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Madam Speaker Purick took the Chair at 10 am.

VISITORS
Partners of Attendees of Portable Long Service Scheme Conference


Members: Hear, hear!

SPEAKER’S STATEMENT
Captioning on TV Broadcast

Madam SPEAKER: Honourable members, a number of members have asked me when captions will be back on the televisions. Following a power failure, the caption machine blew up to smithereens. One bit went that way, another bit went that way. So, we do not have the machine anymore and the scrolling text on the TV or the web. The machine was outdated—now it is really outdated—and we are looking at a new system.

Mrs Finocchiaro: As long as that music does not come back?

Madam SPEAKER: No, the music is gone too. That went that way as well.

Ms Fyles: We are unanimous about the music.

Madam SPEAKER: The music was to keep the computers awake.

Members interjecting.

Madam SPEAKER: I asked Mr Clerk to get Dolly Parton and he said we would have to pay for it, so we did not get it.

LEAVE OF ABSENCE
Member for Arnhem

Ms FYLES (Leader of Government Business): Madam Speaker, perhaps one day we can debate what music Hansard will play.

Madam Speaker, I seek a leave of absence from the Assembly for the Member for Arnhem, who is representing the Chief Minister at the Native Title Minister’s Meeting in Canberra today. This ministerial meeting is deliberating amendments to the Native Title Act, and the process of consultation nationwide on this important legislation. It is very appropriate that the member is there representing the Northern Territory.

Leave granted.

MINISTERIAL REPORT
Palmerston Regional Hospital

Ms FYLES (Health): Madam Speaker, it is a great privilege to deliver the first ministerial report in the Northern Territory Legislative Assembly on the great progress this government is making in delivering the Palmerston Regional Hospital.

Territorians want and deserve access to high-quality health services. Our government is committed to this across the Northern Territory, particularly for the people of Palmerston and the rural area. It is important for them in the future of health services to have this hospital.

I have visited the construction site several times over the past year. Most recently, two weeks ago, I visited with the minister for Infrastructure and the local hard-working Member for Brennan ... 

Mr Wood: No, no, excuse me, the local member is here. That is what you forget.
Madam SPEAKER: Order!

Ms FYLES: In terms of talking about local members, I know the Member for Nelson is also hard-working and the Palmerston hospital site causes controversy at times.

The Palmerston hospital will services people across Palmerston and the rural area. It will also benefit Territorians of the Top End more broadly because it provides a new hospital—a campus of Royal Darwin Hospital—that will ease pressure on some of the services at Royal Darwin Hospital.

I commend the minister for Infrastructure for the work she has done leading her department in managing the contractor, Lendlease, to ensure this most important piece of health infrastructure is progressing on time and on budget. This is something those opposite were completely unable to do.

It gives me great pleasure to update the House this morning that we are on target for the construction of the project to be completed by March 2018, followed by a commissioning stage with the Department of Health. I expect that the hospital will open its doors and the first patients will be attending Palmerston Regional Hospital in July 2018.

Since February 2017 the project has seen an average of 250 staff working on-site, peaking at around 300 in July 2017, creating local jobs for Territorians. However, this hospital is more than jobs in the construction stage. It is an important piece of health equipment that will link together the five other hospitals across the Northern Territory. It is an important project to deliver quality healthcare for Territorians into the future, and every effort is being made to ensure the building is constructed to the highest of standards.

The Palmerston hospital is funded jointly with the Australian Government. I acknowledge it for its contribution of $170m. It is the first new public hospital in the Northern Territory in about 40 years. The hospital is being built to Importance Level 4 (IL4) standard, meaning the structural strength will withstand a Category 4 cyclone, while incorporating the ability of the hospital to stand alone in an emergency situation for five days.

The Palmerston hospital has been designed as a campus of the Royal Darwin Hospital, which will remain the Territory’s tertiary specialist hospital. The extra inpatient and surgical capacity at Palmerston will be utilised to complement Royal Darwin Hospital and reduce bed blockage, providing the best patient-flow service models.

Detailed clinical planning has been in progress for the past two to three years and continues with lead medical, nursing and allied health clinicians working through every detail of the delivery of services at the hospital.

Over 300 clinicians and support staff have been engaged with the design of the facility, selecting the equipment types, floor and room layout, furniture and fittings to ensure every aspect of the hospital will deliver our hard-working health staff the ability to provide the best care to Territorians.

Royal Darwin Hospital will remain the specialist hospital and will provide services for major emergency, surgical and complex trauma care for adults and children.

The Palmerston Regional Hospital will have a staged opening to ensure staffing and systems are in place as the facility gears up to full capacity and expansion into the future.

Upon opening, the emergency department will accept patients 24 hours a day, seven days a week, with emergency-trained specialists. It will have the capacity for resuscitation, diagnosis and treatment. Critically ill patients will be stabilised before transfer to Royal Darwin Hospital for ongoing specialist treatment, for example, in the intensive care, coronary care, or neo-natal intensive care units.

Palmerston emergency department will be supported by the adjacent extended emergency medicine unit where patients can stay from approximately four hours up to 24 hours for observation and monitoring without requiring admission to the ward or transfer to Royal Darwin Hospital.

This model of care is seen around Australia and the world where, within a small geographical area such as the Darwin and Palmerston region, you have the tertiary hospital with its subsidiary campuses providing medical care.

Paediatric beds will be provided in the ED for children with short-term, non-life threatening conditions.
Day surgery planned for elective cases will be available from opening, and this service will include pre-admission clinics, consultation, diagnosis, treatment and pain management, and post-surgery care. The type of surgeries that will take place will vary. It is envisaged that specialist dental; urology; ear, nose and throat; gynaecology and plastic surgeries, including paediatric cases if appropriate, will take place. More complex or specialist surgical procedures will continue to be performed at Royal Darwin Hospital.

The day surgery will operate from Monday to Friday, 7 am to 6 pm.

During the first 12 months of operation, surgical capacity will expand to include other planned procedures where the patient may need to stay in the hospital overnight.

The general medical ward will be available on opening with 16 beds and has the capacity to increase to up 24 beds. The ward will be able to receive patients directly from the ED after assessment by a specialist in emergency medicine or by direct admission for investigations and treatment.

The medical ward is being designed with a mix of twin and single bedrooms with televisions, en suite bathrooms and views of the courtyard. Each ward provides access to the patient lounge with a TV, dining area and several private courtyards and balconies.

Maternity services are highly anticipated by the Palmerston and rural community. We are building the Palmerston maternity service into the integrated maternity service model for Top End Health Services.

The maternity service will commence with ante-natal and post-natal care, and breastfeeding support on a Monday to Friday basis. As the service operations mature, the maternity ward will accept new mothers after they have given birth at Royal Darwin Hospital who wish to remain in hospital but prefer to be closer to home.

Top End Health Services will work towards providing birthing services at Palmerston hospital as we engage a safe level of staffing with the right skill mix to ensure safe birthing. The safety and the health of mothers and babies is paramount. This is the model you see in other jurisdictions.

The rehabilitation service will transfer from Royal Darwin Hospital, which will provide from 18 to 24 beds. This is a 25% increase in capacity. The rehabilitation staff I have met are excitedly looking forward to the custom-designed facilities for inpatients and outpatients, the therapy space, gymnasium and the hydrotherapy pool which we announced in Budget 2017.

I thank the minister for Infrastructure for acknowledging that when building a hospital with rehabilitation services it must have a pool. This is something those opposite failed to deliver. Patients will be accepted from over 14 years of age and their treatment will be personalised to help them regain and improve strength, mobility and independent living skills.

The rehabilitation service is comprised of a multidisciplinary team with medical specialists, nurses, physiotherapists, occupational therapists, speech pathologists, dietitians and social workers.

In May I was pleased to meet the recipient of the 2017 NT Administrator’s Medal for Lifetime Achievement in Nursing/Midwifery, Ms Denise Spencer, who was recognized for her 20-year commitment to the rehabilitation service. I witnessed her delight when describing the capabilities afforded for rehabilitation in this new facility.

The rehabilitation services provide therapy for people who have suffered conditions such an acquired brain injury, spinal cord injury, stroke, vascular conditions, amputations, major burns, multi-trauma et cetera. The rehabilitation team will be able to provide comprehensive and quality care at Palmerston for inpatients and ongoing for outpatients to achieve their therapy goals.

The geriatric evaluation and management, or GEM service as it is more commonly known, will transfer from Royal Darwin Hospital. It will open with 16 beds, increasing over the first year to 24 beds. The GEM service is designed to improve the quality of life and mobility for older, frailer Territorians and people affected by serious illness or injury.

A 24-hour nursing care is provided with a dedicated medical and allied health staff. The GEM will assist older patients to strengthen, reduce their hospital stay and avoid re-admittance.

The Palmerston hospital is designed to provide a pleasant experience for patients and visitors alike. It has a large central plaza which provides natural lighting throughout the building. There will be a cafe and a
children’s playground in the facility. There are multiple courtyards for staff and patients throughout the facility to encourage access to fresh air and relaxation.

Many clinical, support and back-of-house services will be relocated to the Palmerston hospital. My colleagues and I recently toured the facilities being prepared: the pharmacy; pathology; medical imaging; medical records; learning and development; clinical administration wing; and the commercial kitchen facility, to name a few. In addition, facilities are being prepared for engineering, maintenance, the mortuary and generator backup, which is essential for the hospital, particularly in its cyclone capability.

Construction is on track for completion in March 2018. The months following the handover of the building are critical in preparing and testing the hospital, staff procedures and systems so they are safe and ready to accept patients in July 2018.

Budget 2017 confirmed that $36m over two years has been allocated to support the commissioning of the Palmerston Regional Hospital. This includes purchasing furniture, fixtures, equipment, and information and communications technology to ensure the provision of safe, quality clinical services at the Palmerston Regional Hospital. This procurement is progressing well and will continue over the coming months.

I am pleased to say that the audiometric booth has been installed on-site. Medical imaging equipment has been purchased and is scheduled for installation in February 2018, including two general X-ray machines, a CT scanner, digital X-ray and two mobile X-ray machines.

Preparing the hospital also requires the stocking of supplies such as rubber gloves, hand towels and cleaning products, as well as the essential medicines and dressings needed in each unit. Another major preparatory stage is testing the essential systems such as the nurse call system, the fire system, backup power functions and information technology. A hospital cannot function without these systems being tested, re-tested, checked and ready to go.

We are about to embark on a comprehensive recruitment strategy for the engagement of up to 300 new staff. Some of the existing staff at Royal Darwin Hospital may choose to transfer to the Palmerston campus, while other staff may rotate on a rostered basis between the two hospitals. Staff need to become familiar with the layout of the new hospital, its equipment and systems. Five million dollars will be brought forward to 2017–18 for engaging, preparing and training staff to start up the new facility in readiness to treating patients from July 2018.

Parking at the Palmerston Regional Hospital has been planned from the start. There will be a total of 337 free parking spaces for staff, patients and visitors, half of which will be under cover. Access to the hospital will also be available by a public transport bus route with a new route to commence upon the opening of the hospital from the Palmerston bus interchange to the hospital.

I thank the minister for transport for her assistance with the access, aligning the hospital shift times and connecting to the broader bus network. That is very important work so we can provide access for patients, campus visitors and staff. If staff are moving from Royal Darwin and live in the Palmerston area, they can now use public transport to get to work.

There is a plan for buses to run every 30 minutes, increasing to 15 minutes during peak times, six days a week, as well as operating with varying times on Sundays and public holidays.

The Palmerston Regional Hospital is a major health initiative. I am proud to be part of a government which is delivering it, not just digging holes, filling them in with special concrete and trying to pull the wool over Territorians’ eyes. We have constructed the hospital. We are planning for its future, whether it is providing additional funds for the rehabilitation pool—making sure staff have the resources and the clinical plans to deliver the best care possible for Territorians.

It is a major health initiative that will not only benefit residents of Palmerston and the rural area, but will contribute to high quality health services for all Territorians. After a very rocky road with false starts and unnecessary delays over the term of the CLP government, I am pleased to report to the House that the hospital is progressing to plan.

I look forward to providing further updates as we get closer to the opening of the hospital. It is a great privilege to present this report to the House, the first ministerial report, on such a key initiative. I thank members for the opportunity.
Mrs FINOCCHIARO (Spillett): Madam Speaker, the Palmerston hospital is something I love to talk about in this House and have had the privilege to speak about over the last four or five years.

One thing that strikes me, and I cannot get past it every time the Minister for Health raises it, is she thinks it was her idea, she built it, and Labor has come to the rescue and built an entire hospital in 12 months of being in government. That is very wishful thinking. I am sure the minister and this government wish it was their idea. I have a history lesson for the members opposite. A lot of you are new and even the ones who have been around for a long time have erased a lot of the factual details from their memories.

I welcome this statement because the people of Palmerston, the rural area, Darwin and the northern suburbs have been waiting for a factual update. For this government to stand here and pretend that it built Palmerston hospital—what is that saying on the BCF commercial? ‘Tell them they are dreaming, Barry.’ You have to be joking me, Minister for Health, if you think this project came about because of you and you are the saviour. It was extremely well advanced by the time you came to government. I do not think anyone is falling for your rhetoric on this. But nice try.

My history lesson for those who clearly need it dates back to this idea or concept of a Palmerston hospital, which the Member for Blain, Terry Mills, had from the start. That was in the lead-up to the 2008 election.

Mr Vowles: interjecting.

Mrs FINOCCHIARO: Well, the Member for Johnston knows his history. I am very pleased about that.

That is where the conversation started. It was in the lead-up to that election that this conversation, this concept of needing a Palmerston hospital came about. The reason he brought that to the table was because the people of Palmerston felt it was time. It is a growing city; the rural area is expanding; it is a huge catchment area.

With all the growth in this region it is clear that RDH has a limited lifespan. It is an aging hospital. It was never purpose built for our conditions. We all know it is modelled off the Canberra hospital, which is modelled off a Canadian hospital. Over time we knew we would need to build a new hospital, and where should it go? Somewhere in the Palmerston or Holtze region.

That is where it started. Then a lot of champions came on board. We all remember and love Pete Davies, who is no longer with us. He championed this project heavily after that point and really came on board. He pushed politicians to get it happening and continue it on.

Then Labor won and the then Minister Vatskalis, now the Mayor of Darwin, at first said it would be a cruel hoax to tell the people of Palmerston they would get a hospital. Then what do you know? He jumps on board and says that it might be a good idea.

Then that Labor government proceeded down this short-sighted path, which I suppose is very common and ordinary for a Labor government to have such short-sighted views, so I do not know why I am surprised. As a Palmerston resident, it really struck me. Why did you identify a site that is completely landlocked? There could be no expansion whatsoever. It did not have arterial access. It did not show growth, nor did it show respect for our connection to the rural area. It was extremely short-sighted and did not have room for planning and expansion. It really would have been an extension of the Palmerston Super Clinic.

It did not meet the expectation of Palmerston residents. It once again highlighted for all to see that Labor and Palmerston do not mix; it is like oil and water. Labor just do not seem to understand what people in Palmerston want. I hope the Members for Drysdale and Brennan can get across it for the benefit of their electorates, but we are yet to—the proof will be in the pudding.

The site was too small, did not provide for growth and did not have the necessary access.

Over time, the CLP is elected and we identify a 45-hectare site. An enormous site on the Stuart Highway, our major connector road, right on the edge of Palmerston, in Holtze, the Member for Nelson’s electorate in the rural area. I think Madam Speakers is fairly close by, she will have wonderful access—probably jump her back fence and head over there.

Here we have a new, huge site that has real growth and connectivity between Royal Darwin Hospital via our major roads and into Palmerston and the rural area. The access from that site is fantastic. The site itself is fantastic and it allows for growth. The hospital we have out there, which is fabulous, is a tiny spot when you
compare it to the site. This shows it can have growth. It shows we thought about whether we would eventually need accommodation for nurses or visiting specialists. Will we eventually need to be putting additional and ancillary services there for businesses? Perhaps that will become a giant medical precinct of sorts. All of these things are possibilities.

The other key point to that building, and something I am very proud to have championed very hard on, was that it needed to be able to expand. We could not just build a building and tack on as time goes by and none of it fit together.

Construction like that is fraught with problems right from the start. We were able to design a building that not only has tremendous natural light, but has wings full of gardens so that patients can get outside in a safe, controlled, and healthy outdoor environment.

Not only does it have those lovely elements to it, which really make all the difference—on my visit a couple of months ago, I felt the airiness of that hospital. It does not feel like you are in a hospital. It is really important for patients to have the best experience in very difficult, trying times.

The physical construction of Palmerston hospital allows it to expand out and up. It has been purposely designed and constructed so that as inevitable extensions to the building are required, they can be fully integrated. It has been designed with the knowledge that the walls may go out and up. That is an incredibly important aspect of this hospital and one I am sure the Labor government would have overlooked, using that money in a short-sighted way, putting it elsewhere. We felt that was a critical and key component of the design of this hospital, and it is something I am very proud of.

