

**Speech by Mr S Iswaran
Senior Minister of State for Trade and Industry,
during the Committee of Supply Debate under Head V
(Ministry of Trade and Industry) on 8 March 2010**

INTRODUCTION

1. Thank you Mr Chairman. First, I would like to thank Members for the wide range of issues that they have raised. My Minister has set out MTI's overall strategy to take advantage of growth opportunities as our economy recovers. I will supplement his response by addressing specific questions that Members have raised by relating to three broad areas – tourism, energy, and research and development.

TOURISM

Riding on Growing Asian Markets

2. The first, tourism. Last year was a difficult year for Singapore's tourism industry. Visitor arrivals to Singapore declined by about 4 per cent from 2008 to reach 9.7 million, though this exceeded the Singapore Tourism Board's (STB) projection of 9 to 9.5 million.

3. We start 2010 with clear signs of recovery. Visitor arrivals registered overall positive growth from the fourth quarter of last year and surpassed 900,000 in January this year. This is the highest ever recorded for the month of January. The World Tourism Organisation (UNWTO) forecasts international tourist arrivals to grow between 3 per cent to 4 per cent in 2010, with Asia leading this rebound. STB projects our visitor arrivals in 2010 to increase by more than 20 per cent to between 11.5 to 12.5 million. Tourism receipts are expected to be \$17.5 to \$18.5 billion, which is about 40 per cent above 2009 levels.

4. Dr Muhammad Faishal Ibrahim has asked how we will tap on the growth of Asian markets. Our destination appeal to Asian visitors is strong. In 2009, more than 70 per cent of our visitors came from Asia. Indonesia, China, India and Malaysia were four of Singapore's top five source markets by visitor arrivals and tourism receipts in other words, quantity and value. Vietnam is another promising market registering double digit growth of 11 per cent last year. The Pacific Asia Travel Association (PATA) forecasts that Singapore will be India's top outbound destination in the next two years. PATA also expects Singapore to be among the top four destinations to be visited by Chinese travellers, excluding Hong Kong and Macau.

5. To further strengthen our destination awareness in the major Asian markets, STB has undertaken several key branding and marketing initiatives. Our participation at the World Expo in Shanghai, from May to October this year, is one example. The Singapore Pavilion will showcase our city as a place to live, work and play, to the 70 million Chinese and international visitors. Last year, STB entered a three-year marketing partnership with VISA that will not only attract more visitors to Singapore but also to help stimulate their spending here. With internet penetration increasing worldwide, STB is also focusing on digital media marketing to seek out the growing pool of IT-savvy travellers.

Transforming Our Tourism Landscape

6. This marketing effort is complemented by a suite of key projects which are coming to fruition. Mr Chairman, these projects will transform our tourism landscape and further differentiate Singapore from other tourist destinations – a point that Dr Muhammad Faishal Ibrahim raised. Combined with our strong air connectivity, we are in a strong position to capitalise on the economic recovery and to tap on the Asia's growing markets.

Opening of IRs

7. The advent of the two Integrated Resorts (IRs) will contribute significantly to our tourism landscape on two counts. First, with internationally acclaimed shows, events, restaurants, and Southeast Asia's largest theme park, the IRs will enhance the quality and variety of our tourism offerings. Second, these changes ushered in by the integrated resorts will enable us to achieve longer stays and higher yields from our visitors, which is our objective.

8. STB is also collaborating with the IRs to maximise the benefit from their facilities and resources. One example is the support STB has given the integrated resorts to secure new BTMICE events for Singapore. Through this partnership, Marina Bay Sands and Resorts World at Sentosa will host a range of BTMICE events which are projected to draw in more than 11,000 visitors to Singapore this year.

9. With the IRs opening in phases, the full benefits of these new tourism products will only be realised over the next few years.

Continually refreshing F1

10. There has also been a quantum leap in our events landscape. Flagship events like the Formula One (F1) night race and the F1 Rocks concert have elevated Singapore's international standing as a global city with a vibrant lifestyle. The F1 races in 2008 and 2009 collectively brought in over 70,000 overseas visitors and generated about \$260 million in incremental tourism receipts. Each race also profiles us to a 'Live' television audience around the world of about 100 million. We will continue to refresh the F1 and enrich the entertainment content, to ensure that Singapore remains a must-see event on the F1 calendar.

Expanding our Offerings

11. Our tourism precincts are also constantly being refreshed. Last year, the opening of three new retail malls, ION Orchard, Orchard Central and 313@Somerset, complemented our makeover of Orchard Road.

