



Energy White Paper 2014 – Issues Paper submission template

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Issues for comment are listed against each of the Chapter Headings. In making your submission, you are welcome to make comment against some or all of issues in the fields provided. A field for general comments is provided at the end of the template.

1. The Security of Energy Supplies

The Government seeks comment on:

- ways community expectations can be better understood and reflected in reliability standards;
- the value of developing fuel reserves to meet Australia's international oil security obligations, and augment domestic security;
- ways to increase new gas sources to meet demand and measures to enhance transparency in market conditions; and
- issues relating to the regulation of energy infrastructure.

Please provide any comments on The Security of Energy Supplies below:

Developing additional fuel storage reserves to meet Australia's international oil security obligations will not assist in mitigating the effects of a declining global oil supply, projected to begin occurring most-likely within this decade. See General Comments below.

2. Regulatory Reform and Role of Government

The Government seeks comment on:

- priority issues, barriers or gaps within the COAG energy market reform agenda;
- possible approaches and impacts of review of tariff structures including fixed network costs, further time-of-use based electricity tariffs and the use of smart meters;
- possible measures to promote greater price transparency in gas markets; and
- areas where further privatisation of government-owned assets would contribute to more effective regulatory frameworks and better outcomes for consumers

Please provide any comments on Regulatory Reform and Role of Government below:

Governments must provide unambiguous leadership to encourage society to transition to alternative energy systems that are safe, reliable, cost-competitive, long-term sustainable and with an Energy Return on Investment (EROI) better than 6:1 as soon as is practically possible. See General Comments below.

3. Growth and Investment

The Government seeks comment on:

- commercial or market initiatives that could enhance growth and investment in the energy and resources sectors;
- areas where approvals processes could be further streamlined while maintaining proper environmental and social safeguards;
- further ways that regulatory burdens could be reduced while maintaining appropriate levels of disclosure and transparency in energy markets; and
- the impacts of variable land access policy and ways the community could be better informed and engaged on development in the energy sector.

Please provide any comments on Growth and Investment below:

Food and water security considerations must take precedence over the perceived benefits of short-term energy resource supply projects. Coal Seam Gas (CSG) and shale (tight) gas projects at specific sites have a relatively short-term supply life.

US shale gas production experience shows individual well decline rates are high, ranging from 79 to 95% after 36 months. Although some wells can be extremely productive, they are typically a small percentage of the total and are concentrated in sweet spots. Coalbed methane is and will continue to be a small player in total US gas supply. Both shale gas and coalbed methane production in the US have plateaued. See "Drill, Baby, Drill: Can Unconventional Fuels Usher in a New Era of Energy Abundance?", by J. David Hughes, published by Post Carbon Institute, Feb 2013, visit shalebubble.org for more details. Australia should take note and learn from this US experience.

4. Trade and International Relations

The Government seeks comment on:

- how to grow the export of value-added energy products and services;
- ways to remove unnecessary barriers to continued foreign investment in Australia's energy sector;
- ways to strengthen support for access to export markets; and
- ways to support business to maximise export opportunities for Australia's energy commodities, products, technologies and services, including the value of Australia's participation in the variety of international forums.

Please provide any comments on Trade and International Relations below:

No comment for this section. See General Comments below.

5. Workforce Productivity

The Government seeks comment on:

- the nature of any current skills shortages being experienced and how these could be addressed by and with industry;
- the capacity of industry and education sector-led programs to meet long-term training and skills development needs of the energy and resources sectors; and
- specific long-term training and skills development needs for alternative transport fuel, renewable energy, energy management and other clean energy industries.

Please provide any comments on Workforce Productivity below:

No comment for this section. See General Comments below.

6. Driving Energy Productivity

The Government seeks comment on:

- the current suite of energy efficiency measures, ways these could be enhanced to provide greater energy efficiency or possible new measures that would enhance energy productivity;
- the use of demand-side participation measures to encourage energy productivity and reduce peak energy use; and
- measures to increase energy use efficiency in the transport sector.

Please provide any comments on Driving Energy Productivity below:

Encourage and expand rail transport, both high-speed rail and rail freight. Encourage electronic video conferencing.

Discourage long-distance road transport and discourage further growth in domestic air travel. See General Comments below.

7. Alternative and Emerging Energy Sources and Technology

The Government seeks comment on:

- ways to encourage a lower emissions energy supply that avoids market distortion or causes increased energy prices;
- the need to review existing network tariff structures in the face of rapidly growing deployment of grid-backed-up distributed energy systems, to ensure proper distribution of costs;
- additional cost-effective means, beyond current mandatory targets and grants, to encourage further development of renewable and other alternative energy sources and their effective integration within the wider energy market;
- how the uptake of high efficiency low emissions intensity electricity generation can be progressed;
- any barriers to increased uptake of LPG in private and commercial vehicles and CNG and LNG in the heavy vehicle fleet; and
- any barriers to the increased uptake of electric vehicles and advanced biofuels.