Another component of this hospital which we listened very strong to the community about was the car parking. The car parking space for visitors and those having to stay in the hospital is much larger than required, going above and beyond to provide extensive car parking, half of it under shade. That is the result of all the feedback received regarding difficulties with parking at Royal Darwin Hospital. This responds to our climate, rain, heat and sun, and the fact we have a growing population of fabulous seniors in the Palmerston and rural area. They are an asset to our community. As far as I am concerned, the more seniors moving to the Palmerston and rural area the better.

The second element which I am incredibly proud of—and this had nothing to do with the Health minister, with all due respect—is that our staff and their cars will be safe. When they are going to and from work they are safe. That was a huge priority for us. Nurses came to me and provided the feedback that if there was one thing provided, it had to be secure car parking for staff. And that is what we did.

On my visit a couple of months ago I was assured that the staff car park is safe, controlled, has CCTV and lighting, and will ameliorate the concerns staff might have regarding their car park. That is a tremendous tick in the box. It is an excellent feature of this modern hospital of the future. That is very important.

That ends my history lesson, but it is important to note that Palmerston hospital is not the tertiary hospital, Royal Darwin remains that. Through our consultation in a number of forums members of the public were very concerned it would be confusing. ‘When do I go to Palmerston hospital and when do I go to Royal Darwin Hospital?’ I hope the department has the opportunity to continue to push out an education campaign so that people understand what a level three hospital is as opposed to a tertiary hospital.

People ask questions such as, ‘If my son breaks his leg do I go to Palmerston or Darwin?’; and, ‘If I am in a major car accident where will I be taken?’ These are all valid questions and the government needs to ensure the Department of Health is pumping out that information. If you present at Palmerston hospital you will, at the very least, be stabilised and then transferred to Darwin. That is my understanding.

An education campaign is nonetheless very important. We did a lot of work on that. This government needs to recognise that people still have a lot of questions. I am sure as the hospital operates people will become very familiar with its capacity.

The hospital will have rehabilitation services. I am pleased the minister finally came on board to agree to the rehab pool. It is not very forthcoming. She makes it sound like it will be there when the hospital opens, but I understand that is not the case. We met with IDA and others, which are very concerned the hospital would not have the hydrotherapy pool, but I am pleased it has been added retrospectively. It will be a significant benefit to the rehabilitation ward.
In regards to maternity services, the minister could spend a bit more time—for the public’s information. The Deputy Chief Minister said yesterday that the most important thing about major projects is that the public understands and feels ownership, enjoys them and accepts them. The Minister for Health could do a bit more to explain why women will not be able to birth at Palmerston hospital. The rhetoric has been that it is not safe and as things change that will come about; but she could not explain why it is not safe at this point in time. There was a big expectation that Palmerston and rural women would have complete maternity service care, antenatal through postnatal, at the Palmerston hospital. Greater education and communication with Territorians would be appreciated.

It will have a day surgery; geriatric evaluation and management services, which is welcome in our community; the medical ward; and all the ancillary services you would hope for such as pharmacy, pathology, medical imaging, mortuary, learning and development, and the kitchen, among others. Those are fantastic attributes of the hospital.

We have had an unprecedented level of local trades and people working on that project. We always think about local content; it is a huge issue. This government has done a lot on procurement reform. We all have people from our electorates saying we should be buying local and giving contracts to locals. The Palmerston hospital has had an exceptionally high level of local content, which is fantastic to see.

The bus services will be welcomed by many, but I ask the minister if the hospital bus shuttle will continue, as it does with door-to-door service from Palmerston to Royal Darwin Hospital, for seniors in Palmerston travelling to the Palmerston hospital? There are people who do not have the ability to get to the interchange and catch ordinary buses. We have the wonderful Palmerston hospital shuttle service that takes people to RDH. I hope that service will be extended to Palmerston hospital. That remains to be seen.

In closing, I am pleased I was able to provide the very important history lesson. This is a project that dates back to the Country Liberals in 2008. It was danced around by the Labor government with some poor decisions. Thank goodness no concrete was poured, even though right before the 2012 election we saw a ridiculous fence erected around that improper site. There was a bulldozer or something put in the middle and that was the end of that. When the Minister for Health talked about stunts and debacles, I wanted to refresh her memory on that stunt and debacle. Palmerston residents stared at this ridiculous fencing on an empty block for many months.

This was $110m committed by a Liberal federal government, our local member. The remaining funds were then committed by a Country Liberals Northern Territory government. That is the history of the project. At the time this government commenced in August last year, the hospital was two storeys out of the ground and the car park was built. Over the last year it has been all those internal works and final touches. It is a fantastic hospital.

Understandably, there will be the end of construction and then a slow handover. We would not want to see patients going in there while teething problems are being sorted out. We understand that on any new build—even with a new home—everything is not always working as planned or sometimes you need minor tweaks and get tradespeople back in to change or remedy certain elements. It is good common sense to have a couple of months’ phased rollout. People are anxious and waiting for it to open and get through the door but that needs to be done in a safe and proper manner.

I thank the minister for giving us an update. I hope my update has helped shed some factual light on the Palmerston hospital process. We look forward to hearing further updates. Of course, we all look forward to an invitation to the opening, given the hard work many members of parliament have put in. We hope a bit more acknowledgement and bipartisanship across to the opposition and the crossbench can be put into this project. This government stands nothing to gain by ostracising people who have been involved in it for a very long time. I am sure the Members for Nelson, Blain and I, amongst others—even the Member for Araluen, who was the Health minister for part of the hospital process—would be very pleased to attend the opening and be part of this wonderful addition to the Palmerston and rural community.

Ms MANISON (Treasurer): Madam Speaker, I thank the Minister for Health for presenting this important parliamentary report. Picking up on the Deputy Leader of the Opposition, I agree that it is important to acknowledge the work of previous governments. There were significant bodies of work done by the previous Labor and former CLP government, both at a federal level of Liberal Coalition and Labor governments. We have gone across many different governments now.

When you look at the history it is important to recognise that there was a significant, real, sincere and very professional body of work done by the previous Labor government on the design of the hospital. There was
a fully serviced site ready to go. The project was well advanced. The way the hospital was designed, it could be expanded as well. There was a project ready to go. Had that been followed through we would have the hospital open by now.

We saw a change of government. That government decided there was a need for a different site, they pursued that. As the government of the day that was their decision and was to be respected. We saw significant delays from the time they decided to change the site.

We saw changes in the methodology of how to deliver the hospital. We went from design-and-construct, to attempts at a PPP, then back to design-and-construct. We saw further delays in getting started. There were several reshuffles in the previous government. The rate of those reshuffles under the previous government had an impact across the public sector and on the delivery of this type of project.

We will never forget the media event on the hole that was dug then filled in. How could anybody ever forget that hole?

I pick up on the point of maternity services and the rehabilitation pool. I remember going to a public consultation with the Member for Araluen when she was the Health minister. Even then we were talking about the maternity service and whether or not you could deliver a baby on site.

Clearly the advice was for a staged rollout. You have to take advice from the clinicians. As somebody who has had an emergency caesarean, when things go wrong in the delivery of your baby you need access to services very quickly. I still cannot believe what a quick process it is to get to an emergency theatre if you are in that situation.

It is important that we listen to the clinicians’ advice. Maternity services will be very important, particularly after mothers have delivered—to be able to be closer to home with their babies.

Ultimately we are talking about a hospital and, at times, life and death. It is important to take clinical advice. The minister is committed to working towards increased maternity services. There will be further options for mothers before and after they have the baby.

The rehab pool was left out of the previous design. It was not part of what the former government was going to pursue. As the Infrastructure minister and Treasurer, it was raised with me early in the piece by the Health minister. As a Cabinet, we decided that given the strong focus on geriatric health and rehabilitation at the hospital it was very important to have a rehab hydrotherapy pool in the hospital to best serve clients.

When we came to government we realised we needed to give the Department of Health and the Department of Infrastructure, Planning and Logistics support to get the job done. We were conscious of the need to give them the support and time to focus on their task of building the hospital on time and on budget.

Everybody in the Northern Territory stands to benefit from the delivery of the Palmerston Regional Hospital, not just rural residents or the people of Palmerston. Ultimately this hospital will take pressure off RDH as the main tertiary hospital in the Northern Territory where most specialist services are delivered.

I will place on record my thanks to staff within the Department of Infrastructure, Planning and Logistics who worked hard on this project across governments, especially the leadership of DIPL under Andrew Kirkman and Brett Brogan. The people who have been part of this project doing an amazing job, from the Department of Infrastructure, Planning and Logistics are Glenn Brady; Mark Bines; Graeme Shaw; Shantelle Ward; and the site services team, including roads, are Geoffrey Thomas; Lee Anglesey; and Lou Cowan. Thank you very much for your hard work, commitment and dedication. The Department of Health is working incredibly hard, as is Lendlease, and their efforts must be commended.

I will look into the question about the shuttle services, Member for Spillett, and get you some assurances there. Transport services are incredibly important to hospitals and ensuring people who do not have their own transport can get to their appointments.

I will update people on where we are at with the construction of the Palmerston hospital. We are tracking on time and on budget. I say this with a bit of nervousness as we enter into the Wet Season because we know cyclonic activity and heavy rains can have an impact on construction time lines. But we are tracking on time and on budget, and will do everything to ensure we stay on our time line.
Over the last 12 months it has been amazing to watch the huge amount of progress on that site and see the hospital come together. There is still a lot of work to do, but at the last site visit I was taken aback at how much progress had been made over the few months since I had last been there. It was fantastic. Any members of parliament who would like a site visit, let us know and we will arrange it for you.

I note that the Member for Nelson is the local member for the area where the hospital is situated.

The main structure, including the roofing, is fully complete. Works on the external buildings and covered walkways are progressing. The high voltage substation has now been livened up, as approved by Power and Water. Internal fit out and testing of HP switchboards to the internal plant are being finalised and are due to be energised by the end—they should be done by now. External civil works remain ongoing, with the rear staff car park and services ring road nearing 80% complete. This area will be utilised for construction staff parking to allow for construction of the main public car park and emergency vehicle access roads to commence in mid-October 2017, which is now.

Fit-out works are ongoing in all the areas of the main building and wards, including mechanical and electrical communications, cabling, hydraulic, firewalls, wet and dry fire systems, internal petition walls and linings. The main arcade is 50% complete. We had some issues with water pipes that Lendlease are rectifying and replacing to ensure the pipes last the full life cycle of the hospital. That is progressing well. It will not affect the time line and delivery of this hospital and budget.

We have seen to date that 100% of the trade service contracts have been awarded locally, with the current value at $133.8m released to market. There are more than 200 staff working on-site. It is incredibly busy there. The commissioning phase planning has ramped up. There has been a lot of work between the Department of Health and the Department of Infrastructure, Planning and Logistics to ensure the infrastructure and service delivery—that we are working together to ensure the intended infrastructure will meet the operational needs of this very busy place.

We are tracking on time and on budget. This hospital will serve the region very well. It also has the capacity to be expanded in the future to meet the growing needs of the greater Darwin region and the Northern Territory. That is a very good, solid outcome.

There is much more work to do. People are tirelessly on-site every day, working very hard to get the hospital built. I commend them for their work. It is very important that we have this report in parliament so people can get an update on where things are at. As a government, we want to support our agencies to get on with the job and get this very important hospital built as quickly as possible so that it can be open for the people of the Northern Territory.

Mr WOOD (Nelson): Madam Speaker, I welcome this report. I note the minister mentioned this is the first ministerial report in this Assembly. It may be for this Assembly but when I first came to parliament a number of years ago, ministerial reports were common. I am not sure I believe ministerial reports should be 20 minutes long. That is the only thing. Ministerial reports were an opportunity for ministers to give some feedback or up-to-date news on their portfolios. Previously it was only for a few minutes and a limited number of responses were allowed from other members.

The rules are that these reports, to some extent, are like mini statements. I think it is a good idea that we have them and appreciate that this is the first one in this Assembly. I hope other ministers take the opportunity to use the ministerial reports because I think it is good that we have updates on current matters.

At the moment we get ministerial statements and they are as broad as can be. In many cases people wander off and talk about a whole lot of things. Many times ministerial statements are repeated over time. If you have been here long enough, you can probably pull out a file and use the last speech you gave, so I think ministerial reports are something we can get our teeth into.

I should not say this but it reminds me of a past president of our local council, now the mayor. He was always invited to give a speech on Anzac Day. I think my predecessor had three speeches. He said that by the time he got back to the third one, people had forgotten what he had said so he kept repeating the three speeches. It reminds me of ministerial statements.

I am the local member and have been noticing the hospital for a long time. I have been following it ever since the Labor Party was going to put it on the corner of Farrar Boulevard and Temple Terrace. In fact I saw the plans drawn up.
I think Steve Ehrlich was the architect that had a bit to do with it. One of the concerns at that stage was car parking. His concern was that they were going to put in some underground car parking and the rest was to be ground level. I queried that myself, and it was to do with funding. Otherwise, we would end up with the same issue Royal Darwin Hospital has with the lack of car parking.

I remember the fence that went around that site. I would love to know who paid the bill for the fence because it was there a long time and was obviously being paid for by the government. In the end, the hospital did not go there.

Again, a bit of history. To some extent, this hospital had politician support and there is always a bit of politics and populism with these sorts of issues. I remember discussing this with a member of the board. I still think that maybe we never had enough discussion in the beginning about the possibility of building a hospital where the Berrimah Farm was. It could have supported both the Darwin region and the Palmerston rural area—and built on the Stuart Highway. I think that had a lot of merit. At the moment we have two hospitals. I will come back to that.

Even though I supported where the hospital went because at least I knew it had room to expand, $6.4m was spent on that intersection. If someone had bothered to get out of the whole Palmerston psyche, it could have been built on the corner of Howard Springs Road and the Stuart Highway on Crown land. You had just done up the road, as Minister McCarthy would remember. He spent a lot of money duplicating the Howard Springs Road as the INPEX Village and the Good Shepherd came into being because we had major traffic problems there.

You had a perfectly good block of land where you did not have to build an intersection. There was a perfect site with sewerage, water, electricity and a piece of vacant Crown land. Sometimes, politics gets in the way of common sense, which is why it was built where it is. We cannot turn history around but I think sometimes we need to keep things in perspective.

I welcome the minister’s report on the hospital. Believe it or not, I go there with my camera and take pictures from the outside. I put them in my newsletter to let people know what stage the hospital is at. Forgetting the politics, it is important that the local member and people in the rural area—who are also a part of this hospital—know what stage the hospital is at. That is why it is disappointing when ministers go with members of their own party and do not think of the local member because politics gets in the way of things that should not really be political.

I support the hospital even though I have my doubts about whether the site was right or whether we should have built two hospitals. But I support it, and it will be a great thing for the rural area. I call it the Holtze hospital, because I do not think the name Palmerston Regional Hospital is representative of who it serves. I think it should have a better name, perhaps one after a famous doctor. I have previously mentioned Dr Hargrave. He used to be involved in the leprosarium and in facial reconstruction for people in East Timor. There may be other people to consider, such as nurses, who would be more appropriate to name it after, rather than calling it Palmerston and regional—as I call it.

Before it is opened, the government should give some consideration to renaming it. By renaming it, you will be recognising someone for all the hard work they have done in the medical field in the Northern Territory.

The minister says it is on target for 2018, which is good news. The Minister for Infrastructure, Planning and Logistics also said it was on target in relation to the budget. That is an area the minister could have put more about in her report. The original budget was $150m, with $110m from the Commonwealth. We had a fairly energetic debate about making sure that budget would be adhered to. Infrastructure plans in the Territory start to move more and more, then the contractor says they want a variation on the contract, and before you know it $150m becomes $200m.

You probably cannot count the hydrotherapy pool because it was not originally included in the budget. I think it is a good idea. I get worried when they say ‘geriatric services’ as I am not sure if they are having a go at me. Is that section named after me, or is it a service I should use after leaving this place?

It will be important to have that service where it is, because there are many people in the rural area in their older years and will appreciate a service like that being closer than Darwin. When you think of it, there are many people in the rural area who are older than those in Palmerston by quite a bit. Many of those people have lived there all their life.
Based on the discussions we have had about the Pensioner and Carer Concession Scheme, I know my electorate has a high percentage of people over 60. Having this service close by will be a bonus.

Look at the bigger picture. At the moment we have the Royal Darwin Hospital; what is the budget for that? We will have a new hospital; what is the budget for that? Where is the money coming from to run both hospitals? Will there be a drop-off in services at RDH that will compensate for the increase in services at the Holtze hospital? That could have been included in the report today.

It is important to know that it is a budget item. The minister talks about the 300 extra staff at the hospital; they will all have to be paid for. The day-to-day running of the hospital will not be cheap. How the budget for Health looks compared to the present budget will be interesting.