12. Other key projects in the pipeline include Gardens by the Bay, River Safari which is a project by the Wildlife Reserves Singapore, and the International Cruise Terminal, all of which will open over the next 2 to 3 years. STB will also develop more signature events, such as the Asia Fashion Exchange, to position Singapore on the international stage.

13. With this array of initiatives, Singapore is well positioned to ride the growth in the global and Asian tourism market.

ENERGY

14. Mr Chairman, I will now move on to address Members' questions related to our energy policy.

15. We are currently in a healthy position to meet our energy needs. Our total generation capacity is in excess of 10 gigawatts, which is more than sufficient to meet our peak electricity demand of 6 gigawatts. However, given that we import almost all our energy, Singapore remains exposed to the vicissitudes of global energy markets and faces several challenges. Firstly, notwithstanding the brief respite during the recession, global energy prices are on a long term upward trend, driven by energy demand in Asia. There will also be intermittent bouts of energy price volatility due to the business cycle and other episodes.

16. Secondly, and consequently, there is a global race to secure adequate and reliable energy supplies from diverse sources.

17. Thirdly, our energy plans must accommodate the possibility of a carbon constrained future. Singapore has committed to reduce carbon emissions substantially as part of a global deal on climate change.

18. Our goal is to make Singapore a Smart Energy Economy with an energy ecosystem that is secure, sustainable and competitive. Our strategy to meet the global energy challenges rests on two key thrusts: **diversification** and **competitive energy markets**.

Maintaining a Range of Energy Options

19. The Government agrees with the Economic Strategies Committee's (ESC) recommendation to adopt a portfolio approach towards energy – in other words, no one energy option will be adequate to meet our varied energy objectives.

20. Our liquefied natural gas (LNG) terminal is one important step towards a more diversified energy portfolio. It will enhance the resilience and competitiveness of our energy supply by providing access to an integrated global LNG market that draws from gas sources from around the world. The project is on track for completion in the year 2013.

21. Beyond the advent of our LNG terminal, we must consider a range of energy options, based on emerging technologies and new sources, to meet our long term needs. We will adopt a pragmatic approach by evaluating the alternatives on the basis of energy security, economic viability and environmental sustainability. Mr Chairman, allow me to elaborate on solar energy, nuclear energy and other energy options, in response to Members' questions.

Solar Energy

22. Among the renewable energy sources currently available, solar is one of the most promising in our context for electricity generation. While still relatively expensive today, solar energy prices could achieve grid parity in the medium term.

23. But as pointed out by Dr Fatimah Lateef, in order to harness solar energy effectively, we need to develop the infrastructure. We must upgrade our building infrastructure for efficient installation and integration of solar panels.

24. The Government has put in place incentive schemes to develop capabilities in these areas and to test-bed new technologies. The \$20 million Solar Capability Scheme (SCS) encourages innovations in the design and integration of solar panels in private sector buildings. For example, this scheme supported the 500-kilowatt peak solar photo-voltaic (PV) system at Resorts World at Sentosa, the largest single system in Singapore to date. Public buildings like Changi Airport's Budget Terminal, the Khoo Teck Puat Hospital and Ngee Ann Polytechnic are also active participants in our solar test-bedding and industry development initiatives.

25. For those who wish to install solar photo-voltaic systems, Dr Fatimah Lateef raised this point, the Energy Market Authority (EMA) and the Building and Construction Authority (BCA) recently published a comprehensive Handbook for Solar photo-voltaic Systems. EMA also provides information on Licensed Electrical Workers (LEWs) who have the skills to install, maintain and test solar installations.

Nuclear Energy

26. Mr Chairman, given the limited potential for renewable sources to meet our base load electricity requirements, it is imperative that we explore other options as well. In that regard, MTI agrees with the ESC recommendations that we should study the feasibility of nuclear energy and develop expertise in nuclear energy technologies.

27. Mr Chairman, Members have listed a range of pros and cons and asked why are we prepared to study nuclear energy as an option now. There are several reasons for this. Firstly, it can potentially enhance energy security, reduce carbon emissions, and mitigate the impact of volatile oil and gas prices – thus it could meet, potentially all our objectives embedded in the national energy policy.

28. Second, several developed countries have been using nuclear energy for a long time and many others are now considering nuclear energy seriously. France has been using nuclear energy since the 1960s and currently generates 80 per cent of its electricity from this source. Small countries like Switzerland and island-nations like Japan have also made significant strides in the use of nuclear energy over the last four decades. These are developed nations with high standards of living and exacting safety regulations.

29. The nuclear energy option is also being revived and explored in many countries. According to the International Atomic Energy Agency (IAEA), China is expected to build 25 new nuclear power plants by 2020, a rate of two new plants a year. In the US, loan guarantees totaling US\$8b have recently been approved for two new nuclear power plants. Closer to home, in ASEAN, Vietnam, Thailand, Malaysia and Indonesia have all begun exploring nuclear energy as an option with different timelines.

