

Official Visit to Singapore
Sunday 8 July to Thursday 12 July 2018

Overview

The Hon Dave Kelly MLA visited Singapore between 9 and 12 July 2018 to attend the International Water Week, which ran concurrently with the World Cities Summit and Clean Enviro Summit. His program included attendance at plenary sessions, meeting water leaders from around the world and participating in site visits to study innovation and management solutions at NEWater Visitor Centre, Changi Water Reclamation Plant and the Deep Tunnel Sewerage System (DTSS), Marina Barrage and Sustainable Singapore Gallery as well as Bishan-Ang Mo Kio Park. In his capacity as Minister for Fisheries he met with Commonwealth Capital and Hai Sia Seafood, and in his capacity as Minister for Innovation and ICT; Science, he attended meetings with SG Innovate, Australian Landing Pa, Singapore Technologies Electronics Limited and the Agency for Science, Technology and Research.

The Minister was accompanied by:

1. Mr Mike Rowe, Director General, Department of Water and Environmental Regulation
2. Ms Alysha Anderson, Senior Media Adviser to the Minister

The Minister conveys his sincere thanks and appreciation to the staff of the Western Australian Government office in Singapore (Department of Jobs, Tourism, Science and Innovation) for their excellent advice and support provided leading up to and during his visit.

Sunday 8 July

Travel – Perth to Singapore. Arrive Singapore 17.20

18:30 – 20:30 World Cities Summit

Singapore International Water Week Welcome Reception. Guest of Honour: Mr Masagos Zulkifli, Minister for the Environment and Water Resources, Singapore.

Monday 9 July

9:30 – 12:30 Opening Function World Cities Summit

Opening Address for the Singapore International Water Week, World Cities Summit, CleanEnviro Summit Singapore

Guest of Honour: Mr Tharman Shanmugaratnam, Deputy Prime Minister and Coordinating Minister for Economic and Social Policies.

Keynote Address by The Honourable Ranil Wickremesinghe, Prime Minister, Sri LankaSession

Prime Minister Wickremesinghe discussed the challenges of climate change for Sri Lanka, including declining rainfall and increased extreme weather events together with the twin challenges of an increase in population and urbanisation. He noted that for Sri Lanka, water was the most challenging of the ecosystem services. In an interview with Professor Koh, the Prime Minister spoke of the importance of moving towards a circular economy and of the approach taken towards the redevelopment of Colombo to incorporate sustainability considerations.

Chairperson: Professor Tommy Koh, Ambassador-at-Large, Ministry of Foreign Affairs, and
Chairperson, SIWW Water Leaders Summit

Opening Plenary: “Urban Solutions for a Liveable and Sustainable Future”

Session Chairperson: Professor Chan Heng Chee, Ambassador-at-Large, Ministry of Foreign Affairs,
Singapore.

The panel consisted of representatives from the World Bank, China, United Arab Emirates, India, Singapore and the United States of America. Panellists spoke of the challenges, opportunities and emerging approaches that were assisting them to negotiate the challenges of climate change across economic, social and environmental challenges. The CEO of the World Bank emphasised the importance of sustainability considerations for the world’s cities, given the continued global shift towards urbanisation.

1:30 – 2:50 World Cities Summit

Lee Kuan Yew World City Prize and Water Prize Lectures

Mr Park Won-soon, Mayor of Seoul, spoke of the approach that the municipal government had developed to putting citizens at the centre of planning for the City and its commitment to transforming its built environment. Professor Rita Colwell explained the science and discoveries behind her leading work in the management of water-borne diseases and water quality testing. Her work has saved millions of lives.

15:15 – 17:00 Environment and Water Leaders Forum: “Closing the Loop, Catalysing a Resilient and Sustainable Future”

The panel consisted of representatives from Singapore, Japan, The Netherlands and the United Kingdom. Panellists spoke of common challenges associated with water across nations, and vital importance of planning for climate change and the opportunities that will come from that. Panellists shared a range of innovative ideas that are being applied to respond to climate change in various countries. The principles behind the circular economy were also discussed, including the importance of preventing unnecessary waste production, reducing packaging, improving design, recycling as well material and energy recovery.