The buses only go to the Palmerston interchange. If you want to call it the Palmerston Regional Hospital, you should recognise that people in the rural area will want a bus service as well. I have told the minister what I think of the petrol app; I think it is a waste of money. It is the sort of money that would be better put into a bus service in the rural area. If we cannot have that, at least expand the personalised bus service Palmerston and Darwin people have to take them to hospital. An extension of that in the rural area would be appreciated.

If there is a bus service running every 15 minutes in peak hour and every 30 minutes normally, and none of that applies to the rural area, then I will be disappointed. Even if you extend the present bus service past the 15 Mile community to Coolalinga on an hourly basis it would at least recognise there are 25,000 living in the rural area. As a rural area it is harder to run public bus services, but there can be some sensible extensions into the rural area that recognises people would like to have opportunities to use the public bus service.

Another issue is planning around the hospital—the Member for Goyder would know this very well. There are other people who live near the hospital and sometimes people forget that. There are people who live on Taylor Road and Wallaby Holtze Road. They have lived there for a long time in the rural area. I do not know anyone there who does not support the hospital going there.

What they do not necessarily support—and this, again is going back into history, I know the Labor Party has some issues and the CLP has had issues about filling in a hole with concrete. The funny thing is it was me who went looking for the concrete because I had been driving up the track—I cannot remember whether I had been to a meeting or something down the track. I read the paper in Katherine and it said there had been a hole dug.

The other one is my good friend, the Member for Araluen—I do not know whether she will mind me saying it. I remember the big pile of dirt pushed up with a bulldozer at the front and a helicopter flying overhead. This was the opening of the hospital site. I thought that was a waste of money, too. The pile of dirt had nothing to do with the hospital, but something to do with the road.

Yes, there have been some publicity stunts, but in the end the thing that concerns people, especially in my area, is the one where the minister for Planning at the time, Peter Chandler, and the Chief Minister, Adam Giles, stood out the front where the new intersection is and held up a picture of what the area would look like according to them, which was a hospital surrounded by 9500 dwellings. There was no consultation with anyone, just an announcement made.

I had trouble getting a copy of the document or the picture from the government; they would not release it. I had to get it from the ABC. I asked them to do a cut because they did a news item that night. I still have the picture. There were to be a massive number of houses all the way down to Howard Springs Road from the hospital.

That was the first of what has continued to some extent. Government, including the Planning Commission, has in its mind what it thinks should happen to the area—which sometimes comes from people in Palmerston. That is, that this area should be Palmerston north. I fought against it for a long time, not because I am against development, but because we have a plan which includes Weddell. When Palmerston has finished development within its boundary, the next city was planned to be Weddell and the rural area would stay as the rural area. But that was not going to happen.
We have seen what has happened when governments cop out of building anything with vision. They build on land like Berrimah Farm, simply because that was an easier option, instead of working out a proper plan. It is the same with Palmerston north.

People have a concern. Recently, there was a subdivision application. You may or may not know that the hospital does not have a physical piece of land that it can call hospital land yet, it will be coming up tomorrow for discussion by the DCA. A couple of weeks ago a plan was released which showed five parcels of land in that area. The government had three parcels for the hospital, one large parcel of remaining land and another strip of land which is more or less the buffer between the extension of Glyde Point road and the rural blocks that exist now.

We had a public meeting and, thankfully, many residents attended including the Member for Goyder, her mother and a few other people. Some of the department people attended as well. They at least acknowledged that people are concerned about the future of the area. They do not want the place to be turned into suburbs. I do not think any of them are saying there should not be some limited development in that area, but that is not the same as 9500 dwellings.

There is no reason that I can see—you cannot have a hospital surrounded by rural blocks. There is this feeling that if you have a hospital then you have to put a suburb around it. No, what do you want? People close by who are sick? You can have a hospital in a cow paddock; it does not really matter. It is there to serve people and if access to that building is there, it does not really matter.

You have to remember, Palmerston is only a couple of hundred metres across the road. It is not as though it is way out of kilt.

On behalf of those in the rural area—some people may say there are only 42 residences in that area; who cares about them? They are important people, especially from my point of view. They have been there a very long time and they would like their rural lifestyle retained. They are not saying there should not be some development, but what they want, I think, is a sensible approach to development in that area that recognises you can have some development, but you can have rural development as a buffer.

For me, rural development is something that neither government has bothered to look at as an alternative to suburban development. There has been very little land, in recent times, left by the government to be developed into rural subdivisions.

The hospital is important and there is no one in that area saying it is not. This hospital has spinoffs. Some of those spinoffs, if not done carefully, will certainly be a cause of concern for people in that area. They are not against development, but you can have—development is not a one-way track, that this is the only way you can have development. There are several ways you can have development and we need to have those options available for people to look at in the area.

Another area of concern has been the drainage. People might go along the highway lately—water from the hospital site, to some extent, is in two catchments. The catchment to the north will go into the King River and may even get into the Howard River eventually. Some of the catchment goes over the edge of that escarpment which, you might notice when you are driving down the highway, is where the bicycle path goes along the old railway line.

Recently the government cleared a section of trees and opened up a drain. They opened a drain on the other side, which I opposed because I think concrete drains and rock drains are things of the past. They have this intention to run water off the escarpment, into the drains and down through Mitchell Creek. Lord knows what happens to all of that water when it gets down the bottom end of Mitchell Creek.

I am disappointed that trees had to get knocked over that actually covered, to some extent, the bicycle path in that area, because it is an important part of that escarpment. I hoped that the development of the hospital did as little change to that area as possible, but lo and behold, a dozer recently knocked over all the trees, they were mulched and then I found out they are going to put some kind of large concrete drain in. I think one should be grass, one should be trees and should be slowing the water down and retaining that escarpment.

Many of us were concerned that the hospital would destroy that escarpment. You can see a little bit of the hospital through it and that is fine. For most of us, the escarpment is really important.
The latest subdivision plan has been dropped and a new subdivision plan put forward because of concerns that whoever was designing the subdivision did not take into account the escarpment.

The escarpment is quite large and is important. The government has listened to people living on Wallaby Holtze Road. They have changed the plans for that area and I think that is really important. That will go for discussion tomorrow at a DCA meeting. I thank the government for at least taking notice of what people had to say.

I thank the minister for the report. I am happy to go and have a look when the minister does. Just give me a ring; I do not live far away. I thank the government for introducing reports. I would love to hear from other ministers as well, because I think that will bring a bit of life back into this parliament.

Ms Fyles: Only allowed one a day.

Mr WOOD: It does not say that here. It says you just go on the list. I will talk to the Clerk later. More than one would be good.

Mr SIEVERS (Brennan): Thank you, Madam Acting Deputy Speaker. What a great day it is to talk about Palmerston hospital being delivered by a Labor Gunner government.

All in this House know the ongoing story of the Palmerston Hospital. We heard some of the stories this morning. For years nothing happened. It was a bipartisan project through the NT and federal governments but as governments changed it seemed that the Palmerston hospital was put further down the agenda.

Questions and pressure were applied to the CLP government on the updates. We saw some very silly games played over a few years with a final incident of a strange hole appearing in an odd spot, which was filled with concrete, then dirt.

You know the rest of the story. We all know; it is well-documented in a famous book. Can we remember the book? Crocs in the Cabinet. I am sure young Chris Walsh could recite all the stories and games that went on during that time. While these games were being played out by the CLP, Palmerston and rural people were suffering.

I worked at the Royal Darwin Hospital for 14 years. In this time I worked in various areas, specifically in alcohol and other drugs.

I would travel to Royal Darwin Hospital from Palmerston everyday. I remember thinking one morning when I was listening to the radio and the CLP games were continuing, that this was a long journey from Palmerston to Royal Darwin Hospital. Imagine how much longer it would be if one of my children was sick or hurt.

The games being played by the CLP were not acceptable. I remember the great member for Sanderson, Luke Gosling and I discussing the issue at the Palmerston Markets. We decided to start a petition on the Palmerston hospital at the markets to highlight the issues and get the CLP and the Liberal Commonwealth governments to commit and build the hospital.

Every week, the number of people who lined up to sign this petition at the Palmerston Markets was enormous. We ran the petition for a month. I remember a rural lady saying to me that if Palmerston people think it is bad to travel to and from Royal Darwin Hospital, think about how it is living in the rural area. It is even worse. It is an hour trip one way to Royal Darwin Hospital, which is not very nice with a sick child.

This lady was right. Then the Labor Gunner government were elected. What a great time that was. We were on the front page of the NT News, another big plug. The headline read—can anyone remember the headline? Labor wins NT election bloodbath. It was a time when the people of the NT stood tall and sent a clear message to all governments; do not treat Territorians as fools.

The first question I raised in government was about the Palmerston hospital. It was the most important subject to me as Palmerston people were suffering and in great need of their own hospital.

I was so pleased to know that the Minister for Health and the Member for Drysdale shared the same passion for the Palmerston hospital as me and all of our Palmerston families. In fact, Minister Fyles was on the job immediately to get the Palmerston hospital up and built and on track. Minister Fyles kept me informed with monthly updates. I could see the walls going up, the roof going on, the mass of people going in and out, working on the project day in, day out.
Then when it was safe to do so, we were invited for a tour of the Palmerston hospital. I was very excited. I went along in my steel-capped boots and fogged-up safety glasses—which they do out there; it gets very humid. Over the following months we received more invitations and updates and continued to visit the fast-developing Palmerston hospital, with our last visit only a few weeks ago.

I must express how happy I am to say that in a little over 12 months of being in government, the Palmerston hospital has come a long way. It is on track and will be completed on time and on budget. Plus, the Palmerston hospital will also have a therapy pool, an additional asset that will be utilised by Palmerston and rural residents.

Upon our last tour of the Palmerston hospital there was plaster, paint, fittings on the walls, floor coverings being moved in and teams of staff from the hospital testing their sections so they were familiar with the work areas and able to provide real-time feedback on any changes or improvements required. This included anything from where a plug fitting should be to the location of a power point. It is a hands-on approach and encompasses everyone from Royal Darwin Hospital and the people who need to be involved.

I am also so excited about the Palmerston hospital coming to reality. It is due to this government’s commitment to Territorians and the people of Palmerston.

As we have heard, our Palmerston hospital will include 116 fully operational beds; an emergency department operating 24 hours a day, seven days a week; a state-of-the-art inpatient and outpatient rehabilitation service; non-urgent planned day surgery; a general medical ward with en-suite bathrooms and television; maternity services including antenatal and postnatal care; inpatient and outpatient geriatric evaluation and management; an outpatient clinic closer to home; Telehealth care for rural patients; a hydrotherapy pool; and will provide local Palmerston medical staff with jobs.

It is great to hear today’s report and update and to know the $170m Palmerston hospital is on track to open in mid-2018 with full furnishings, fittings and equipment.

We have heard much rhetoric today. All these people talked about the Palmerston hospital and whose idea it was and rah, rah, rah. A lot of parties and politicians think a lot, but do not do a lot, as we saw with four years of CLP government. But I know the difference between the CLP and this government is that we deliver. We are delivering. We are building a Labor Gunner government Palmerston Regional Hospital.

I could not be happier and more pleased with the Palmerston hospital development. I sincerely thank everyone involved in its build for the employment of local workers—all the medical staff services and staff from Royal Darwin Hospital, the Minister for Health and this government for its commitment to build the Palmerston hospital for Palmerston families.

Ms LAWLER (Education): Madam Speaker, yes, it is a contentious disagreement and argument about where it is built in our electorates. It is on the corner of my electorate as well.

In talking to the people in Palmerston, I do not think they are interested in the politics of who built it and whatever else. My memory of it is Pete Davis at 104.9 lobbying very hard to have a facility in Palmerston. As we know, Pete was quite unwell. I have a partner who has a chronic illness. He has been unwell for 12 years and many times I have had to travel to RDH in the middle of the night, or backwards and forwards, to visit him when he has been in hospital for different reasons.

From that point of view, I empathise with the people of Palmerston who are very much looking forward to having a hospital just down the road. If you have a young child sick at night, a partner or someone in your family who is sick, it is a damn long drive all the way out to Tiwi. I do not know whose idea it was to put that hospital out there, but at times it must be the most difficult and longest drive for families.

My husband has had a chronic illness but was also bitten by a snake a couple of years ago early one morning. He reckoned I stopped at every red light on the way there. I can assure you there were a lot of red lights, but I was driving my fastest to get him there to get help. He survived the snake bite, fortunately.

It is difficult for people with young families in particular, or older people, to get to RDH. For all of us in the Palmerston and rural area to have that hospital just down the road will be amazing.

It was great to hear about the bus routes and interchange, making it accessible for all people, because it is the case that not everybody has two cars. For young families sometimes it is a matter of a young mum with a stroller to try to get there, so the bus route is a very positive thing.
It is reassuring to know that the car parking will be free. Again, that was a debacle with the CLP, where you had to pay for parking. I know the stress of having to rush out between consultations with specialists because of being worried about paying for parking, which is such a ridiculous thing.

I will not get into the politics, but I will talk mainly about the benefit for the people of Palmerston.

In visiting the hospital on a site tour with the Minister for Health, the Member for Brennan and a number of others recently, the reassuring thing for me was that finally people had listened. We all know how terrible RDH’s facilities are for families, Indigenous people who come to town, and any of us if you need a quiet or relaxing space. It is lovely to see that the Palmerston Regional Hospital will have those fresh air areas and relaxing spaces. There will be lots of light, a children’s playground and green areas.

If you are in hospital, a carer, or supporting someone in hospital, it is lovely to be able to get outside, especially in the Dry Season, out of the air conditioning and have quiet time to reflect or quiet conversations as well. Often when you are in hospital you need that time to have detailed and in-depth conversations with your family. To have those spaces at the new hospital is a wonderful thing, so I commend the designers for their work.

It is reassuring to hear that the clinical and support staff have had input into the fittings. As a person who has worked in education, I know that when you build schools the best people to talk to are those using that facility. They know what is best. We saw the wonderful example of that with the build of Nemarluk and Henbury Schools where the teaching staff and families had input in to the design.

Education does that very well, because they often do upgrades and builds to schools where they consult widely on the designs. That is happening in Tennant Creek with the build of the early childhood centre.

It is great to hear that the clinical and support staff have been involved in the design and selection of the fittings. I believe $36m has gone into that, which will be money well spent to have a lovely environment in the hospital.

The other thing I am looking forward to is the community day. The Member for Nelson talked a bit about that. Those community days will occur in March, when the hospital is completed. It still in the construction phase, so it is hard to take the public to look at it. You need to use PPE gear to go there. The Minister for Health will ensure that once it is out of the construction phase and before it is fully operational there will be opportunities for people in the Palmerston, rural areas and the broader Top End to look at it. It will be wonderful to see that $170m addition to our health services.

Taking the politics out of it, I thank all the people involved in the building of the hospital. When I walked around there I was blown away by the complexities of building a hospital. When you look at every bed, the monitoring equipment, power points, resuscitation equipment and everything else that goes into it—I have a Diploma of Project Management and I was in awe of the project manager on that site. How do you bring all those parts together to deliver something so complex? When you compare it to a school classroom, which is pretty much a box with a few power points—I was amazed at the accident and emergency section there.

Hospitals are getting more and more complex with the technology that needs to be in place. No longer is there paperwork and folders at the end of the beds. It is all computerised. I take my hat off to the project managers and the staff in DIPL, who have worked very hard to complete the project. It looks like it will finish on time and on budget. It is a remarkable achievement.

As the local member for the oldest suburbs in Palmerston—Gray, Driver and Moulden—when those suburbs were being built I do not think anyone would have thought we would have our own hospital. I am happy to share it with the rural area, but to have our own hospital in Palmerston has been a vision of the Labor government. The CLP picked up on that and we are now getting to the stage of delivering it.

It is a wonderful asset to the people of Palmerston. They will have a modern, clean and wonderful facility for us all. Nobody wants to be in hospital. When I was looking around the rooms and wards, I hoped that I never have to be in one of those wards. It is a dream for us all that we go through life without a chronic illness or injury requiring us to be in hospital. But the reality is we will all probably find ourselves in hospital at some point.

I look forward to having a space for the people of Palmerston to get well in, because that is what hospitals are all about, ensuring people improve their health and wellbeing. Well done to all involved in delivering this. I look forward to being at the opening. I also look forward to seeing the car parks full and people accessing the services and benefiting from this wonderful facility.
I thank the Minister for Health for bringing on this first report of our government. Like the Member for Nelson, I look forward to the opportunity to tell the great stories of education as well.

Motion agreed to; report noted.

**MISUSE OF DRUGS AMENDMENT BILL**

(.Serial 31)

Ms FYLES (Attorney-General and Justice): Madam Acting Deputy Speaker, the purpose of this bill is to allow for the implementation of a variation to the Food Standard 1.4.4 Prohibited and Restricted Plants and Fungi, in the Australia New Zealand Food Standards Code.

