

## Australian Oil and Natural Gas Country Profile<sup>1</sup>

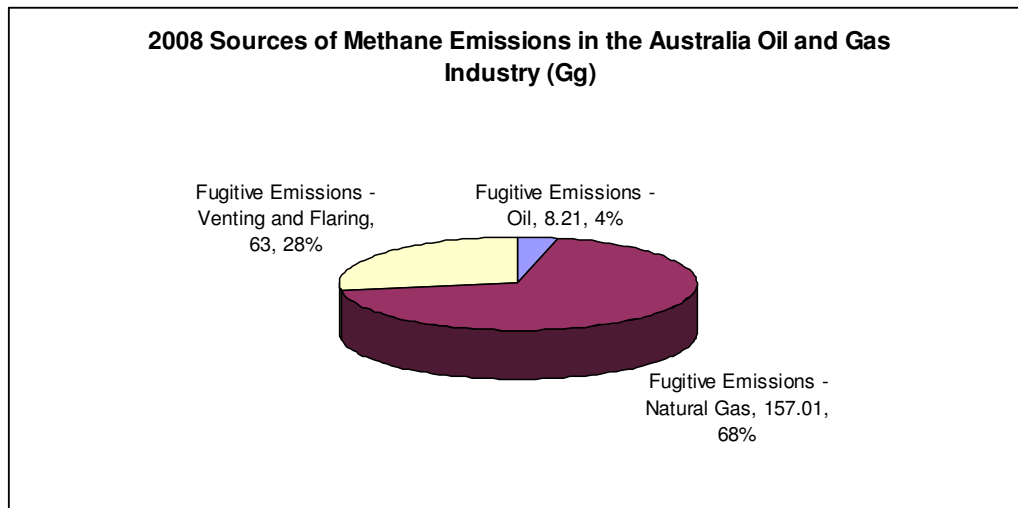
### 1) Current Status and Data on Oil and Natural Gas Industry in Australia

The oil and gas industry is an important contributor to the Australian economy; employing around 12 000 people.<sup>2</sup> In 2009 Australia was the world's 18<sup>th</sup> largest producer of natural gas and the 4<sup>th</sup> largest exporter of Liquefied Natural Gas (LNG). Australia's natural gas production was 42.3 billion cubic meters (bcm), with consumption of around 25.7bcm<sup>3</sup>. LNG exports were valued at \$7.8 billion (bn) in 2009-10 and are projected to increase to over \$8.4bn in 2010-11.<sup>4</sup>

In 2009 Australia exported 16 588 million litres of oil at a value of \$8.7bn. By 2011 this is expected to increase to \$11.1bn.<sup>5</sup>

### Total methane emissions for the oil and gas industry (2008): 228.22 Giga-grams (Gg)

In 2008 methane contributed 20.3% to Australia's CO<sub>2</sub>-e.<sup>6</sup> Methane emissions continue a progressive downward trend in methane emissions from the oil and gas industry since a peak of 335.43Gg in 1995. This reduction is testament to the ongoing improvement in Australian resource industries, and an ongoing commitment to minimise the environmental impacts of resource exploitation.



<sup>1</sup> Australian Greenhouse Gas Emissions Information System (AGEIS), available from [www.ageis.climatechange.gov.au](http://www.ageis.climatechange.gov.au) is the source of data in this document except where otherwise stated.

<sup>2</sup> Australian Bureau of Agricultural and Resource Economics, *Australian Commodities December Quarter 2010*, 2010.

<sup>3</sup> *BP Statistical Review of World Energy*, June 2010

<sup>4</sup> Australian Bureau of Statistics, '8155.0 – Australian Industry', 2008-9.

<sup>5</sup> *Australian Commodities December Quarter 2010*, 2010.

<sup>6</sup> Department of Climate Change and Energy Efficiency, *Australian National Greenhouse Accounts: National Inventory by Economic Sector 2008*, Canberra, 2008, 16.