18.30 – 21.30 Lee Kuan Yew Prize Award Ceremony and Banquet

Guest of Honour: Madam Halimah Yacob, President of Singapore.

Madam Yacob presented American microbiologist Professor Rita Colwell and the city of Seoul with awards for the Lee Kuan Yew World City Prize 2018 and the Lee Kuan Yew Water Prize 2018 respectively.

Tuesday 10 July

9:00 – 9:45 World Cities Summit

Keynote by His Excellency Ban Ki-moon, Secretary General, United Nations

Session Chairperson: Dr Janil Puthuchery, Senior Minister of State, Ministry of Communications and Information and Ministry of Transport

His Excellency spoke of the vital role of partnerships across all sectors in working to attain the United Nations Sustainable Development Goals. He also indicated that climate change is no longer a future threat, and is happening now, with vast and significant challenges affecting all parts of the world. His Excellency saw cause for hope in innovation and that as global citizens, we could not only persevere but thrive. His Excellency also called for strengthening multilateralism, not weakening, in the face of increased nationalism.

9:50 – 13:00 World Cities Summit

Water Leaders Insights

Getting Ready for a Digital (R)evolution

The Minister attended this panel session, which featured Ms Sue Murphy, CEO Water Corporation, among others.

The panel spoke of the emerging and important role that digital technology is playing in water utilities and the role that big data was and will have in reducing costs and improving efficiencies. The importance of organisational cultures and breaking down silos within organisations was seen as just as important as enabling improved digital capability.

Summit Closing Session – Towards a Sustainable and Resilient Water Future

In the closing session, the panel discussed the need to value and manage water better and the vital role that knowledge sharing plays in effective water governance. Again the significant impact of climate change on all countries was discussed, with an increase in severe weather events impacting on water reservoirs and water quality.

The concluding comments by the panel chair, Professor Tommy Kho, emphasised the common themes emerging from all three events (International Water Week, Clean Enviro and World Cities Summit) was the importance of cooperation in meeting and facing global challenges that were highlighted throughout these concurrent events.

13:30 MOU Signing – Water Corporation and ZWEEC Analytics

The Minister was present for an MOU signing with ZWEEC Analytics, Singapore to trial their intelligent and automated bio-monitoring system, AquaTEC.

As part of the Water Corporation's Innovation Program, the Corporation will undertake an initiative to trial a biological-based early warning monitoring system which uses fish as bioindicators of water quality. Water utilities in Singapore, China, Hong Kong and Taiwan use similar approaches which employ video surveillance together with data analytics to monitor changes in fish behaviour in response to varying water quality conditions. These utilities have reported good results from the technology, and realised savings in sampling and analysis costs.

14:30 – 16:15 Briefing on the 'Singapore Water Story' and tour of the NEWater Visitor Centre

Dr Steve Capewell, General Manager, Water Corporation, joined Minister Kelly's group.

The delegation received a briefing on Singapore's water story and visited the NEWater visitor centre. NEWater is high-grade ultra-clean reclaimed water, which contributes to Singapore's potable water supply. The NEWater Visitor Centre provides visitors with information on the role that NEWater plays in Singapore's long-term water strategy. The tour of the Visitor Centre provided a detailed walkthrough of the three major steps in water purification, including the technology that is applied at each stage.

16:45 – 18:45 Briefing on and tour of the Changi Water Reclamation Plant and the Deep Tunnel Sewerage System

The delegation toured the Changi Water Reclamation Plant (WRP) and was briefed on the deep tunnel sewerage system (DTSS). The WRP is one of four water reclamation plants in Singapore, serving a population of 5.6 million. The WRP features a wastewater treatment facility designed to treat 800,000 cubic metres per day of wastewater. Treated wastewater will be returned to the environment or channelled to NEWater factory.

The DTSS was envisioned as a sustainable and cost-efficient solution to meet Singapore's long-term needs for wastewater management and is composed of a network of sewers leading to two major tunnels criss-crossing Singapore with three large water reclamation plants at the northern (Kranji), eastern (Changi) and western (Tuas) ends of Singapore, as well as deep sea outfall pipes.

The delegation obtained a briefing on the DTSS role in water security, the technology employed and the role of local employment in enhance domestic expertise.