This variation allows low tetrahydrocannabinols, or THC as it is commonly known, cannabis sativa seeds, to be used as a food source. I will refer to the Australia New Zealand Food Standards Code simply as the Food Standard for the remainder of my speech.

The Australia and New Zealand Ministerial Forum on Food Regulation is responsible for maintaining a strong food regulation system based on scientific evidence and expertise and focused on protecting the health and safety of consumers. Membership of the Ministerial Forum consists of health and/or agricultural ministers from all Australian states and territories, as well as the Commonwealth Government and the New Zealand Government.

An important function of the ministerial forum is to support public health by promoting healthy food choices, maintaining and enhancing nutritional qualities of food, and helping consumers make informed choices about food by ensuring they have access to information they need and are not misled. The ministerial forum also ensures food standards are implemented consistently across jurisdictions to minimise the regulatory burden on food businesses.

On 28 April 2017 I, as Minister for Health along with other health ministers and ministers responsible for agriculture in Australia and New Zealand, through the Australia and New Zealand Ministerial Forum on Food Regulation, supported variations to the food standard to allow low THC cannabis sativa seeds to be sold as food. This was in response to a long and protracted process whereby Food Standards Australia New Zealand was asked to assess the safety and suitability of low THC cannabis sativa seeds as a legitimate dietary source of food.

Through the standards setting process, Food Standards Australia New Zealand conducted a scientifically rigorous evaluation of low THC cannabis sativa seeds as a food. They concluded that there are no public health and safety concerns with using these seeds as a food source.

The variation to the food standard provides for amounts of THC content in seeds and processed products. The allowable amount of THC is not more than 5 milligrams per kilogram for seeds, 10 milligrams per kilo for oil extracted from seeds, 0.2 milligrams per kilo for a beverage derived from seeds, or 5 milligrams per kilo for any other product that is extracted or derived from seeds.

Food Standards Australia New Zealand approved these milligram amounts based on the assessment of the tolerable daily intake on the basis of protecting against adverse effects on skill performance, for example, hand-eye coordination and reaction time. Therefore the amounts of THC allowable in the food standard are set at significantly lower levels to ensure there was no risk to safety by protecting consumers from reaching the tolerable daily intake.

To further ensure public safety, the Australia and New Zealand Ministerial Forum also commissioned research carried out by Swinburne University into the effects on police roadside drug testing activities for THC. A range of THC concentrations, consistent with the milligram amounts approved by Food Standards Australia New Zealand, were analysed to see if the device used by police would detect the presence of the drug.

The findings in the research report concluded that it is highly unlikely that consumption of hemp foods containing these levels of THC will result in any positive tests when oral fluid or urine are analysed according to Australian Standards.

In respect to the dietary benefits of low THC Cannabis seeds, I am pleased to inform you that the seeds contain sizeable amounts of protein, polyunsaturated fats and dietary fibre. The seeds also contain micronutrients such as vitamin E, phosphorus, potassium, magnesium, calcium, iron and zinc.
Cannabis seeds have a favourable fatty acid profile with more than 80% of the fatty acid content being unsaturated. Like nuts and other seeds, low THC cannabis seeds and oil are a good alternative source of a number of nutrients.

Hemp foods are permitted in 30 other countries including Canada, Germany, the United Kingdom, the Netherlands, Belgium, Switzerland and Austria.

Before discussing the detail of the bill there are two key matters on which I would like to reassure the Legislative Assembly. First I wish to emphasise to the Assembly that this bill in no way condones the use of cannabis or the growing of cannabis plants for illicit drug use. Secondly, the bill is about the use of non-viable and hulled seeds from industrial hemp, a cannabis plant with low THC.

Low THC plants with no more than 1% of THC contain an extremely low concentration, making them ineffective as a source of narcotic THC. These extremely low amounts cannot provide any psychoactive effects and therefore they cannot be used as a recreational drug.

On the other hand, cannabis plants grown for illicit drug use are cultivated to maximise THC levels. They may contain THC levels from 3% to in excess of 15%.

I will discuss the details of amending the bill.

The amendment inserts a new definition of permissible cannabis seeds into the Misuse of Drugs Act. The definition has been drafted to be consistent with the food standard which requires the cannabis seeds are from low-THC cannabis sativa plant varieties, the plant with no more than 1% THC. With no more than 5 mg/kg total THC, the seeds are non-viable, hulled and contain only naturally-present cannabinoids.

It is important to mention that the definition of permissible cannabis seeds requires seeds to be both non-viable and hulled. These requirements were considered important to Food Standards Australia New Zealand when drafting the variation to the food standard.

The primary reason for including the word ‘hulled’ was to ensure the seeds were not available for sale to consumers. Law enforcement agencies across Australia were concerned that illicit cannabis seeds could be trafficked under the guise of legally-available hemp seeds if the whole hemp seed were permitted to be sold as a food.

Although Food Standards Australia New Zealand consider it likely that de-hulled seeds would be non-viable, due to some uncertainty about this, and to be sure that seeds sold to consumers could not germinate, the food standard was explicitly drafted to also state that the seeds must be non-viable for retail sale.

Section 4A(1)(b) of the Misuse of Drug Act provides a blanket exemption for a processed product made from cannabis seeds if the product does not contain more than 50 mg/kg THC and does not contain whole cannabis seeds.

This bill amends the section of the act to clarify that the exemption will apply to permissible cannabis seeds.

Schedule 2 of the Misuse of Drugs Act currently lists as dangerous drugs: cannabis seed; cannabis plant material, being any part of the cannabis plant including the seeds; and the THC, except for THC in hemp seed oil containing 50 mg/kg or less of THC when labelled ‘Not for internal use’, or ‘Not to be taken’.

The bill amends Schedule 2 of the Misuse of Drugs Act to exclude permissible cannabis seeds from the listing of cannabis seeds and cannabis plant material that includes seeds in Schedule 2.

To ensure consistency with food standard, the bill also amends Schedule 2 of the act to include the listing of THC: hemp seed oil that contains less than 10 mg/kg of THC for consumption; a beverage derived from the seeds of low THC cannabis sativa, if the beverage contains no more than 0.2 mg/kg of THC; and any other food product extracted or derived from seeds of low-THC cannabis sativa that contains no more than 5 mg/kg of THC.

It is important to note that these amounts of THC are consistent with the variations of food standards as approved by Food Standards Australia New Zealand.

The bill amends Schedule 3 of the Misuse of Drugs Act to include permissible cannabis seeds from the infringement notice offences for cannabis seed and cannabis plant material that includes seeds. I commend
the bill to the House and table a copy of the explanatory statement along with the compatibility with human rights.

Motion agreed to; bill read a first time.

Ms FYLES (Attorney-General and Justice): I move that the bill be referred to the Social Policy Scrutiny Committee for report by the February meeting period.

Motion agreed to.

MINISTERIAL POLICY STATEMENT
Preparing Young People for the Jobs of the Future

Ms LAWLER (Education): Madam Acting Deputy Speaker, as you and members of this House know, I am extremely passionate about education. I have seen many changes in education and know we will continue to see changes in the way children are taught and the way they learn.

Today I will speak about the work being undertaken to prepare young Territorians for the jobs of the future. Children who have started early learning in pre-school in 2017 will be employed in future jobs we have not yet imagined. We know that the way we live and work is changing rapidly. Seven per cent of young people enter the workforce into jobs that will not exist or will look markedly different in 10–15 years due to automation.

The requirement for Australian workers to be able to use, configure or build digital systems is growing at a rapid pace across all industries. Industry surveys show that STEM—that is science, technology, engineering and mathematics literacy—is increasingly becoming part of the core capabilities that Australian employers need. It has been predicted that 75% of all jobs will require science, technology, engineering and mathematics skills over the next decade.

Our young people need skills and experiences for jobs of the future, not the past. International research shows that building STEM capacity across the population is critical in helping support innovation and productivity regardless of the occupation or industry. PricewaterhouseCoopers has estimated that changing 1% of Australia’s workforce into STEM-related roles will add $57.4m to our GDP.

An education system that delivers a contemporary and innovative curriculum is the key to ensuring the Territory does not get left behind. Our government recognizes the value and necessity of innovation. That is why we are increasing the prominence of STEM in our schools. In line with our education commitments, we are introducing coding into all primary and secondary schools, upskilling teachers in digital literacy and expanding enterprise education.

We are also delivering our ambitious program of school infrastructure upgrades to create learning spaces that support the delivery of a 21st century curriculum.

Governments Australia-wide are investing and improving STEMeducation. There is significant activity under way across Australia in schools and education systems by industry and universities to lift student engagement and attainment in STEM, and to support teachers to improve student outcomes.

The Chief Scientist's 2014 report, Science, Technology Engineering and Mathematics: Australia's Future, highlights the trends that all education systems are grappling with. The performance of Australian students against international benchmarks has stalled or declined as has participation in senior secondary science and advanced maths.

Last year, the results of the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) showed that, as a country, Australia’s performance in TIMSS has stagnated for the last 20 years.

Australia remains in the middle of the pack while other countries, such as Canada, the US, and the United Kingdom, have improved. Looking at the NT results in the National Assessment Program Literacy and Numeracy, NAPLAN, the majority of our students are consistently achieving below those in other states and territories.

It is concerning to see that in 2015, more than half the students in the TIMSS Northern Territory testing sample did not reach the proficient standard in Year 4 mathematics, Year 8 science or Year 8 mathematics.
Forty-two percent of students in the NT testing sample did not reach the proficiency standard for Year 4 science.

The results from PISA are just as worrying. PISA looks at 15-year-old students’ abilities to apply their mathematical and science knowledge to real-life situations. Again, the Northern Territory results have shown no significant change in achievement between 2006 and 2015.

We can and must turn these results around. Our government has a clear commitment to putting children at the centre of our decision-making. We are investing in the Territory’s future and in the value of education because it is the right thing to do, as well as the smart thing to do.

We are reinvesting in education with $124m in additional funding over the term of our government. By investing in education we are ensuring all young Territorians are equipped with the necessary skills and knowledge they need to succeed in the jobs of the future. We are supporting our schools to deliver a contemporary curriculum that prepares our children and young people for the jobs of the future.

This government understands the importance of studying STEM subjects: science; technology; engineering; and mathematics. That is why we are growing this area of curriculum and investing in infrastructure to provide quality learning environments to support that learning.

To underpin our STEM focus, the Northern Territory Board of Studies is developing a strategy that will complement the national STEM school education strategy that was agreed by COAG Education Council.

The STEM in the Northern Territory strategy will assist schools to improve student engagement and participation in STEM subjects. To have the Board of Studies doing that work plan over the next year will provide that overarching policy direction for our schools.

Reversing the trend in STEM performance will take time and effort across our community. There is no overnight fix to the pervading cultural norm that it is acceptable to be bad at maths or not a numbers person.

It is never too early to learn STEM. Early childhood is an important time to introduce maths and science and promote inquisitiveness and problem-solving skills. The Department of Education has entered into a networking partnership with Little Scientists Australia and has two trainers based in Darwin and Alice Springs providing workshops to teachers and educators of children between the ages of three and six years. Little Scientists Australia is a not-for-profit organisation offering hands-on workshops for early childhood educators and teachers to discover their passion for STEM.

Water workshops were held in Darwin, Katherine and Alice Springs in Terms 2 and 3. In the water workshops, participants investigated the different states of water and tested the solubility of various substances. Through these activities, the participants also learned how to support children’s exploration of STEM concepts and promote co-construction and inquiry-based learning …
The maths games focus on numbers and counting, shapes and spatial thinking, patterning and structure, measurement, data collection and representation and analysis. Professional development of the Northern Territory preschool maths games will occur later this year.

The Sphero technology being used in our schools is a great example of the power of STEM to engage students in learning from the earliest years. Sphero fuses physical robotic toys, digital apps and entertainment experiences to unlock the true potential of STEM play-based learning.

Pre-schoolers from as far away as Baniyala Garrangali School in East Arnhem Land are using Sphero to write their names. Using a smartphone app and their little fingers, early year students draw letters on a screen, including in different colours, which Sphero then rolls out on the ground for the whole class to see. Students work out the letters and words that Sphero has drawn. Sphero can also make animal noises and be driven with a remote control. Children as young as three, who may never have used a computer, take to this technology almost instantly. It makes literacy learning fun and builds on problem-solving, spatial and fine motor skills at the same time.

Into the primary years, the children move on to real programming of the Sphero, planning out courses for Sphero to complete, calculating speed, angles, directions and other variables. They are starting to code and they do not even realise it.

In line with our election commitment there are many schools implementing coding training in our urban and remote schools across the Territory. They are supported through access to technology, like Sphero, that engages students.

Earlier in the year I visited Titjikala School and it was wonderful to see the children learning about coding—young students developing an understanding of code. This is where it all begins.

STEM provides for exciting and innovative possibilities. Eight of our Territory schools run dedicated code clubs either at lunchtime or as an after school activity. In the Darwin region, Anula Primary School, Stuart Park Primary School, O’Loughlin Catholic College, Darwin Middle School, and Nightcliff Primary School run clubs. In Palmerston, Moulden Primary School in my electorate of Drysdale and Bakewell Primary School in the Brennan electorate run code clubs. Willowra School in the electorate of Stuart is also running a code club, leading the way for our remote schools.

Access to technology ignites children and young people’s passion for STEM.

Jo, short for Joanna, the Department of Education’s humanoid robot, and her robot whisperer, an educator who takes Jo to schools across the Territory—that educator is Mark Christie, a long-term friend of mine, who went to Darwin High School with me—is another example of the level of engagement that is possible with STEM.

Jo has a humanoid shape that enables her to move and adapt to the world around her. She is able to maintain balance standing up, lying down, performing tai chi or even dancing. Through the numerous sensors in her head, hands and feet, as well as sonars, Jo can perceive the environment. With her four directional microphones and loudspeakers, Jo interacts with students in an almost completely natural manner, by listening and speaking.

Jo has visited schools across the Territory including Amanbidji School, Bulla Camp School, Yarralin School, Lajamanu School, Middle Point School, Jilkmingan School, Katherine High School and even Tipperary Station School where she flew in on the back seat of an ultralight plane. Mark, the educator I spoke about, flies ultralights. It was wonderful for the kids at Tipperary to see that.

Students in our urban and bush schools know Jo and look forward to her visits. Jo is a great conversationalist. Students can ask her questions, practicing their pronunciation and oral English language proficiency. Jo is particular about correct pronunciation; she is also very patient and non-judgemental. This is really important for children who may be struggling to say particular sounds or words, such as English as an additional language or dialects students or students with speech difficulties. Jo teaches them that if they persist they can succeed.

The absolute joy experienced by students when Jo understands their questions or commands is truly heart-warming. Teachers gain confidence when they see how engaged students are in this kind of technology. The possibilities of using technology to enhance the teaching and learning program become clear.
For students to learn, our educators need the right knowledge and expertise to deliver a contemporary curriculum. That is why it is important that teachers have access to professional development activities to improve their competency in STEM and the digital technology curriculum.

In line with our election commitment to upskill teachers in digital literacy, over 350 staff members have accessed ICT professional learning in the last 12 months. This professional learning focused on hands-on workshops, exploring the effective use of technology in the classroom.

The Department of Education has developed partnerships with a number of stakeholders to strengthen the professional development of teachers and school staff including Adelaide University to build the knowledge, skills and confidence of teachers in digital technologies; Apple for staff professional development in coding; Education Services Australia for computational thinking and algorithmic design for coding elements from the Digital Technologies Hub resource; and SPARK to deliver weekly coding workshops, both online and face-to-face.

Thirteen coding workshops have been delivered by SPARK to 68 participants, and 27 schools are participating in combined SPARK coding workshops and Professional Learning in a Box.

Charles Darwin University delivered the leading teaching certification in STEM to high-performing science teachers in early childhood, primary, middle and secondary schools. The program aims to grow innovation in program development and will support participants to take on whole-of-school leadership roles to improve STEM education. The program also contributes to a research report that will contribute the development of STEM in the Northern Territory.

One of the great things about the education sector is the role professional associations take in supporting teacher professional development. I recently met representatives from the Australian Science Teachers’ Association. We spoke about the work of the NT branch and Jenni Webber, the Assistant Principal at Berry Springs. She is President of the Northern Territory branch of the Science Teachers’ Association and lives in my electorate. I often chat to Jenni about science education in the Northern Territory. It is great to have the professional associations also supporting teachers.

Over the recent school holiday period the Science Teachers’ Association, with financial assistance from the Professional Teachers Association of the Northern Territory, facilitated a STEM X regional event for teachers in Darwin, Palmerston, the rural regions and Alice Springs.

STEM X is a free professional learning experience designed for primary and secondary science teachers. The two-day intensive workshop forms part of a suite of programs that can include the STEM X Academy, a five-day residential program run in Canberra.

STEM X helps teachers to acquire the skills and confidence to design, develop and implement STEM-based teaching resources. It is important for students and educators to access a range of activities through the STEM community to support engagement in STEM, providing opportunities to learn and experiment with their learning.

