supply to market needs attention if domestic needs are not to be overlooked in the rush to export this valuable resource;
- There are important opportunities to expand use of gas in industrial production and electricity generation, but even so domestic consumers cannot make use of the whole gas resource. There are worthwhile benefits to pursue from exporting gas production beyond these needs. But each cubic foot of natural gas that is shifted away from industrial use towards export, whether because of tight supply or uneconomic pricing, means giving up \$255 million in lost industrial output for a \$12 million gain in export output. That is, for every dollar gained \$21 is lost. This increases to \$24 when economy-wide impacts are taken into account;
- The dramatic shift in the domestic gas market will have wider impacts well beyond the gas intensive industries:
 - Increased operating costs for gas-fired electricity generators due to high gas prices. Such generators would see cost increases three times greater than those currently resulting from the carbon tax. Wholesale electricity prices would thus rise, and the viability of new gas-fired generation would suffer. These plants already play an important role in the electricity market for both peak power and base load. That role is expected to grow to meet emissions reduction targets and provide backup for expanding renewable generation;

¹ <http://www.nieir.com.au>

- Some substitution away from gas towards electricity by business and households, to reduce their exposure to rising gas prices. This would still leave their costs higher than at present, and would raise greenhouse emissions;
- A slow-down of general economic activity resulting from impacts of the tighter gas supply and higher costs for gas and electricity;
- The expected economic response to the East Coast LNG expansion will involve a combination of the adjustments above. As a result, modeling indicates that, by 2040 the gross production benefit for East Coast LNG expansion will be \$15 billion annually, in 2009 prices. However, taking into account the negative effects of adjustment on other sectors, annual GDP will be \$22 billion lower than it would be with secure and affordable gas. An alternative ‘benefit indicator’ used for this study, which combines private consumption, tax receipts and net national product, will be reduced by \$46 billion;
- Under current policy settings and market structures, the unwanted consequences of the significant boom in LNG exports will persist even if, as is likely, adequate natural gas reserves exist and are brought to market; and there are substantial further risks that would lead to even greater costs if realized. These risks include:
 - LNG prices may be lower than currently expected. While this would reduce the extent of domestic price rises, it would also reduce gross export benefits while leaving domestic supply constrained in the short-to-medium term by contracted export commitments; and
 - Industry will likely be unable to grow without secure affordable gas supplies, leading to additional damage.

The likely consequences of the current policy and industry settings on natural gas export are serious for both industry and households. LNG export is a positive for Australia as long as it proceeds without significant harm to the domestic sector and with confident assurance of domestic supply.

Reference

National Institute of Economic and Industry Research, “Large scale export of East Coast Australia natural gas: Unintended consequences.” A report to the Australian Industry Group and the Plastics and Chemicals Industries Association, October 2012.