Wednesday 11 July

9:00 – 9:30 Commonwealth Capital

Meeting with Commonwealth Capital, Mr Andrew Kwan, Managing Director
Also attending were Ms Alyesha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore.

The Minister met with Commonwealth Capital Pte Ltd (CCPL) to gain an introduction to this group of companies including Barramundi Asia. CCPL is a Singapore-based investment company with a food and beverage portfolio covering end-to-end manufacturing, logistics, and retail services. CCPL has invested in companies that engage in barramundi farming (among others) and operates a state-of-the-art warehousing and logistics services for food retailers, and manages more than 200 retail points in thirteen countries. Commonwealth Capital has also invested in companies engaged in upstream food production, such as Barramundi Asia Pte Ltd (BAPL). Commonwealth Capital have just purchased Marine Produce Australia the owners of Cone Bay Barramundi.

10:00 – 10:30 SG Innovate

Meeting with SG Innovate, Mr Steve Leonard, CEO and Gemma Manning, Gemstar Technology.
Also attending were Ms Alyesha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore.

The delegation met with SGInnovate to understand how:

- SGInnovate fosters innovation and entrepreneurship in Singapore
- successful SGInnovate has been in translating R&D and intellectual property into commercial enterprises
- Singapore responds to challenges in fostering entrepreneurship and in nurturing entrepreneurial talent.

SGInnovate is a private organisation wholly owned by the Singapore government, which enables aspiring entrepreneurs in Singapore to imagine, start, build, commercialise and scale up globally-relevant innovations from Singapore. SGInnovate focuses on deep tech or transformational technologies that have horizontal applications to many industries. Such transformational technologies include artificial intelligence and blockchain. SGInnovate aims to make direct investments into at least 20 deep tech startups founded in Singapore in 2018.

10:45 – 11.15 Tour Gemstar Technology Singapore Innovation Centre

Tour attended by Ms Gemma Manning managing director Gemstar Technology, Ms Alyesha Anderson, Ms Natalie Tan and Mr Melvin Sico (GoWA Singapore)

GemStar connects new technologies with investors, partners and customers in local markets and with a focus on Singapore as the gateway to Asia. There are two Innovation Centres for Gemstar, Singapore and a newly opened centre in Perth. The delegation toured the Singapore Centre and discussed how Western Australia is in a perfect position to be the epicentre of innovation in Australia by capitalising on our unique location, time zone and industrial strengths.

11:30 – 12:30 Agency for Science Technology and Research

Meeting with the Agency for Science Technology and Research (A*STAR). Meeting with Prof Zee Upton, Executive Director, Institute of Medical Biology, Dr Ang Kai Keng, Head of Neural Brain Technology, Institute for Infocomm Research, Ms Neo Kah Yean, SVP, Biomedical Sciences Divisional Head.

Ms Alysha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore, also attended.

A*STAR, is Singapore's lead public sector agency that spearheads economic-oriented research to advance scientific discovery and develop innovative technology. A*STAR's R&D activities span the biomedical sciences and the physical sciences and engineering. A*STAR oversees eighteen biomedical sciences and physical sciences and engineering research entities. At the meeting the delegation obtained an understanding of A*STAR's role in the Singapore economy including leveraging locally-owned intellectual property; translating R&D into commercial success; attracting talent; forming partnerships and collaborative endeavours with domestic entities and overseas institutions. The delegation was also briefed on A*STAR's role in the innovation ecosystem:

- How A*STAR taps into the government's Research, Innovation and Enterprise 2020 Plan which has a S\$19 billion budget for R&D during the 2016-2020 time frame
- How A*STAR collaborates with universities who often have their own startup incubator setup
- How A*STAR works with overseas entities to conduct R&D and/or commercialise intellectual property

A discussion was held on how Western Australian entities can partner with A*STAR.

14:30 – 15:30 – visit Marina Barrage

Visit to the **Marina Barrage** and tour of the **Sustainable Singapore Gallery with Mr Geoffrey Stephens of the Public Utilities Board**.