Research into successful STEM promotion programs shows that the most effective programs for school students involve hands-on STEM projects, mentoring or role-modelling from STEM-related occupations, content that goes beyond the traditional curriculum, collaborative work in small groups and relevance or linkage to real-world contexts.

We can all relate to that when we think about things we have learned. We have learned best when using technology with links to the real world, working with others, having mentoring or support from somebody who knows what they are doing, and having hands-on experiences to have real and quality learning.

An excellent STEM promotion initiative is the RoboCup, an international competition designed to foster artificial intelligence in robotics research. RoboCup Junior Australia not only promotes engineering and IT skills, but it extends across the curriculum and encourages sportsmanship, sharing, teamwork, cooperation and organisational skills.

These are great skills for any student, whether they are interested in STEM or other subjects, to prepare them for future employment and being positive contributors to our community.

In June this year the NT competitions were held in Darwin and Alice Springs with nearly 100 school teams entering the competition. Congratulations go to Stuart Park, who won the primary dance competition; Good
Shepherd, who won the secondary dance competition; Nakara Primary Team Awesome, who won the primary rescue competition; Good Shepherd Lutheran College, The Rescue 2, who won the secondary rescue competition; and Durack School Speed Demons, who won first place in the soccer competition.

Skills 2021 is a free annual event held at Parliament House. It is another great example of the successful STEM production. Some of you may have visited. I had a short opportunity to have a look at Skills 2021 this year. In August, around 1000 students from government and non-government schools attended Skills 2021 to get hands-on experience using innovative state-of-the-art technology.

Skill 2021 is designed to inspire students and teachers to get involved with digital technologies to learn new skills and enhance their problem-solving ability. Some of the technologies showcased at the event included virtual reality, 3D printing, drones, laser and computer numeric control design and production, voice and facial recognition software, Raspberry Pi computing, Minecraft, Adobe Creative Cloud and applications, and robotics.

It was wonderful to see students and their teachers thoroughly engage in the learning activities. I have no doubt those events like Skills 2021 inspire students to take on STEM subjects by making learning interesting and opening up their minds to the almost infinite possibilities of our digital world.

The Skills 2021 event was held in Alice Springs for the first time. With the library as a venue, students from Alice Springs had the opportunity to participate in activities and to hone their STEM skills.

I am told the students from Ross Park Primary were so enthralled they did not want to leave when their bus came to collect them. I am sure the Member for Braitling might have heard some stories, too.

Ms Wakefield: I did hear some stories.

Ms LAWLER: Teachers get as much enjoyment from piloting drones and controlling robots as the children do.

In 2018, schools in remote locations will be supported to participate in Skills 2021, and I am very pleased about that. It is so important that all our kids, especially those in our remote schools, have the same opportunities to access cutting-edge technology as our urban students.

While we are better resourcing schools and supporting teachers to develop their ability to teach STEM subjects, there are partners that are also providing support. That is an important and sensible way of doing things.

The University of Adelaide has established a national lending library of equipment to support classroom activities. Currently, there are 12 kits for primary schools in the NT—located in Darwin, Katherine and Alice Springs—with plans to secure more kits to support teachers and students in the Arnhem region. The kits provide robotic equipment the school can use for one term while they identify the learning needs of their students. They can then prioritise the purchase of their own equipment.

There are some great examples of remote schools engaging with STEM. Milingimbi School held a STEM week where teachers and students engaged in a week-long series of STEM-related activities to increase student understanding and engagement of STEM.

Ramingining School uses robotic sessions in a classroom setting to increase student engagement in digital literacy.

Maningrida School has an innovative course specifically written with a local STEM focus, using the SACE Stage 1 integrated learning subject. This engages students in their understanding of STEM, as well as their collaborative engagement with community and the local environment.

Gunbalanya School supported staff to travel to Darwin to participate in robotics workshops. The learnings will be used within a classroom setting to support students’ engagement with digital literacy. Gunbalanya also has a well-established Learning on Country program where students pilot drones to undertake mapping exercises. What fun! I am sure that 10 or even five years ago, rangers would not have imagined that they could map and monitor the environment through a camera mounted on a remote-control device.

The ability to fly drones is becoming a highly sought-after skill. In an Australian first, our very own Charles Darwin University has pioneered a unique two-week intensive unit, introducing students to the evolving world
of remotely piloted aircraft systems. The Department of Education is also linking with the University of New South Wales in a research project which aims to trial effectiveness of drones to perform ranger activities in East Arnhem Land, with several other schools offering Learning on Country programs.

It is critical for our schools to keep up with industry changes and innovation so our students are prepared with the skills and knowledge they need for the future workplace.

We are also delivering on our election commitment to expand enterprise education in schools so students receive advice and training in newly-emerging industries. I have met students involved in fantastic examples of partnerships between schools and industry such as the Maritime Academy, involving students from Shepherdson College in Galiwinku; Milingimbi School; Nhulunbuy High School; and Casuarina Senior College.

The Pastoral Futures program is also a great industry-based initiative involving students from across seven urban and bush schools and partnerships with government, Indigenous Land Corporation, Central Land Council, Northern Land Council and the NT Cattlemen’s Association. It was wonderful to meet the students involved in this program at the opening of the Juno Centre’s Healthy Creative Life program in September.

Over 30 remote and very remote schools have offered enterprise or entrepreneurial programs this year. Many of these programs include the unit’s pop-up shops in big business. These units drive entrepreneurial skills and activities relevant to the needs and markets of remote communities. For example, the students of Ntaria School focused their big business unit on the manufacture and sale of leather products to tourists. Building on this, senior students at Ntaria School in Hermannsburg created their own enterprise called Ntaria Design as part of an innovative school program teaching digital design skills.

Students have designed and developed their own products including stationery and clothing ranges, drawing attention to the incredible creative talents of the students in our remote schools. The design program is run by Swinburne University as part of a research project. The students are involved in the design process from start to finish. They have been discovering what Indigenous designs mean within Ntaria, how the tools of design can take on a new meaning, and the potential of design to create future employment and enterprise opportunities within the community.

The students run a pop-up shop in the Hermannsburg community to show off their amazing designs. All the profits made go to supporting student projects and the development of their enterprise. The principal of Ntaria School, Cath Greene, says the project has instilled a sense of pride in students, particularly when showing their work to community and the local tourism industry…

Madam ACTING DEPUTY SPEAKER: Member for Drysdale, if I could pause you there? I remind you that you might pause and resume your statement today after Question Time?

Ms LAWLER: I will do.

The Assembly suspended.

MINISTERIAL POLICY STATEMENT
Preparing Young People for the Jobs of the Future

Continued from earlier this day.

Ms LAWLER (Education): Madam Speaker, the principal of Ntaria School, Cath Greene, says the projects they have had at Hermannsburg with their pop-up shops and things like that are instilling their students with a sense of pride, particularly when showing their work to the community and the local tourism industry.

Fourteen schools currently offer business and enterprise studies in Stage 1 and 2 at urban and regional schools and through the NT School of Distance Education. Several schools are also involved in the $20 Boss program, designed to give students experience in building, designing and delivering a business with real money and real consequences but within a teaching and learning environment.

We want to encourage all young people to engage in STEM. We do not want anyone to be left behind and we know that women are under-represented in the STEM fields.

There are programs targeting engagement for girls in the Northern Territory. In July, around 50 girls from Darwin aged between 10 and 17 participated in the She Flies drone camp where they learned to pilot and
program drones. My niece, Leonie, was one of those fortunate enough to attend the program and now she wants her own drone.

Nationwide it is estimated that only 1% of drone pilots are women. The drone-flying activities promote girls’ interest and involvement in science and technology. STUMP is a drone-related course that recently evolved from the She Flies program. It provides training on safety, use of drones, manual piloting and programmed flight. This has been presented in Alice Springs to four teachers and 30 students at Ros s Park Primary School.

Schools are tailoring their programs to encourage gender diversity in STEM subjects. Research shows that, at a secondary school level, the number of female students studying physical science continues to be considerably lower than male students.

Last year Darwin High School launched its girls-only STEM class program in an effort to increase the number of female students enrolled in Year 11 and 12 science classes. In 2014 and 2015 less than one-quarter of Darwin High School Year 12 female students studied physics. In 2017 the number of female students studying physics has more than doubled. The program was again offered to Year 10 students enrolling at Darwin High School in 2017, and 27 female students are currently participating. Across Australia the participation rates for women in engineering is also low. Research in 2015 reported that only 15% of professionals working in engineering were female.

Even more disappointing is the estimation that just 0.4% of engineering professionals identify as Indigenous. The Engineering Diversity Scholarship Program is an exciting partnership between Engineers Australia, Territory Generation and the Department of Education to increase the number of Indigenous and female engineers.

In June I was pleased to announce the two lucky recipients of the Engineering Diversity Scholarship program for 2017, Shannon Fuller and Rikki Bruce. Both recipients are enrolled in Bachelor of Engineering at Charles Darwin University.

The Charles Darwin University School of Engineering and IT, together with Engineers Australia and Women in Engineering, are working hard with our schools to ensure secondary students know about the great pathways available in STEM careers. Students receive information about the engineering courses available at CDU and meet with one or more practicing engineers. Often the speakers are NT CDU school alumni. There are great STEM pathways here through CDU.

I mentioned their drone program and STEM teacher certification earlier. CDU is now offering the Masters of Digital Learning Futures, where digital technology and new media meet education.

This course is an innovative industry and education-relevant program designed to provide leading-edge knowledge for understanding, creating and teaching with digital resources and new media. In this course students have the opportunity to explore the theory behind The Matrix and issues around computer hacking.

The program concludes with a research project grounded in real-world situations which can be either theory-focused or digital resource production-based and linked to an industry-based internship.

This Northern Territory Government believes the next generation of Territory leaders needs to be at the forefront of technology and innovation. To be prepared for the jobs of the future our kids need the skills in all areas of STEM.

Children and young people are engaged in technology more than ever. We need to equip students with the skills to successfully live and work in the 21st century. We want our students to not only be able to consume digital technology but produce it as well. Events like Skills 2021, Robo Cup Junior and She Flies drone camp inspire students to take on STEM subjects by making learning interesting and giving students a chance to see what is possible at the cutting edge of technology.

Partnerships with schools, universities and industry are essential to ensure our teachers and students are provided with the most up-to-date information and techniques. As Australia’s Chief Scientist Alan Finkel AO said:

*Schools are the principal means by which we instil these skills and interests in our children; but it is industry that understands the interplay between the cutting edge of science and our everyday world.*
Industry experts such as Microsoft, CASA, Adobe, Telstra and Brainery are partnering with schools and the Department of Education to showcase industry ideas and provide valuable and exciting learning experiences to Territory kids.

This government knows that if children are going to be successful learners we need to invest in our schools. With an additional $20m per year into government schools being delivered to where it is needed the most, schools now have greater capacity to employ more teachers and support staff, or to buy resources, to meet the learning needs of students and support the implementation of programs such as coding.

This government is also investing in school infrastructure, upgrading our schools to support the delivery of a contemporary curriculum which includes STEM. According to the World Economic Forum the top five skills in 2020, just two years away, will be complex problem solving, critical thinking, creativity, people management and coordinating with others.

The work environments where these skills will be needed look very different from our traditional classrooms. The workplaces of the future will be tailored to enable workers to collaborate with each other and to work creatively with technology. Our Building Better Schools program will provide $300 000 for every NT school over a four-year period for refurbishments and upgrades to school facilities.

A total of 54 schools have been approved in round one to receive funding in 2017–18. Schools, in collaboration with their councils and boards, determine the scope of works. Many will be undertaking projects to support contemporary teaching and learning, including STEM. Several schools across the Northern Territory have already benefited from the Building Better Schools program.

Dripstone Middle School has used part of its $300 000 allocation to secure a more reliable Local Area Network, or LAN. Local business, Darwin Data Cablers, was awarded the works giving students faster access to the leading edge technology needed for STEM and coding subjects.

Alawa Primary School is also using part of its Building Better Schools funding to upgrade the LAN in the library, and Sanderson Middle School is using its grant to upgrade three science laboratories. These are just some of the great examples of how our Building Better Schools funding is enhancing learning spaces for our students.

Our government is also delivering on an election commitment to invest $39m over the next five years for infrastructure at Darwin High School, Darwin Middle School and the NT School of Distance Education to support the delivery of science, technology, engineering, arts and mathematics, or STEAM, and other programs.

This will benefit more than 2000 students across the Territory who access the campus providing much-needed new classrooms and innovative teaching and learning spaces.

Stage one of this investment is under way, with the consultancy tender awarded to Jackman Gooden Architects, a local Territory business. Budget 2017 provides $18m for a dedicated STEAM building at Darwin High, with a fabrication lab and new central library. It is expected that construction will begin in early 2018. This development will provide more flexible learning spaces and a new laboratory, which will enhance students learning and develop skills for future employment in STEAM areas.

Darwin High School already delivers a great STEAM program to Year 10 and 12 students, and these new facilities will enable these programs to grow, particularly in the areas of robotics, electronics and the sciences.

In the Darwin rural region young people will also have greater opportunities to engage in STEAM subjects. Stage 1 of the plan for a new STEAM centre at Taminmin College is being designed. This is an investment of $12.7m for the new facilities as well as repurposing the old science facilities.

The two-storey building will include significant IT capacity and specialised fit out to cater for science, technology, engineering and mathematics programs and eight additional classrooms, increasing the schools' capacity to cater for 1500 students.

The school community is looking forward to these new facilities. I went out there, turning the sod for the new STEAM centre, and it will truly be a magnificent building. I look forward to—I am sure the Members for Nelson and Goyder will get invites. We look forward to seeing that facility completed.
The school will have more classrooms, modern science labs, indoor and outdoor learning areas, break out areas, maker spaces and a balcony for studying astronomy. The new building will give students access to modern, state-of-the-art equipment and facilities to best prepare them for future careers. The new facility at Taminmin will support subjects such as chemistry, physics, agricultural sciences and aquaponics, and will provide a variety of flexible teaching environments.

Another Territory company, Probuild NT, was awarded the construction tender and works are expected to be completed in early 2018, creating 200 jobs throughout the duration of the project. This government understands how important it is for children and young people to have access to a range of quality learning programs. Science, technology, engineering and mathematics are crucial areas of learning for the Territory’s economic growth.

More families are choosing to live in the rural area and send their children to Taminmin College, and these new facilities provide greater learning opportunities for children and young people in the rural area.

By investing in education this government is ensuring all young Territorians are equipped with the necessary skills and knowledge they will need to succeed in the jobs of the future.

We are delivering on our election commitments, through development of the STEM in the NT Strategy, rolling out coding, upskilling teachers in digital literacies and increasing enterprise education in schools. Territorians can be assured that our schools are working to ensure that children and young people are ready for the jobs of the future, whatever they may look like, and our government is supporting that work and embracing innovation.

Ms MANISON (Children): Mr Deputy Speaker, education is fundamental to the Territory's bright future. When we get education right, we see benefits flow to all sectors of society: children, families, local business, the economy and the community as a whole.

To grow the Territory and our economy, to develop the north to its full potential, we must harness innovation and look ahead to the jobs of the future. That is exactly what STEM aims to do. It recognises that jobs in science, technology, engineering and maths will be the jobs of the future — coding, digital literacy, robotics and the use of drones, and a host of jobs we have not even contemplated yet.

As the Minister for Education pointed out, it has been predicted that 75% of all jobs over the next decade will require skills in science, technology, engineering and maths. The Territory is in a fantastic position to provide these jobs, with a strong focus on industry, infrastructure and resources. I am very proud of the graduate programs and traineeships available for science, technology, engineering and maths graduates in the Territory now.

The Department of Planning, Infrastructure and Logistics offers a range of employment programs that provide opportunities for local and interstate recruits to join the Territory government via traineeships, scholarships or graduate programs. If interstate recruits come we hope to keep them here for the long run.

Working in partnership with Charles Darwin University and providing financial assistance to support individuals during their studies has proven to be a successful formula to help grow the pool of locally qualified engineering students with qualifications in civil or mechanical engineering. The department's engineering scholarship program has been operational since 2009, during which time 34 scholarship holders had participated in the program, including eight current participants.

Working in partnership with CDU, local Territory students apply to undertake a four-and-a-half year degree in civil or mechanical engineering. Studies are undertaken on a full-time basis, with students receiving $15 000 per annum to cover the costs of their studies.

Work experience opportunities are provided during university holidays with scholarship holders paid at an AO2 level. The program of study also includes a six-month industry placement with the department, resulting in scholarship holders completing the program with technical knowledge of civil or mechanical engineering supported by practical workplace experience in the Territory public sector environment.

Students who successfully complete the program are offered a place in the department’s graduate program for which ongoing employment in the professional stream is offered to successful participants. Further professional support is provided to engineering scholarship holders with CDU Professor for Structural Engineering, Dr David Lilley, being based in the department one day per week.
In the same way that growing our own program run by CDU and Catholic Education NT aims to provide a generation of qualified Indigenous teachers for remote Indigenous schools, a focus on STEM in the Territory's education system from the earliest years will enable us to build our own as well. We need engineers, project managers and technology experts to build the Territory now and into the future.