30. Mr Liang Eng Hwa asked whether there is an ASEAN stand on the issue. I think each country has evolved its own strategy and policy towards this. But at the ASEAN level, there is an effort to try and develop a nuclear safety regime, a common understanding on what would constitute a nuclear energy safety regime in this part of the world. Thirdly, science and technology have evolved much since nuclear power plants were first built 50 years ago. Dr Lam Pin Min has noted the challenges associated with nuclear energy given Singapore's location, size, and urban density. Indeed, these were some of the reasons for not considering the option before.

31. But new technologies are being developed to address some of the key concerns associated with nuclear energy, and to make nuclear reactors smaller and safer, at a lower cost and with less high-level waste. Some of these technologies are in early stages of commercialisation and we need to study if they could be feasible in our context.

32. Finally, there is merit in building up our knowledge and expertise in nuclear science which has applications in diagnostic medicine and cancer treatment. Research and development in this field is promising and could potentially yield therapeutic and economic benefits.

33. Dr Muhammad Faishal Ibrahim has raised the issue of public concern over the potential use of nuclear energy in Singapore. Dr Lam Pin Min and Mr Liang Eng Hwa have asked if the risks associated with nuclear energy are acceptable. It is precisely to address these and other valid questions and concerns, that we need to embark on a feasibility study of nuclear energy.

34. MTI will, therefore, lead a multi-agency effort to undertake this feasibility study. The aim is to ensure that we fully understand, and objectively evaluate from all perspectives, the opportunities, challenges and risks involved with nuclear energy. The study will commence later this year. It will entail a careful, deliberate and rigorous examination of the technical, economic and safety aspects of nuclear energy. It is premature at this stage to talk about details such as what form and so on which Dr Faishal raised. What we should acknowledge is that this is an important first step in assessing a possible long term energy option for Singapore.

Coal and Electricity Imports

35. Mr Chairman, for the medium term, we also need to keep our options open for other sources of conventional energy to further diversify our energy portfolio. These options will have to be considered on a market basis, after our LNG demand has stabilised.

36. Ms Sylvia Lim has asked about the implications of using coal and electricity imports in Singapore.

37. Clean coal could be a component of our energy diversification strategy. Currently, coal makes up more than 40 per cent of global power generation. And, it is expected to remain at this level until at least 2030 given the relative abundance of coal sources in the world. Coal also has a cost advantage though this may be eroded by any future global carbon pricing regime. However, combustion technology is evolving, making coal cleaner than before and we must, therefore, keep this option open.

38. Precisely because the technology is evolving, I don't think it is necessarily a step back to consider this as a possible option for ourselves, a point that Ms Sylvia Lim raised. Electricity imports could help us gain access to alternative sources of energy such as hydropower from the region and also free up valuable land in Singapore. Ms Lim asked what are the risks of importing electricity. In a sense, it is a very similar risk to importing the fuel in order to generate the electricity locally. The key additional risk factors would really be a reliance on the infrastructure that conveys the electricity to Singapore. So we will study the safeguards necessary to mitigate any risk from being exposed to a disruption in imported electricity supply and how it could feature potentially as part of our overall energy system.

Keeping Energy Markets Competitive

39. The second plank of our energy strategy is to keep our energy markets competitive. Ms Sylvia Lim has asked about energy pricing and let me just set out the broad framework.

40. We are price-takers in the global energy market because we are small and import almost all our energy requirements. We therefore must allow the full cost of energy to be reflected in prices. Subsidising energy would be encouraging wasteful consumption and it will also be a drain on public finances. Many countries which subsidise energy, including oil and gas producers, have found to their detriment that they impose an unsustainable fiscal burden over time. Instead, our approach is to provide targeted assistance through the Utilities-Save (U-Save) and other schemes.

41. In addition, we promote competition in our energy markets to keep prices competitive. As evidenced since liberalisation in 2001, fuel oil prices have gone up by about 160 per cent and our tariffs have risen by about 15 per cent. That's not a bad track record. This is an ongoing process and in the last year, we have taken a number of additional steps.

42. At last year's COS, I informed the House that EMA was studying ways to inject more competition into the household electricity market. EMA has since completed the tender of 10 per cent of household electricity demand. The tendered price will be incorporated into the electricity tariff starting from April 2010. Going forward, EMA will put out more tranches for tender and the savings will be passed on to households.