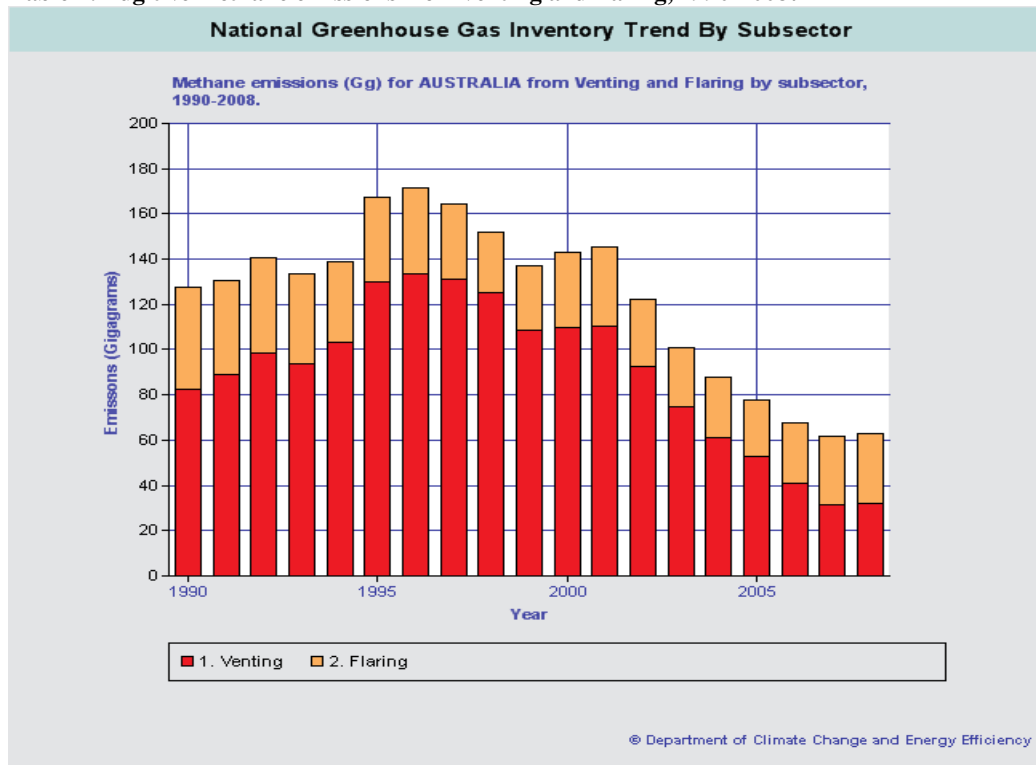
The source of methane emissions from the Australian oil and natural gas industry are mainly from fugitive emissions, in particular, venting and flaring and emissions associated with transmission, distribution and production of natural gas.

It should be noted that fugitive emissions from oil and natural gas production have decreased by 16.6% between 1990 and 2007 while at the same time there has been a 37.4% increase in production activity.<sup>7</sup> The decrease in emissions relative to the increase in activity is largely the result of improvements in gas distribution and a reduction in the emissions from flaring.

Of the 157.01Gg of fugitive emissions from natural gas production, processing, transmission and distribution, over 99% resulted from the transmission and distribution of natural gas, with less than 1% due to production and processing.

The emissions from venting and flaring are split nearly equally between the two, with overall emissions decreasing from a peak of over 160 Gg in 1996 to the 2008 level of 63 Gg.

**Table 1: Fugitive methane emissions from venting and flaring, 1990-2008:**



<sup>7</sup> Department of Climate Change and Energy Efficiency, *Australia's National Greenhouse Accounts: National Greenhouse Gas Inventory – accounting for the KYOTO target*, 2009, 9.



Of the much lower fugitive emissions from oil, approximately 63% was due to exploration activities, the remainder resulted from refining and storage, transport and production. It should be noted that, as represented above, methane emissions from oil represent only 4% of total industry methane emissions.

## 2) Needs / Key Barriers to Saving Methane:

The National Greenhouse Gas Inventory, part of the Department of Climate Change and Energy Efficiency, currently reports on the emissions of greenhouse gases including methane.

Between 1990 and 2007 emissions of all greenhouse gases from the energy sector increased by more than 42.5%.<sup>8</sup> The oil and gas industry makes up a small portion of total energy sector emissions.

As fugitive emissions from venting and flaring, distribution networks and the use of natural gas a fuel constitute the majority of the industry's methane emission, the identification and implementation of economically viable ways to reduce emissions from these sources will be the most effective method of continuing methane emissions reductions.

## 3) Existing projects:

A range of programs address greenhouse gas emissions across all levels of government in Australia, including a number of programs at the State and Territory levels.

Listed below are several national programs:

- **Clean Energy Initiative (CEI):** the CEI supports the research, development and demonstration of low-emission technologies, including industrial scale carbon capture and storage and solar energy.
- **Global Carbon Capture and Storage Institute:** launched in 2009, the GCCSI brings together public and private sectors to build and share the know-how and expertise necessary to ensure that carbon capture and storage can make a significant impact on reducing the world's greenhouse gas emissions.
- **Clean Business Australia Initiative:** The Australian Government has allocated \$240 million over four years to establish *Clean Business Australia*, a partnership with Australian business and industry for tackling climate change. *Clean Business Australia* will support a range of activities aimed at improving energy and water efficiency and increasing sustainability, with a focus on productivity and innovation.
- **Energy Efficiency Opportunities (EEO):** The Australian Government's EEO program encourages large energy-using businesses to improve their energy efficiency. It does this by requiring them to identify, evaluate and report publicly on cost-effective energy savings opportunities.

---

<sup>8</sup> National Greenhouse Gas Inventory – accounting for the KYOTO target, 2009, 5.



- **Kyoto Protocol:** the Kyoto protocol is an international agreement created under the United Nations Framework and Convention on Climate Change. Australia ratified the Kyoto Protocol in December 2007. The Kyoto Protocol aims to reduce the collective greenhouse gas emissions of developed country Parties by at least five per cent below 1990 levels during 2008-2012.

The Australian Government is committed to action that will safeguard our environment, sustain our society and support our economy.