Budget 2017 will deliver a record $1.75bn infrastructure program for the Territory. For a graduate or trainee in engineering, there is a bounty of important, interesting and essential projects to work on—roads, bridges, barges—that connect Territorians and improve access for economic development. We have several exciting roads projects. For example, the Arnhem Highway with the Adelaide River flood plains and the Buntine Highway. We have spoken about the Plenty Highway, the Tablelands Highway and Barneson Boulevard, which will be an exciting project.

The opportunity for graduates and trainees are endless. I encourage all students with an interest in engineering, civil construction, project management, planning, transport and logistics to consider a graduate career with the Department of Infrastructure, Planning and Logistics.

It is not only engineers and project managers who can help grow the Territory and contribute to our vibrant future, it is important to have a fantastic public sector as well. It is important to have people who are good with the numbers. We like to see them in Treasury. It is essential that we have the professional public servants to help build the economic foundation for the future.

We have also had a very successful program within the Northern Territory Department of Treasury and Finance graduate that is in its 20th year. The graduate program in Treasury is a fantastic program for local graduates to join the public sector and use their skills and knowledge to improve the lives of Territorians to really make a difference.

Over the past 20 years, 252 local and interstate graduates have participated in the Northern Territory Treasury's Finance Officer in Training graduate program, a year-long, post-graduate learning opportunity. Of these 252 graduates, 80, or 31%, have continued to be employed by Treasury. An additional 36 staff—just over 14%—continue to work within the Northern Territory public sector. Three of the graduates were promoted to ECO level in 2017. Approximately 32% of the graduates stay within the Northern Territory public sector between five and nine years and around 24% stay between one and four years.

Many graduates and trainees from Treasury have commenced their careers with Treasury and gone on to participate and make great contributions to the Treasury. Our current Under Treasurer, Craig Graham, and the Chief Executive of the Department of Chief Minister, Jodie Ryan, were products of this training program.

It is important to recognise that having strong science, technology, engineering and maths subjects throughout our schools contribute to so much more than engineering or IT jobs. It spans broadly across the Northern Territory as well.

Treasury is a place where we need brilliant accountants and economists. It is good to see that we have the programs in place to keep people in the Northern Territory.

I have mentioned that Charles Darwin University and the work it is doing in partnership with agencies such as the Department of Infrastructure, Planning and Logistics to support students and graduates fulfill careers within the public sector. Other tertiary institutions from across Australia such as Universities of Melbourne, Adelaide and Swinburne are partnering with our Department of Education to provide opportunities for STEM students.

It is vital that government works with these institutions, along with Territory schools and industry partners, to provide guidance, mentoring and pathways to meaningful employment.

I recently visited the INPEX site and was blown away and impressed by the sheer size and scale of the project. It is a wonderful world-leading project here in Darwin. When I saw the size of the two trains and the massive amount of engineering work, technical expertise and skills—it was great to see all the trades on-site as well—all I could think of was the opportunities ahead for young Territorians to work on a world-class and world-leading project.

For someone raised in Darwin it was wonderful to see. It further strengthened my commitment to the importance of science, technology, engineering and maths. To see such an amazing project occurring in Darwin emphasised why it is so important that we continue strong investment in this space.
Since we saw the INPEX project commence in 2012, there have been great economic benefits flowing through to the Territory economy such as the $9bn to the NT economy as a result of project commitments. More than 1100 Territory businesses have secured over 4900 contracts and purchase orders. There have been 61 Aboriginal and Torres Strait Islander businesses securing 549 contract commitments valued at more than $156m.

More than 11 000 local job opportunities have been created with over 3000 local workers on the projects construction. More than 1200 Aboriginal and Torres Strait Islander people have been engaged and almost 350 are working on the project. There are 234 apprentices engaged on the project to date in a range of skills, including electricians, welders and scaffolders. There are 98 Aboriginal and Torres Strait Islander trainees engaged to date.

The project has successfully delivered two rounds of the Ichthys project Aboriginal and Torres Strait Islander white collar trainee program, with 14 graduates having qualifications in fields such as human resources, business administration, workplace health and safety and conservation and land management. All of the graduates successfully secured employment at the completion of their training.

It is important to attract more of these types of world-class, major projects in the Northern Territory in future, and it will be great to have a home-grown workforce ready to take those jobs. Territory kids of today going through their schooling and those STEM subjects —knowing we have a great local university and world-class projects they identify as a place they can work in the future, rather than having to travel overseas to work on world-class, major projects such as INPEX.

Some of my colleagues were at the Tanami over the weekend. Think of some of the world-class mining projects we have in the Northern Territory. We have fantastic opportunities here now.

The need for people with expertise in the fields of science, technology, engineering and maths is immense. I want to see more local Territory kids getting the skills and qualifications so they can fill the jobs not just in the urban sections—but ensuring we have more kids in the bush and regions coming through those programs, getting the skills to get those jobs.

It is important that we have our schools geared up with the right capacity. Whether it be the right labs, equipment or facilities, great principals, teachers and school councils or boards—whatever they might be—that completely embrace the STEM pathway to give those kids the best opportunity to obtain those jobs.

We have a health sector and we need those kids in those jobs. I am very proud to be a graduate of the Casuarina Senior College. It has a significant program looking towards health sciences where we can produce the Northern Territory’s future health professionals. Again, it is important to have the strong science, technology, engineering and maths skills.

Our schools are also working with children from the youngest of ages. I love going to primary schools and seeing they have an emphasis on STEM programs already. It is wonderful to see effort put in at the primary level to get them learning those subjects before they start middle school. If they see their interest is in those fields they have the opportunity to pursue them from the youngest of ages. They are passionate about that journey through their education.

We have world-class opportunities in the Northern Territory that I could only dream of as a kid. It is important that we ensure our kids are ready for the opportunities that are here now. Hopefully there will be more opportunities in the future for those world-class jobs in the fields of science, technology, engineering and maths.

It is wonderful that we have a public sector that supports keeping talented individuals in the Territory by providing traineeships and career pathways into the public sector. We need professionals working for us. It is not just about the private sector. It is great to see we have a proven track record of supporting people through graduate programs and traineeships, giving them work experience opportunities to keep more of them in the Northern Territory.

It is a delight for me to walk through the department and get to shake the hand of somebody who identifies as being a part of the graduate program or doing their traineeship or apprenticeship through the department.

I want to thank the Minister for Education for bringing forward this statement on the importance of STEM subjects and opportunities for pursuing STEM in schools. It is an important part of the Northern Territory’s future. We must invest in our kids today to have a workforce ready for tomorrow.
Ms FYLES (Attorney-General and Justice): Mr Deputy Speaker, it gives me great pleasure to join my colleague, the Deputy Chief Minister, speaking in support of the Minister for Education’s statement on the importance of preparing our young Territorians for the jobs of the future. Many of my colleagues are also excited for that opportunity.

As many members of this House know, I am passionate about education. I am proud to say that I was educated through primary and high school here in the Territory. I went on to study education in Canberra. Both my parents are teachers, one a maths teacher and one a science teacher.

For me, I love education and am passionate about it. It gives me great joy to watch my two young boys attending primary school, loving going to school every day and learning new things. I have a seven-year-old who did not really enjoy the school holidays. He could not wait to get back to school; he loves it. It is exciting to watch them learn. Even when they do not get it right they are so proud of themselves for the opportunity they have.

The rate of technological change can almost be frightening in some ways. My kids can operate technology quicker than me and their grandparents. It is a reminder that we need to give our kids the skills and expertise to embrace and capitalise on this rapidly-changing digital world whether it is on an iPad or just fiddling around with electronics.

At home the other day the youngest one managed to work out how to put a pre-recorded show on the television. I did not know he could turn the TV on. It shows what our younger generations are capable of. Through our school system and educational opportunities we need to provide them with the pathways to capitalise on that curiosity and skill.

This is a government that has made a clear commitment to investing in children and the Territory’s future. We have heard that in the draft early childhood plan, which we released last week. It means focussing on the importance of studying STEM subjects: science; technology; engineering; and mathematics.

As Minister Lawler said, this is why we are developing this area of the curriculum and investing in infrastructure to provide quality learning environments that support and enhance learning. When I attended Sanderson High School in the early 1990s the school had only been open for three or four years. It was a modern high school and the opportunities I had at that time set me up. It is so important that we provide the infrastructure to support these programs in our schools.

STEM is a curriculum-based idea to educate students in four specific disciplines—science, technology, engineering, and mathematics—in an interdisciplinary and applied approach. Rather than teach the four disciplines as discrete subjects, STEM integrates them into a cohesive learning paradigm based on real-world applications. It is about ensuring our children develop skills for the economic future.

As Minister Lawler stated, research suggests that building STEM capacity across the population is integral to support innovation and productivity across many occupations and industries. By studying STEM subjects—something I encourage my young boys and all children across the Territory to do—they will have the depth and breadth of vocational opportunities, which is incredible.

Studying STEM subjects can lead to careers in a broad range of areas, from financial services to biochemistry, medical engineering, mathematics, information technology, aerospace, accounting, software development, coding, artificial intelligence, biochemical engineering, security and manufacturing—the list goes on. That is a broad range of opportunities.

It is wonderful to see, not only in our middle and high schools but in the early years, that we give our young students a love for learning. I am heartened to hear about the STEMpathways for girls, which are traditionally underrepresented by women. For example, the She Flies drone camp is a great way to promote female interest in science and technology subjects, with 50 participants learning about safety, training and programming of drones.

It is important that girls and boys have the opportunity to get involved and learn about science and technology, as these are the jobs of the future.

Knowledge and creativity in these fields will be the driving force behind the Northern Territory’s future economy. We must make sure Territory kids are prepared to contribute to that.
As Minister for Health, every day I see the importance of learning STEM subjects. I see it in the expert care that our nurses, doctors, health practitioners and specialists provide for Territorians when they are at their most vulnerable. Every doctor, nurse or specialist has spent many hours studying science, chemistry and mathematics, which are critical to understanding how the human body works. The advancements in diagnostic and medical technologies are also impressive to witness and important to help improve the health of Territorians and treat them at their most vulnerable.

We all want these innovative technologies to be designed and operated by Territorian kids in years to come. If we want to prepare our children for the jobs of the future then we need to ensure our children have access to the subjects at school that develop their problem-solving and creative skills, and ensure they have the communication skills to meet the job market of the future.

I am proud to be part of a government that is delivering to prepare our children for the jobs of the future by introducing coding into primary and secondary schools, expanding enterprise education and upskilling teachers in digital literacies.

I am nearing 40. Many would say that is relatively young, yet technology has moved on so much since I was at school. Every five or 10 years technology has moved on. Only 10 years ago a Motorola flip phone was pretty fancy, and now we look back at that and think it is quite antiquated. It is important for us to provide the resources to our teachers to have that upskilling opportunity.

Many schools are now implementing coding training in urban and remote areas. We continue to support and promote the importance of STEM subjects through the Northern Territory Medical Program, which was introduced under the previous Labor government. The former Chief Minister is very proud of it. It was introduced in association with Flinders in South Australia. It commenced in 2011 and has an annual intake of 24 students into the Doctor of Medicine course.

The impetus for commencing this program was to provide opportunity for Northern Territory kids or residents—you do not have to be young to participate in the program—and Aboriginal Territorians to participate in the program to study medicine and, in turn, develop a sustainable Northern Territory medical workforce.

The program has graduate admission and undergraduate pathways in collaboration with CDU. There are pathways for school leavers who can participate in the undergraduate course with CDU, as well as a pathway for people to retrain if they have life skills and passion to study medicine and provide medical care to Territorians. Students entering via the undergraduate pathway complete a two-year Bachelor in Clinical Science course at Charles Darwin University prior to commencing the Flinders University Doctor of Medicine course. A feature of the graduate admissions is to provide the Indigenous entry stream, which includes both the preparation for medicine program and the Flinders University Extended Learning in Science program.

The NT Government provides funding for the Northern Territory medical program, allowing students to study fee-free during the duration of their course, which is a wonderful opportunity. It provides challenges, but they obviously have to live during that time. It is a wonderful opportunity to get the upskilling and have a career in medicine.

The first two years of the NT medical program are conducted at purpose-built facilities at Charles Darwin University campus which includes a lecture theatre with videoconferencing, group study rooms, clinical teaching space, laboratories, quiet study lounges and common rooms. It is a wonderful space and I encourage members of the House to have a look at the Flinders Medical school at CDU and share the opportunities with their electorates.

The final two years of the program include clinical placements across the Northern Territory. They are involved in both community-based and hospital-based medical education in our Northern Territory training hospitals.

In addition to the NT medical program building at CDU Flinders University there are student facilities at the Royal Darwin, Alice Springs and Katherine hospitals and at Nhulunbuy, taking in the breadth of the Territory. Students studying in the NT undertake a program delivered for the Territory’s context. Students can complete a significant amount of study in a remote area but also have the opportunity to have an experience in suburban Adelaide if they wish.

The successful medical program sees the program study fees covered by the NT Government. The students have a return of service obligation to work with the Department of Health for four years post-graduation. By
2024 approximately 50% of the junior doctors in the Top End and Central Australia Health Services will be from the Northern Territory medical program.

It is wonderful that something that commenced in 2011 will be providing 50% of the junior doctors after such a short period. So far, we have had four Indigenous students complete the program who are working as junior doctors in the Northern Territory. Three Indigenous students are in their final year of the program. Twenty-two Indigenous students have enrolled in the program since its inception and of those 20 are from the Territory.

These students are provided with a wonderful opportunity, but they need to have a sound knowledge of STEM subjects through school. They have had that through their primary and high schooling and were able to continue into their tertiary studies. That is why it is so important to promote the STEM subjects across the Territory. They are as relevant in the bush as they are in the urban areas. Studying these subjects encourages our kids to grow. It provides them with opportunities for jobs in the future, but also helps keep them in the Territory.

The Department of Health also runs another successful program. I note the Deputy Chief Minister talked about some of the successful programs within her portfolio areas. The Indigenous cadetship program within the Department of Health supports local Aboriginal people to access and succeed in tertiary studies including science, technology, engineering and maths, which opens a door to a career in healthcare. Cadets have undertaken studies in a wide range of areas such as medicine, nursing, social work, speech pathology, the allied health occupational therapy, physiotherapy, pharmacy, behavioural science, exercise and sport science.

The Department of Health has 22 cadet positions. Four are completing their studies in nursing science and occupational therapy during 2017. Other cadets will go on to complete their studies in 2019, 2020 and 2021. Eighty-three per cent of the cadets are studying through Charles Darwin University.

There are wonderful opportunities within my portfolio of Health.

I would like to take a moment to talk about the schools in my electorate of Nightcliff. Like schools across the Territory—but I passionately believe that our schools are really kicking goals. I will wait for your speech, Mr Deputy Speaker, and you can challenge me.

In the STEM area, we have such wonderful opportunities. Nightcliff Middle School has been passionate about STEM subjects for a number of years and students have been involved in the RoboCup, Skills 2021 and the Tournament of Minds.

RoboCup is an educational game of the new millennium. The purpose is to foster artificial intelligence and robotics education. It was wonderful to see the main hall of Parliament House filled with students participating in that, including students from Nightcliff.

The students were able to explore the latest technology in drones, robotics, virtual reality and 3D printing, things we could not have imagined only a decade ago.

The students of Nightcliff Primary School have a wonderful opportunity to participate in the STEM subjects, giving them a great foundation for future education and employment. They participate in BeeBot, a program involving coding, and other tech programs.

Speaking of technology and how far we have come, it was with great excitement that the Minister for Tourism and Culture was able to wave off the cars in the World Solar Challenge on Sunday morning. It is very exciting to update the House that the winning car has crossed the line in Adelaide and the Dutch team, Nuon, have been based at Nightcliff Primary School. That is the second win in a row for Nuon.

The excitement of having that team—they were amazing and fully sponsored. The technology they had access to was so exciting for the children having them based at their school. All of the classes were able to visit so they could have a formal tour. Tens of people, who were part of the Nuon team, were based at the school. They had the solar panels out on the oval, rotating. The computers behind them, the electronics and the coding were fascinating.

My children have been following the Nuon team on their journey to Adelaide on Facebook. Every morning and evening we update where they are at. They had the information relaying back to one of the support cars. They were travelling slower to avoid clouds and then speed up again. It was amazing for our young children to have access to that through the World Solar Challenge.
I remember the first solar car challenge in 1987. I think it left from Casuarina Square. Having the Nuon team based at Nightcliff Primary School was a wonderful opportunity for the students. I thank the principal, Mr Graham Chadwick, someone who is passionate about this. He made it happen by providing access to part of the school grounds for the team.

