

CAPABILITIES AND INNOVATION KEY TO KEEPING ENERGY OPTIONS OPEN, SAY INTERNATIONAL EXPERTS

1. International energy experts today supported Singapore's intentions to keep its options open in meeting its future energy needs, against the backdrop of great energy and economic uncertainty. They highlighted the importance of building capabilities to seize opportunities and prepare for challenges arising from global and regional energy developments. They also emphasised the need for innovation across policy initiatives, market measures and technology development.
2. The energy experts are members of the Ministry of Trade and Industry's International Advisory Panel (IAP) on Energy, which is chaired by Minister in the Prime Minister's Office and Second Minister for Home Affairs and Trade and Industry, S Iswaran. The panel met in Singapore for its third biennial session.

Keeping Options Open by Building Capabilities

3. The IAP agreed that it was important for Singapore to remain open to all energy options to meet its future energy needs. Singapore should continue to diversify its energy sources to enhance its energy security. Technological advancements, global policy and market developments in areas such as unconventional gas and climate change could impact Singapore's energy options.
4. The IAP noted that the unconventional gas developments in North America will have significant impact on gas supplies and markets in the rest of the world. The IAP encouraged Singapore to closely monitor these developments. The IAP commended Singapore on the execution of its Liquefied Natural Gas (LNG) strategy which was discussed at the first IAP meeting in 2008. The IAP noted that with the completion of the LNG terminal, Singapore was well-positioned to seize the opportunities arising from the developments in the global gas market. For example, the LNG terminal could enable trading opportunities to take off, and could enhance our position as a potential LNG trading hub by facilitating greater price transparency in the Asian gas market through information sharing and dialogue.
5. The IAP agreed with the conclusions of the Singapore government's nuclear energy pre-feasibility study that while currently available nuclear technologies were not yet suitable for deployment in Singapore, it was still important to keep abreast of developments and remain open to all energy options. The IAP also agreed with Singapore's decision to strengthen its capabilities to understand nuclear science and technology, and to develop a strong safety culture and know-how. This was an important step to prepare for regional nuclear energy developments, and also to contribute credibly and actively to regional and international discussions and cooperation on nuclear safety. In this regard, the IAP noted that nuclear safety should be a priority research area.

6. The IAP also agreed that Singapore should continue to develop and advance energy sources such as solar and waste-to-energy already under implementation. Energy efficiency should also continue to be a key pillar going forward. Singapore should continue to seek and promote regional energy interconnectivity, in order to tap on these and other energy options which may not be feasible or available in Singapore. In addition, the IAP recommended that Singapore could leverage on its status as a global financial hub to develop services and investments in clean technology in the region.

Pursuing New Frontiers in Energy

7. The IAP agreed with Singapore's approach of investing in energy R&D, innovation and test-bedding. The IAP noted that in recent years, the world had seen significant improvements in the area of smart grids, for integration and management of variable, fluctuating and distributed generation sources. In addition, as demand for energy and fossil fuels increases, carbon capture and sequestration (CCS) will be important. However, investment in CCS will be limited in the absence of a sufficient and widely used carbon pricing regime.

8. Summarising the discussion, Mr Iswaran said "The energy landscape is continually evolving. We need to be prepared for an uncertain energy future by keeping our options open, building capabilities, and steadily exploring emerging technologies. This can also develop a vibrant energy sector in Singapore, and ensure that Singapore's energy supply remains secure and competitively-priced. I thank the IAP for their keen insights, which will be most useful in navigating the course ahead."

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About the International Advisory Panel for Energy

The International Advisory Panel (IAP) is set up by the Ministry of Trade and Industry (MTI) to provide insights and perspectives on emerging trends in the global energy arena, and to advise on the strategic directions for the energy sector in Singapore. This will enable us to be prepared to meet the challenges and leverage on the opportunities that are emerging in the global energy landscape.

2 The panel comprises a group of top energy executives and thought leaders from around the world. Mr S Iswaran, Minister in the Prime Minister's Office, and Second Minister for Ministry of Home Affairs and Ministry of Trade and Industry, Singapore, chairs the IAP.

3 The IAP met for the first time from 2-3 Nov 2008 in Singapore, and endorsed Singapore's energy policy framework. The IAP also made several key observations, for example that Singapore should review the use and feasibility of alternative low-carbon energy solutions, adopt energy efficiency as a strategic priority, and augment a market-based approach to energy prices. These observations were valuable in shaping the Economic Strategies Committee's (ESC) energy policy recommendations in 2010.

4 The 2nd meeting of the IAP was held from 31 Oct – 2 Nov 2010. The three-day meeting consisted of deliberation sessions focusing on the opportunities and challenges given global energy trends, strategies to grow the energy industry, outlook for hydrocarbons and feasibility of nuclear energy.

5 In conjunction with the International Energy Week, several IAP members also spoke at the Singapore Energy Summit, organised by the Energy Market Authority (EMA) and the Energy Studies Institute (ESI), Singapore.

List of International Advisory Panel on Energy Members

Chairman

Name	Designation
Mr S Iswaran	Minister Prime Minister's Office Second Minister Ministry of Trade and Industry Ministry of Home Affairs

IAP Members

Name	Designation
Dr Dan Arvizu	Director and Chief Executive National Renewable Energy Laboratory
Dr Alf Bjørseth	Chairman and CEO Scatec AS
Hon Eileen Claussen	President Center for Climate and Energy Solutions
Mr Ditlev Engel	President and CEO Vestas Wind Systems A/S
Dr Lee Hee-Beom	Chairman STX Heavy Industries & STX Construction
Dr Claude Mandil	Former Executive Director International Energy Agency
Lord John Mogg KCMG of Queen's Park	Chairman Office of Gas and Electricity Markets
Lord Ronald Oxburgh	Member of Advisory Board Climate Change Capital Member of House of Lords Ex-Chairman The Shell Transport and Trading Company
Mr Peter Schwartz	Senior Vice President Salesforce.com inc
Dr Daniel Yergin	Chairman IHS Cambridge Energy Research Associates

Absent with Apologies

Name	Designation
Dr John Deutch	Professor Massachusetts Institute of Technology
Mr Michael J Dolan	Senior Vice President Exxon Mobil Corporation
Mr Ole Enger	President and CEO Renewable Energy Cooperation ASA
Mr Robert A Hefner III	Managing Partner The GHK Companies
Mr Tsunehisa Katsumata	Former Chairman Tokyo Electric Power Company