Built across the mouth of the 350-metre wide Marina Channel, the Marina Barrage is the first reservoir located in the heart of the city. The Marina catchment is the island's largest and most urbanised catchment. The Barrage is part of a comprehensive flood control scheme to alleviate flooding in the low-lying areas in the CBD. During heavy rain, the series of nine crest gates at the dam are activated to release excess stormwater into the sea when the tide is low. In the case of high tide, giant pumps can drain excess stormwater into the sea. Unaffected by tides, the water level in the Marina Reservoir is kept constant all year round. This makes the reservoir ideal for all kinds of recreational activities such as boating, kayaking and dragonboating.

The delegation was briefed on the role of the Marina Barrage in promoting water security in Singapore and the engineering challenges involved in building and maintaining the Marina Barrage.

Sustainable Singapore Gallery was opened earlier this year and provides a comprehensive and immersive educational experience to explain Singapore's sustainability challenges and opportunities. The delegation were particularly impressed with the way that the gallery was able to convey complex messages about issues such as climate change with clever and clear evidence and information. The gallery also had a display about the Singapore government's goals for sustainability which are reported on annually.

16:00 – 17:30 – Visit to Bishan-Ang Mo Kio Park.

The purpose of this visit was to receive a briefing on Singapore's Active, Beautiful, Clean Waters (ABC Waters) Program, of which the Park is a component. The program was launched in 2006 to transform Singapore's water bodies into beautiful and clean rivers and lakes. Bishan Park was deemed ready for refurbishment, and the adjacent concrete waterway was to be upgraded to cater to increased rainwater runoff. Plans were made to carry out redevelopment works covering Bishan Park and the waterway, transforming the canal from a 2.7-kilometre concrete drainage channel into a 3-kilometre river meandering through the park.

The delegation received a briefing on the ABC Waters Program and Bishan-Ang Mo Kio Park. This included the impetus for the construction of the Park; the design process; what considerations emerged during the design process; how the Park's current features were selected for inclusion in the final design and how the Park contributes to Singapore's water security and livability.

Thursday 12 July

9.00 – 10.00 – Meeting with Hai Sia Seafood.

Meeting with Hai Sai Seafood Deputy Director Mr Ang Junting and Senior Marketing Executive Mr Melvin Sim.

Ms Alysha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore, also attended.

Meeting to discuss export opportunities from the Western Australian commercial seafood industry to Singapore. Western Australia has a reputation for clean, green and sustainable seafood. Discussed opportunities for the Western Australian industry to use these attributes to market themselves and increase exports to Singapore. The delegation also obtained an overview of the seafood business in Singapore and how Hai Sia have retooled themselves to become a modern seafood distributor.

11.00 – 12.30 – Meeting with Singapore Technologies Electronics Limited.

Meeting with Mr Ravinder Singh (President ST Electronics), Yao Shih Jin (Executive Vice President), Sin Boon Wah (Executive Vice President), Koh Chan Tia (Senior Vice President/ Deputy General Manager), John Yen (Senior Manager) and Jaoh Chow Jin.

Ms Alysha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore, also attended.

The delegation obtained an introduction to the Singapore Technologies Group and the ST Electronics division responsible for info-comm systems. Singapore Technologies Electronics Limited operate in aerospace, marine sector, electronics and land systems. The company has started to move towards the robotics and space industries. Received a briefing on the opportunities to reduce a city's carbon footprint by harnessing new technologies such as smart energy, smart lighting, smart water and smart transportation.

13.30 – 15.00 – Visiting the Australian Landing Pad.

Meeting with Mr Taliessin Reaburn, Trade Commissioner Austrade, Samantha Mark Landing Pad Manager Singapore and Robert Spencer Managing Director Stirling Labs.

Ms Alysha Anderson, Mr Melvin Sico, GoWA Singapore, Ms Natalie Tan, GoWA Singapore, also attended.

The delegation was briefed on the Landing Pad's origins, rationale and interactions with the other players in Singapore's innovation sector. Insight was also provided into the Landing Pad's screening and recruitment process of Australian startups, and how startups are assisted in business and market development, fundraising and collaboration with overseas research facilities. The delegation also met with Perth-based innovator Robert Spencer Managing Director of Stirling Labs to discuss the development of his VR tools which are helping engineers, architects and designers better understand the complex structures that they are designing and building. Mr Spencer also provided a demonstration of his VR tools.

Travel Singapore - Perth. Arrive Perth 23.50.