The opportunity to expose and encourage our kids to participate in STEM subjects is well worth it, and I encourage other Territory schools to accept opportunities like this.

The Essington School is another school in my electorate with wonderful dedicated Academies of Excellence Programs. The programs run during the school term and also over the school holiday period. They run these programs in collaboration with Charles Darwin University and with support from the Department of Education, offering extension opportunities.

Teachers of The Essington School have had opportunities to attend the National STEM Centre in the United Kingdom and at the University of York. They have also visited best practice STEM schools across the United Kingdom. The school has a new three-year strategic plan and is finalising the STEM strategy and action plan to drive that learning excellence from the junior school through to the senior college.

In 2016, The Essington School appointed the first ever director of STEM program in any Year 1 to 12 school across Australia. This is an exciting and wonderful opportunity for a Territory school to be leading the way. The school has also expanded its residence program to include Scientists in Residence for environmental science, meteorology, health sciences and engineering. It is set up through the middle school STEM centre with the latest technology to allow our local students to access the information, research and practical studies in this area. I could go on about the different areas. They have a wonderful opportunity there.

These programs are not just available during the school holidays for the Essington students, but international students and students from NT Government schools are also afforded the opportunity.

It is important that Territory students be exposed to STEM, particularly in the formative years. It is important for Territory students to be supported for further study into health and medical sciences. We want to be able to grow our own health professionals and doctors. We know when people are from the Territory they are far more likely to stay here or come back here.

With our proximity to Asia and discussions regarding the space bases, there are so many opportunities. We really need to make sure that we are encouraging the study of STEM subjects. We cannot overstate it. Some people might be critical of why we have spent so much time talking today about the STEM subjects. We will continue to do so as it is important to ensure our children are equipped with the necessary skills for the economy and the jobs of the future.

I thank the Minister for Education for delivering this important statement. I look forward to the contributions of all members of parliament on this important area. We are focussed on giving our kids the best start, providing them with healthcare as well as fabulous programs, like FaFT, that really engage them with our schools. Through the STEM subjects we can provide exciting, creative opportunities for our students that will lead them to the jobs of the future.

I am thankful for the opportunity to speak today and commend the motion to the House.

Ms MOSS (Environment and Natural Resources): Mr Deputy Speaker, I am really pleased to stand in support of the Minister for Education’s statement, which outlines how we are setting up our kids’ for the jobs of the future.

Supporting better outcomes for our kids is a keystone policy for the Gunner Labor government. As the Member for Casuarina, I am pleased to see what my local schools are doing. The Minister for Education talked about some of those. We saw recently Dripstone Middle School being a recipient of the first round of Building Better Schools and have updated their LAN network as a result. They are out there teaching kids robotics and programming. At Alawa Primary School they have the Tek Ninjas, acknowledging that the kids are well-equipped to be teaching all of us what to do when we come across problems with our technology, which happens on occasion. Our schools are doing wonderful things in nurturing the digital skills of our kids and should be commended for that.

I would like to congratulate Nuon for their achievement in the solar car challenge. It was amazing to see so many members of the community turn out on Sunday for the start of the race. There was a lot of excitement, with incredible minds and technology. It is wonderful that we can have an international team work with a local
school, teaching them about solar technology and demonstrating what is possible with solar technology and jobs of the future. It is about greener technology; that is where the solar car challenge came from. Inspiring those kids to be part of that kind of innovation is such a powerful thing.

As the Minister for Corporate Information Services, I am really appreciative of how crucial STEM skills are for our kids to be able to achieve their very best in this digital age.

The Foundation for Young Australians report, New Work Order, paints a startling picture. Around 70% of young Australians are getting their first jobs in roles that will either look very different or be completely lost in 10 to 15 years due to automation. Nearly 60% of Australian students —70% in VET—are currently studying or training for occupations where at least two thirds of jobs will be automated and over 50% of jobs will require significant digital skills.

In terms of equipping our kids for the jobs of the future we have a lot of work to do. There are many people, certainly of my generation, who are doing jobs today that did not exist when we left school. It really is a rapidly evolving world.

The STEM initiatives that the Minister for Education outlined in her statement are crucial to ensuring our kids have the best chances in life today and as they move into adulthood. It will be one of the key pillars of the first ever digital Territory strategy, which we are currently seeking community comment on.

As well as creating jobs, delivering better opportunities in regional and remote areas, building safe and vibrant communities and restoring trust in government, this strategy will provide a framework for harnessing information, communication and digital technology to support the growth and development of our children and provide them with the skills and knowledge to become digital masters.

There are a number of important policy crossovers here. In regard to jobs, the NT will need to meet annual employment growth in ICT of 2.9% up until 2020. Other industries like engineering, medicine and environment are also seeing growing demand for STEM skills. As I touched on earlier, artificial intelligence and automation are making many traditional jobs, or the way of doing those jobs, obsolete.

Armed with the STEM skills the Minister for Education is delivering through the measures outlined in her statement today, our kids will have every chance to be on the positive side of that equation, skilled and ready to take up the careers available in new digital technology.

This is not only about our urban kids. Equally, kids in remote areas need to be able to take advantage of digital opportunities. There are many ways in which technology is starting to impact on and influence jobs and our ways of working in remote communities including online marketing, booking and sales of tourism services, the growing Aboriginal visual and performing arts economy, networking and automation of production on our farms and stations, remote sensing, data collection and analysis to support the management of our environment and natural resources. The list goes on.

Even as digital transformation of jobs and our economy in remote areas is under way, families in many of these communities struggle with limited connectivity, impacting on their kids’ ability to access distance education services. The digital infrastructure that kids in the bush require to gain much-needed STEM skills is simply not available or in serious need of upgrading for many children and young people.

Some positive work is being done in this space. We continue with our co-investment program with Telstra, which is $30m over three years and is about upgrading telecommunications technology in remote and regional communities across the Territorians.

NT public libraries are delivering free community Wi-Fi to 46 remote communities. But the reality is there needs to be significantly more investment and support if we are to get all our communities well connected.

I recently met with federal Minister for Regional Communications, Senator Fiona Nash, as well as senior staff from NBN in Sydney to reiterate the need for reliable and effective NBN services across the Territory. In both of those meetings I took the opportunity to make the case that there are 34 remote communities that could be NBN connected via existing fibre optic cable in the ground rather than the less reliable Sky Muster satellite service.

We will continue to take up the fight on this issue, because good telecommunications in remote communities is critical to our kids’ futures.
This is a matter of equity. Every child, no matter where they live, deserves reliable and efficient digital services so they can build the skills they need to take their place in the digital economy. Across the Territory the government is making significant investments in new technology in order to drive better service delivery.

The Core Clinical Systems Renewal Program is creating a single electronic health record for every Territorian so they can receive quality and consistent care wherever they are in the Northern Territory. That is fantastic for families.

The BDR is a digital solution supporting a reduction of alcohol-related harm across our communities, and in policing we are seeing the introduction of facial recognition technology, body-worn video and mobile fingerprint technology for in-field identification.

As we continue to introduce more and more technology-driven solutions across the Territory to address those age-old challenges, we need to ensure we are setting up our kids to take on those related job opportunities. That is why I am so enthused about the Minister for Education’s statement.

As our way of life is transformed by the ongoing global digital revolution, the STEM program that the Minister for Education outlined in her statement will provide our kids with the skills they need to become masters of technology; to develop into happy, healthy, productive adults; to be positive contributors to our communities; and to help find solutions to some of the significant challenges that our community faces.

Empowered with strong STEM skills, our children will drive jobs growth for Territorians, deliver better outcomes in the bush and enhance our communities. Seeing over 1000 Territory kids here in Parliament—and more in Alice Springs—as part of the Skills 2021 program, experiencing and experimenting with digital technology and honing their STEM skills, was a real glimpse of the future of the Territory. We are so well-placed to do that.

As the Minister for Education pointed out in her statement, allowing kids to explore and experiment with new technology is a great way to get them interested in STEM and hone their skills in this critical area.

As the Territory seeks to meet a 2.9% growth rate in ICT over the coming years we need to ensure Territory kids are ready, willing and able to take on their share of those jobs. It will be a big task. Millions of kids just to our north will have a strong head start. They have been focussed on developing their STEM skills for some time.

I believe that the strategy outlined here today will provide our Territory kids with the platform they need to step up to the challenges ahead of them.

Digital games are an important part of this equation and provide a much-needed entry-point for girls into STEM. I am a proud gamer myself so I can understand the role that games play. I enjoy both educational and non-educational games. It is a really important entry point for a lot of our young people.

The gender imbalance in STEM is generally replicated in ICT. We need to turn this around to meet the forecast demand for STEM-skilled workers in the NT.

Digital games potentially offer a range of important benefits for the Territory. Games for entertainment, including an exploding e-support sector, is a multi-billion dollar industry that is wide open for new innovation.

Gamification is a tool used world-wide to deliver training in sectors from brain surgery to mining. In my time as a member of the Young and Well Cooperative Research Centre’s Youth Brains Trust I had the opportunity to see and interact and provide feedback on games and apps intended to help young people with everything from anxiety to issues with alcohol and other drugs. It is a whole other world, but it is reality and a helpful tool for engagement.

It is being used to deliver education, as outlined in the minister’s speech. As this industry grows at an astronomical pace we have an opportunity for Territorians that we should continue to explore.

As Minister for Environment and Natural Resources I was pleased recently to provide CDU with support for the 2017 ConocoPhillips Science Experience NT which will be held on 17–19 October. This is an important program to encourage young students interested in careers in the fields of science, engineering, technology and the environment, and I am pleased to offer my department's continued support by sponsoring 10 students in this year’s event.
The Department of Information and Corporate Services is also supporting CDU’s Code Fair again this year. The Code Fair is another engaging way for students to develop and showcase their coding skills with broad support from both within the university and from the local business community.

I was honoured to open last year’s event and present academic excellence awards to 12 students who had achieved the highest grades in individual IT units during the first semester. It included local and off-campus students because off-campus distance learning is a reality of life now. I have to say, given the underrepresentation of women in leadership in the ICT industry I was encouraged by how many young women were there, sharing their knowledge and showcasing what they had created during the fair. It was fantastic.

We are now entering into a partnership with CDU to offer an associate professorship in cyber security. We are opening up opportunities for further learning in this area. It is an exciting time.

I talked earlier about our upcoming digital Territory strategy and was pleased to release a discussion paper a few weeks ago which will help inform that strategy. In both Darwin and Alice Springs I have hosted forums to kick off those discussions. It was really well attended in Darwin and Alice Springs. They were very different audiences, and I am interested to see what comes from both. It was great to see representation from community services and tourism and people in Alice Springs who have worked in remote areas. That will enrich the strategy we produce.

This strategy is intended to be living and evolving. It is an important framework for getting our policy and practice settings right to prepare kids for the digital world. It includes providing children with the social skills needed to navigate an increasingly digital world. A few years ago we started to hear about kids being digital natives. That is about people who grow up in environments that have always included the Internet and personal digital devices.

We have seen how the skills to operate those digital technologies start from early ages. It is commonplace to see toddlers happily skipping through episodes of Bananas in Pyjamas on a personal digital device with little or no help required from a parent. We also see mums and dads becoming concerned about screen time and how much their kids are depending on those devices.

If kids are to thrive, they need the skills to control their digital environment in healthy and responsible ways, rather than parents and carers trying to shield them from it. The stronger focus on STEM in schools must also include helping our kids make good decisions about digital activity online to ensure they are staying safe in the virtual world because they may encounter online bullying and predatory behaviour. It happens, but we are getting increasingly better at educating kids on how to navigate that.

Kids also need to be able to manage their time online and in the real world—IRL and text-speak—in a way that previous generations did not have to, including taking the time for physical activity and quality sleep. Overall I am really pleased to be part of a government that is providing the leadership required to ensure our kids are well equipped to take on the advantages and challenges of a new digital reality.

Having been in this Chamber as a member of the opposition, I do not think I have heard government talk about technology across a wealth of portfolio areas quite as much as I have heard this government speak about it. I am really excited about that because everyone truly gets that and is grasping that opportunity.

I support the minister’s statement and commend it to the House. I look forward to the contributions from others in the House, and listening to those contributions and our thinking on the digital Territory strategy as well. I look forward to hearing from the opposition and Independents in this debate—and how we can truly harness digital technology and ensure we are preparing our kids to take on new and evolving jobs so they are able to navigate their digital surroundings with confidence.

Ms WAKEFIELD (Territory Families): Madam Acting Deputy Speaker, it is a great pleasure to speak in support of this statement brought forward by the Minister for Education.

When I reflect on the change in technology in my lifetime, and the Attorney-General spoke about this as well, we have had massive change in a very short period of time. Within the education system it must feel overwhelming to be modernising it in a way that is adaptable to change. We, as a government, are up for that challenge. The Minister for Education is up for that challenge as well.
By focusing on STEM subjects we will provide our children with the skills to adapt to whatever change comes. We cannot even imagine the things that are ahead. If we give them the basic skills and ability to enjoy learning and be inquiring, we will prepare them adequately for the future.

It is a corny line, but the reality is that children are our future. Our government is committed to investing in children because it is our most important role as a government. It is the most important thing we will do while we are members of this place. I take that privilege very seriously.

Providing our children with opportunities to have the skills and the contemporary education required to fill the jobs of the future is imperative to building and growing the Territory. The Minister for Education raised automation. There were some great projects in Alice Springs with automation. However, this means that jobs will change along with that technology. It is clear that we do not need to be scared of that technology. It does not mean there will be no jobs for young Territorians in the future.

Automation was raised by the members at one of our Northern Territory Youth Round Table meetings earlier this year. I take the opportunity to say what a pleasure that has been, as the minister having the most contact with the members. They are very inspiring and make me feel confident about the future.

One of the topics they raised was—and the Minister for Education spent a long time talking to them about it—does automation mean they will not have jobs? What does that mean for our workforce? The minister was very focused on how we can support and be flexible enough in our education system to meet those needs.

We think about how to best use our budget. We have a tight budget but are putting money back where it is needed with the additional $30m funding allocated to education in 2017–18. Because we are a government that talks to people to find out what they want and what our teachers need from us—it is very interesting that the great emphasis on STEM in schools has become so important. It shows that there is a commitment to this type of change.

Teaching STEM education classes in a way that is creative and engaging for all kids will be one of the many ways we continue to keep them engaged in school. We know that is an issue and too many Territorian kids are disengaged from school. Making sure they have interesting projects that are self-taught, self-learning and a way of exploring education will be important.

I want to reflect today on how quickly things have changed. It is challenging when teaching STEM lessons. I am old enough to remember when computers had cards fed into them. That was one of the new and innovative things we were doing in my first year of university ...

A member interjecting.

Ms WAKEFIELD: Yes, these huge reams came out. It was amazing. We were stunned by that technology. I remember the first Mac we had at home. We were early adopters in my family, to have a home computer. We were one of the first families who did. My watch contains much more technology and power today than that computer did.

We need to be in wonder of how much we have adapted in a very short period of time. My brother is a renowned scientist in the genetic field. The work he has done throughout his career over the last 30 years has changed extraordinarily. His first undergraduate project was working on mapping the first kangaroo genome, which was revolutionary work at the time and very important because the kangaroo DNA genome is the furthest from the human genome. It demonstrated what was in the core of that. That was very important work early in his career.

Now he is researching ovarian cancer and how we deliver treatment to those cancers based on the individual DNA and nanotechnology. This is stuff he would not have imagined possible when he was the complete science nerd playing the tuba in the school band at high school. That is a huge leap. The family story is that I got the social skills and he got the brains.

In this rapidly-changing world we need to provide our kids with skills. It is a challenge requiring investment into our teachers who are often the same age as me. We have a slightly ageing teaching workforce across Australia, who are not the digital natives.
I look at my son’s transition teacher. She is a bit younger than me. I do not know whether she is a digital native. She has kids who have been on the iPad and the phone. My son was learning to swipe and use the phone at an early age. They are needing to adapt fast technology.

What I really enjoy about the way my son is being taught is that it is about exploration, learning at your own pace in a social way, having the experience of trying different things and understanding them within the world. His learning experience is very different to mine. When I was in grade prep, I went home on the first day saying I did not want to be there anymore because I did not want to sit on the dirty floor. Schools are much more welcoming and embracing places than they were then.

Our Minister for Education knows the value of investing in our people on the front line. As a government we are committed to providing them with support like the extra $8m into making sure we have the right counsellors and the right things in place so that kids can learn within the school grounds.

Interesting research by the Foundation of Young Australians estimates that young Australians of today will make 17 changes in employers across five different careers in their working lives. Training for one job will provide skills that are relevant for 13 other jobs. This is a changing thing. At lunchtime there were public service awards for people who had been in the public service for long periods of time. People were getting awards for 25, 30, 40 years of service. It is extraordinary. That is not necessarily the work and the workplace that our children will go into.

As someone who trained as a social worker I had multiple changes in workplaces across my career. As younger people come through, as jobs, priorities and different skill sets change we are going to need to provide the opportunities. We need to embrace them as opportunities, not barriers.