Please provide any comments on Alternative and Emerging Energy Sources and Technology below:

Increased uptake of LPG, CNG and LNG will inevitably be constrained by a declining global oil supply, most-likely later this decade and a peaking of global natural gas supply, most-likely sometime next decade. See General Comments below. Finite financial resources should therefore be given priority to deploying alternative energy technology that is already mature, demonstrates long-term sustainability and has EROI at or better than 6:1.

Barriers to the increased uptake of biofuels are explored extensively in the paper "Twenty-First Century Snake Oil: Why the United States Should Reject Biofuels as Part of a Rational National Security Energy Strategy", by Captain T. A. 'Ike' Kiefer, published by Waterloo Institute for Complexity & Innovation, Jan 2013.

General Comments

Any further comments?

All governments need to recognise the following points:

1. We live on a finite planet (see <http://visibleearth.nasa.gov/view.php?id=55418>);
2. Energy is fundamental to life and essential for human society's economic prosperity;
3. Currently global primary energy sources are derived from approximately:
 - * 78% fossil fuels (oil, coal and natural gas combined)
 - * 10% wood and dried dung
 - * 6% hydro energy
 - * 5% nuclear energy
 - * 1% other renewables (solar PV, solar thermal, wind, geothermal, biofuels, etc);

Source: http://www.youtube.com/watch?feature=player_embedded&v=g66NL4o_Mq8

4. Oil, coal, natural gas, uranium and thorium are:
 - * Finite (see point 1 above);
 - * One-time use;

- * Non-renewable;
 - * Depleting (see point 5 below);
5. Humanity is using our non-renewable energy resources at such unprecedented rates of consumption, if we continue business-as-usual, then:
- * Global oil production will most-likely begin its terminal decline before this decade is over;
 - * Global coal production will most-likely peak before the next decade (the 2020's) is over;
 - * Global natural gas production will most-likely peak before the next decade is over;
 - * There is only about 100 years of global reserves of uranium at current rate of consumption;

See references:

- # "Fossil and Nuclear Fuels - the Supply Outlook", Dr. Werner Zittel et al., Energy Watch Group (EWG), Mar 2013;
- # "BP Statistical Review of World Energy June 2013", BP, Jun 2013;
- # "The future of oil supply", Richard G. Miller and Steven R. Sorrell, Philosophical Transactions of the Royal Society A, 2 Dec 2013;
- # "Drill, Baby, Drill: Can Unconventional Fuels User in a New Era of Energy Abundance?", J. David Hughes, Post Carbon Institute, Feb 2013;
- # "The Thorium Fuel Cycle: An independent assessment by the UK National Nuclear Laboratory", UK National Nuclear Laboratory, Aug 2010

6. If humanity continues to rely heavily on our non-renewable energy resources then:

- * prices for petrol, diesel, LPG, natural gas and fossil fuel derived electricity will continue to rise;
- * commodity prices for food, water, transport, goods and services will continue to rise;
- * economic progress will stall and contract resulting in rising unemployment, more debt-default and potentially civil unrest.

The concept of 'peak oil' and its consequences is not new. See quotes below:

"We should not cling to crude down to the last drop – we should leave oil before it leaves us. That means new approaches must be found soon....The really important thing is that even though we are not yet running out of oil, we are running out of time."

Fatih Birol, Chief Economist, International Energy Agency, 2 Mar 2008.

"In the longer run, unless we take serious steps to prepare for the day that we can no longer increase production of conventional oil, we are faced with the possibility of a major economic shock – and the political unrest that would ensue."

Dr. James Schlesinger, former US Energy Secretary, 16 Nov 2005.

"Underpinning the long-term price of oil is the fact that the world is consuming over 30 billion barrels a year and replacing only a fraction of this with new discoveries."

James W. Buckee, President and CEO of Talisman Energy Inc., 13 Mar 2007.

"Shell estimates that after 2015 supplies of easy-to-access oil and gas will no longer keep up with demand."

Jeroen van de Veer, CEO of Shell, 22 January 2008.

The organisation known as the Energy Watch Group (EWG) has sounded a clear call to take a more accurate approach to the reporting of coal "reserve" data around the world. EWG reported in 2007 that "data quality of coal reserves and resources is poor, both on global and national levels."

US coal reserves may not be as abundant as the US Department of Energy's Energy Information Administration (EIA) states. Various individuals and organisations are questioning the accuracy of EIA "reserve" estimates. See "Warning: Faulty Reporting of US Coal Reserves", by Leslie Glustrom, published by Clean Energy Action, Oct 2013 as an example.

Australia will not remain immune from the effects of declining global oil, coal and gas supplies. All governments in Australia need to recognise this and deploy effective policies to reduce our dependency on fossil fuels, expediting an orderly transition to alternative energy solutions, as soon as possible. We as a society must begin doing so in earnest BEFORE fossil fuels become too expensive. Failure to do so will have dire consequences for all Australians in a post-peak fossil fuel world.