43. In the long term, EMA is working towards opening up the household electricity market for competition so that consumers will be able to purchase electricity direct from different suppliers through a range of retail packages that they offer. Ms Lim asked whether the government will allow retail electricity sellers to use a tiered system. Well once such a market is established, then we should leave it to the market to work out what are the different ways they can meet customer needs. But it is quite a different question which is a point that Ms Sylvia Lim also alluded to, whether government should in fact be introducing a tiered structure at this stage. We have had this discussion before and I want to just re-emphasise the key point. If we were to introduce a tiered system today, it means government is deciding what is an acceptable level of electricity consumption and establish that as the threshold as Ms Sylvia Lim puts it, and then the government then has to decide at what level of additional manageable threshold should be. This is quite a problematic process in terms of determining the key levels of thresholds. So it would be far superior to allow the market to work, for us to give targeted subsidies to those who need it and when the market is fully liberalised, the players can then work out the schemes as we see in other sectors like telecoms.

R&D

44. Speaker Sir, let me now move on to research and development (R&D). R&D cannot be viewed in isolation from the broader innovation ecosystem that we seek to create. The ESC has recommended that we make innovation pervasive and strengthen the commercialisation of R&D. Indeed, these are MTI's priorities too.

Outcomes of Research and Development.

45. Ms Sylvia Lim has asked how the outcomes and output of our R&D sector compare with other advanced economies. As she has acknowledged, it is a difficult matter to measure and there is no single measure for this, so let me highlight just three aspects: the generation of intellectual property, the degree to which public R&D helps to catalyse private R&D, and the extent to which R&D leads to economic activity or commercialisation.

46. In of the area of IP creation, our R&D sector is broadly comparable to other advanced countries. The World Economic Forum Global Competitiveness Report ranks Singapore 11th globally in terms of patents per 1000 population, ahead of countries like the Netherlands and Denmark. In terms of published Science and Engineering papers per 1000 population, we are ahead of OECD countries like Japan and South Korea. However, we still have some way to go before we can close the gap with countries like Sweden and Switzerland.

47. In terms of the ratio of public sector to private sector spending on R&D, we are on par with countries like the Netherlands and Denmark. Our private R&D investments are twice that of our public sector - a significant improvement from 20 years ago when public and private investments were equal. It also has resulted in ventures such as the strategic alliance between Roche and our medical and scientific institutions. This partnership which will expand the knowledge of disease biology to develop new personalised treatment approaches has brought in private R&D investment of close to \$100 million.

48. Finally, with regards to economic spin-offs and commercialisation, we have made good progress. A*STAR's spin-off, A-Bio, for example, has been catalysing the growth of a new biologics segment within our biomedical sector. In the past three years, Singapore has secured six major biologics manufacturing investments totaling more than \$2 billion. SMEs have also benefitted from our public sector R&D capabilities. One example, is CEI Contract Manufacturing Ltd, which with the help of a scientist from A*STAR, will be able to qualify its product for High Level Assembly and Testing to meet a US customer's standard.

49. So we're not lagging or underperforming like Ms Sylvia Lim asked, but we can do more in the commercialisation of R&D – which is also a key recommendation of the ESC. To that end, in the next phase of our R&D development, we aim to facilitate greater collaboration between private sector and public sector R&D, creating the infrastructure for test-bedding innovative solutions, and establishing platforms for industry practitioners and researchers in academia and institutes to work together on research projects that can potentially lead to commercial application value.

R&D Manpower

50. A key success factor for our R&D drive is the availability of a deep pool of scientific talent. Ms Sylvia Lim has asked about the extent to which locals are part of this talent pool.

51. Singapore Citizens and Permanent Residents take up the majority of R&D jobs, and this share has been increasing over time. Based on the 2008 National R&D survey, there were more than 25,000 research scientists and engineers in Singapore, of which about 21,000 were Singapore Citizens and Permanent Residents. Between 2001 and 2008, the number of Singapore Citizen and Permanent Resident research scientists and engineers has grown at 8 per cent per annum, compared to 5 per cent per annum for non-locals. Amongst the population of PhD students, the proportion of SCs and PRs have grown from 22 per cent to 26 per cent in the same period, that is 2001 and 2008, and this number of PhDs will increase further as many of the PhD scholars under A*STAR scheme return to work in Singapore under various institutions.

52. Mr Chairman, I want to conclude on this point by making one key observation. We have been able to grow our local R&D talent not because we have protected them or kept out foreign talent. Rather, they have done well because we have created a vibrant R&D community that attracts and develops the best and brightest, both local and international, and that will continue to shape the way we go forward with our R&D strategy and the development of our manpower pool.

CONCLUSION

53. Mr Chairman, to conclude: MTI's policies on tourism, energy, and R&D have served us well and will continue to evolve as we adapt to seize the opportunities in the years ahead. Thank you.