I am also proud today that there are so many initiatives focussed on girls. That is important. Yesterday was International Day of the Girl Child. Looking at the media yesterday and interviews with young girls around confidence, feeling that they did not have abilities to be in certain fields, that they would experience discrimination as they moved through their career — It was somewhat depressing but we have come a long way from when I was at the same age. Talking to some 12-year-olds I was reflecting that we have come a long way, but we still have a long way to go.

My brother is a scientist. He has two daughters, who are extremely talented mathematicians. They have been given opportunities to compete in national awards, maths Olympics and a whole range of different events. The opportunities they have to participate in specialist STEM subjects are so broad, and they have opportunities beyond what any of us could have imagined when we were at school.

We are making some great steps. They are being encouraged to take up science. My experience was that I did maths and science to Year 11 and then changed over to social sciences because I knew I would get better marks and easier entry into university. This was encouraged by my teachers. I was not encouraged to continue with maths and science. I hope that does not happen today.

I met a young woman at a function recently who is about to go into engineering. Her dad was bragging about her achievements. She was a bit more bashful. Research conducted through many studies into the increase of females becoming engineers shows that gender diversity has offered different perspectives on problems and resulted in a larger range of solutions to those problems. Diversity brings strength, varied solutions and views to all of our institutions, especially in science — we need to make sure we have as many good brains as possible working on the challenges we face.

I want to touch on Internet safety, especially regarding girls. The Minister for Tourism and Culture touched on that as well. As children have access to technologies we did not have when we were teenagers, it can be a struggle and a real concern. I have had conversations with girlfriends I went to high school with, and am thankful there was no social media when we were at high school. I am concerned about my son growing up in a world where so much is in the public space. He is on the public arena, on my Facebook — with my career. What does that mean in regard to bullying?

When I was CEO of the Alice Springs Women’s Shelter technological abuse was a major issue discussed. One thing that becomes clear as more research is done is that the abusive behaviour has not changed. The tools by which the abuse is being delivered and the reach of that abuse is different. Sometimes we can be quick to blame technology, but there is a long-standing issue of bullying in our schools and domestic abuse has been with us for many generations. We need to continue to fight it. These are new tools, not new behaviours.
The opportunities technology brings outweigh the disadvantages. I have heard people lament the access in remote communities to things like Facebook, but when you talk to people in those communities—the opportunity to connect with family and keep in touch.

I think of a young girl in a remote community having access to information she would not have had 10 or 20 years ago. She is able to see a different future for herself because of that technology. She may be able to access different information on how she wants to run her life and who she wants to be when she grows up. Technology gives people the opportunity to see a more exciting and vibrant world.

We need to encourage girls and young men in remote communities to have the skills and the confidence to embrace those opportunities. That is what education in STEM will do. It gives kids the confidence to explore the opportunities open to them, to dream of a better world and fully participate in our economy. That is the opportunity technology will give remote communities. It will provide many solutions to the problems we have through isolation and give young children in remote communities the opportunity, if we give them the right skills and the confidence, to be able to engage on the world stage if they want to.

That is what technology will do. If we give kids the skills, we can let them dream up their own future instead of us enforcing a future on them. I commend this bill to the House. All power to the Education minister for giving those kids the skills to have a bigger and better life than previous generations. Thank you very much for the statement.

Mr McCarthy (Housing and Community Development): Thank you, Madam Acting Deputy Speaker. This is a highly critical topic, pivotal to the future of Territorians and the Territory. I have seen firsthand how a government can create a prosperous future for its people. As a parent, a proud member for the regional and remote electorate of Barkly and a former teacher, I understand education is imperative and am passionate about it.

Education is one of the most powerful assets we can impart on our children. Eagerness to learn, curiosity to explore the wonderful world we live in, willingness to contribute to society and the ability to process and apply important learning can all be fostered through a good education.

Education can spark a student's imagination. It can introduce them to new and exciting subjects, empower them to achieve whatever they want in life, and teach them that with hard work they can have control over their future and achieve their full potential.

Education is one of the most important policy areas a government has carriage of. It shapes the future of a region and contributes to all other aspects of society. I also thank the Minister for Education for her speech, governance and guidance to ensure the Territory's education curriculum remains in line with technological developments, which are occurring at an astronomical rate across the globe.

If we truly want to govern with children at the core of our policies, it is critical we keep up with the fast-moving and quickly-advancing world. We need to provide our youth with the knowledge and skills required to keep up with the super-connected and technological world we live in.

As the Minister for Education and the Chief Minister have said time and time again, the Territory Labor Government is investing in children, education and the Territory. The Minister for Education informed the House that the Northern Territory Board of Studies is developing a strategy to align the Territory's science, technology, engineering and mathematics subjects—STEM—to compliment the National STEM School Education Strategy to lift student engagement and attainment in STEM, and support teachers to improve student learning outcomes.

According to the national strategy:

Over the next five years, employment is predicted to increase in professional, scientific and technical services by 14% and in healthcare, almost by 20%. The Australian Bureau of Statistics has estimated that some STEM-related jobs such as ICT professionals and engineers, have grown at about 1.5 times the rate of other jobs in recent years.

I would like to congratulate the Minister for Education for harnessing STEM innovation and productivity to equip our students with the skills they need to be competitive in future job markets. Education in the Territory must keep up to speed with literacy requirements. I am delighted to hear that STEM subjects will arm Territory students with the knowledge and skills they need to finish school such as critical thinking, creativity and problem solving.
It is important that we have quality learning environments to meet the needs of students today and into the future. The Territory Labor Government is investing in state-of-the-art facilities to support coding subjects, robotics, 3-D design, gaming, and video production. The Territory Labor Government believes the next generation of Territory leaders need to be trained and equipped with the skills that position them at the forefront of technology and innovation. Investing in facilities to support these studies is critical.

As a former teacher I can vouch for professional development opportunities for teachers and school staff. It is critical that teachers are supported to expand to their teaching capacity and develop skills in STEM subjects. I was delighted to hear the Minister for Education list the exciting professional development opportunities available for Territory teachers, including coding with Apple. Not only will teachers develop professionally, but training of this calibre will inspire and invigorate them, demonstrating the endless opportunities STEM subjects can offer.

We all share in the responsibilities. To achieve a good education and go to school feeling rested and ready to absorb an education children must have a good home and good health. As the Minister for Housing and Community Development, I know firsthand how critical a good home is to support children to attend school and get a good education.

Good housing is a right for all Territorians. A good home not only leads to a good education but contributes to good health and good community outcomes. A home is the foundation for people to connect and contribute to society, and a good home is the foundation for good educational outcomes. Sadly, the Territory has significant housing problems that have severely impacted on many Territorians for far too long.

In remote Indigenous communities housing has been inadequate, overcrowded and resulted in poor educational, health, and social outcomes. The Territory Labor Government knows that when our remote communities and regions are strong, the Territory is strong. That is why we will invest a record $1.1bn over 10 years to build and improve thousands of remote houses across the Territory.

We recognise that adequate housing can contribute to improvements in education, health, and social outcomes for Indigenous Territorians. Through improving remote housing, we will provide families with the homes they need to raise healthy families so children get a good night’s sleep and are in good health. This will support parents and their children to get to school each day.

I am proud to inform the House that we have begun improvements in remote housing across the Northern Territory. This commitment of funding delivers an opportunity to make a real difference to the lives of remote Territorians and, indeed, all Territorians. Our 10-year $1.1bn remote housing investment package is the largest investment ever by a Territory government to improve remote housing and the lives of people living in the bush.

In Budget 2017 remote housing investment included $100m. The Territory will be investing $50m for HomeBuild NT new homes; $20m for Room to Breathe, customisation and innovation of existing dwellings; $10m for government employee housing, which is new innovation in housing to create a better housing mix and enable local recruits to engage with their first ever opportunity of being given a housing entitlement; and a boost of $20m for remote housing repairs and maintenance.

An investment of $100m in one year for remote housing in the Territory is a significant commitment and will continue each year over 10 years. Work under the Room to Breathe program is under way and 124 families have benefited from our fast-tracked Room to Breathe initiative. Seventy-nine new bedrooms and 67 new living spaces and innovative outdoor living spaces have been realised. We have seen the employment of 54 jobs for Aboriginal people. Room to Breathe works are creating better home environments, less overcrowded living spaces and a better foundation for children to get a good education.

Children in these remote towns will continue to see housing work consistently rolling out over the next 10 years. The government’s intent is to create a continuum of work. We are also focused on five-year funding agreements for a continuum of work to support kids in school who will engage in training and are focussed on real jobs in managing tenancies in regional and remote towns, working on construction and industry teams conducting good cyclical repairs and maintenance to public housing assets; real jobs for construction crews designing and constructing Room to Breathe additions and innovations to existing dwellings; real jobs building, designing and innovating new government employee housing to provide a better housing mix as well as housing for local recruits focused on going into government jobs.

My hope is that some children who benefit from the STEM strategy in school will now take these skills with them into a career in the construction industry in their home community. Knowledge of science and maths is
important across a wide range of trade jobs which are critical to supporting our housing and construction programs. From housing maintenance to concreting, block laying, metal fabrication, carpentry, plumbing and electrical work, a knowledge of scientific and mathematical concepts is imperative as it is important.

Across our vast Territory, many men and women have skills and qualifications relevant to managing and maintaining houses, but people with qualifications for trades like plumbing and electrical work are still hard to find. A student in Year 6 in Wadeye today who is engaged and learns under the STEM strategy could be an electrician through an apprenticeship and working in Wadeye in 10 years’ time.

In the future, I envisage an office and workshop in communities like Maningrida or Ali Curung where local people answer the phone and respond to emails from local tenants, non-government organisations and government entities. Those businesses will manage the tenancies, arrange the maintenance and be involved in new construction opportunities. In the workshop the local tradie will be booked to fix a leaking tap, replace a damaged window or paint a new bedroom, while a team of local builders are working on a new home across town.

This is the future for the bush and the determination by the Labor Government to build local economies. It is also a fantastic opportunity for mainstream Territory industry to provide partnerships and joint ventures that all work together.

In my brief time as the Minister for Housing and Community Development there have been some great examples already. I single out a good connection between a contracting company and an upgrade program in a remote community to fulfil Indigenous employment targets and deliver on that goodwill and spirit to engage the local community. The contracting company used their own innovation to get unskilled workers onto an industry site, made them safe and started to engage them in the real work of the construction industry.

Of course, these workers had to undergo the basics in White Card training. Some of these workers were already enrolled in certificate level construction courses. But what made it real in this example of 22 full upgrades in a remote community was that the company used STEM skills to get their workers engaged on-site. They used those very important aspects of maths and science of planning, measuring, fitting and the use of power tools.

They started to recycle a lot of the old material from the houses, particularly the doors and metals, and produced household furniture. These local recruits learned about the modern construction industry, on-site in the construction yards and house construction projects. They were demolishing, refabricating and creating new and innovative products that would support the upgraded house.

There are some great examples of tables, chairs, outside furniture and bunk beds made out of recycled materials. These guys learning the trade were successful in operating power tools and using the sophisticated equipment of the modern builder, then very comfortably moved on to more advanced jobs in the upgrades and renovation of those houses.

In this House I have talked about my experience in visiting a Room to Breathe site. I have now visited a number of those sites. I was particularly impressed in Ramingining where there were seven local recruits. Once again, they showed the commitment. They were White Card accredited, enrolled in certificate-level construction and were on-site using STEM skills in terms of concrete preparation, setting up job sites, cutting, measuring, welding and steel fabrication.

More importantly, the kids were watching. That was STEM in action, so it makes sense that the Minister for Education is driving innovation into our curriculum so kids at school will be able to apply that thinking directly to what is happening on their street or in their home, particularly when they see countrymen are conducting these construction activities.

It makes a lot of sense and is definitely the way forward. We are preparing our students for the opportunities. Not everybody has to be a construction worker, but it certainly is a wealth of opportunities coming their way.

This is what STEM is about. This is what our housing program is about and what this government is about. We are creating a better environment for Territory children so they can grow up to a better future, but most importantly, so that they have choices.

Even though the Territory economy is slowing and we have a huge job ahead of us to deliver our policies, we have prioritised creating jobs, investing in children, supporting the bush and most importantly, restoring
trust. We know we must invest in education. The key to the future prosperity of all Territorians will be jobs. And to get a good job, you need to go to school and get a good education.

To produce the workers and leaders of tomorrow, we need to provide Territory students with the skills and knowledge that they need to launch into the careers they dream of. In today’s quickly advancing world of technology, it may be jobs they have not heard of yet or that do not exist today.

The Minister for Education spoke about the programs that will be implemented to engage and encourage students who may be less inclined to express interest in STEM subjects. Investing in education gives schools and teachers the support they need to set students up to contribute to society. Investing in housing gives children a good home to help them attend school. Investing in jobs creates future opportunities for future generations.

I am very pleased that our Minister for Education is investing in alternative opportunities. A great example is the creative healthy life program. It was brilliant to be able to share that time with the minister in Tennant Creek at the opening of the Juno Centre. Not only is there the alternative opportunities with curriculum, engaging kids, maintaining their interest and putting that X factor into the curriculum development, but also those very real opportunities of vocational education and training for kids to become engaged in the development and growth in industry skills.

Hand-in-hand, all of the Territory Labor Government’s policies will deliver a bright future for Territorians working together. A good government is forward-thinking and we understand that successful students will contribute to the future economic growth of the Northern Territory. Investing in education and schools infrastructure across the Territory is a smart investment in the future of the Territory.

In the Barkly electorate which I am privileged to represent, 16 schools will benefit from the Territory Labor government’s new Building Better Schools infrastructure investment grants of $300,000, which every Territory school will receive—not only infrastructure improvements targeted to support education, but the opportunity to grow local jobs.

As a government, we want to provide Territory children with access to a quality education regardless of where they live. It is an honour to support this statement because there are so many parallels between Housing and Community Development and the work we are doing to support our students with better housing and better outcomes—as well as to provide those important opportunities for jobs. The 10-year plan is about engaging local people, creating local jobs.

When people in regional and remote communities are engaged in every layer of Housing and Community Development and local government then we will truly see advancements in Closing the Gap targets.

Mr WOOD (Nelson): Madam Acting Deputy Speaker, there is an enormous amount of material in this statement. You could have a conversation about coding on its own.

I am really proud of some of the schools in my area, especially primary schools starting to use the philosophy behind what the government is putting forward through the REACh program, the Rural Enrichment Academic Challenge. If anyone has been to one of those challenges they will see how the children embrace the competition between schools and one another in mathematics and debating. There are a series of competitions where the best children from each school come together to use their skills in a positive and competitive way.

The example of them getting together at Humpty Doo Primary School for a mathematics challenge was the first time I had ever seen coding. I admit, I am still bewildered by a ball being put on top of an iPad and being programmed to go up and down a row. I am still one of those who are partly convinced and partly not convinced that coding is a good thing. I have been doing some research and there is a range of opinions on this. Some people are concerned you can get it from other sources and some say we should have it but to call it computer programming rather than coding. Others are concerned that the commercial side of it can take over.

Sphero is a commercial product. There are people who say that it is fine for the children who wish to go down that path, but do you really have to know how to code a computer? One example was that when Morse code came out not everyone learned how a Morse code machine worked; they just knew it was there. When you use your mobile phone, do you have to learn how it is programmed? If we all did that we would never have time to ring up. We just accept it.
The question is, do we do the same with computers? I do not want to know how to program a computer, but I expect some people want to learn to understand how computers work. Programming computers, as it is referred to in one of my documents here, is a different language. There is a quote here that a university in Florida has computer language as a subject in their language classes. Most people would say that is over the top because you cannot speak the language.

It would be good to have a debate on coding, Minister for Education, even if it was raised as an issue of whether it is the way to go. What are the positives? What are the benefits for every child to learn coding? I saw young Girraween Primary School children who knew far more than I did about coding. They sat down with children from Berry Springs, Howard Springs and Humpy Doo schools and taught them about coding.

They had a program in the primary school where children had to build a bridge out of cardboard and egg containers. Then they had to program Sphero so that it would go across the bridge and back where it came from. Whilst I thought that was fantastic, my problem with it is ...

A member interjecting.

MR WOOD: I know. I still want to know how that will grow a crop of watermelons.

I also love the STEM side of things. I need to tell people, there is one big STEM program in my rural area at Taminmin College. The minister has been out there. The previous government, through Minister Chandler, announced in May that there would be a $10m two-storey science block. The new building will include eight new science laboratories and eight additional classrooms. I am quoting from Peter Chandler:

Science, technology, engineering and mathematics are so important, and I think this science block is one step closer to perhaps a dream for this school and part of their master plan they've been working on for some time now. We all know that science, technology, engineering and mathematics ... is a real positive way of setting young people up with a real future for a real job.

Taminmin College principal, Miriam McDonald said the new building would help the school provide high-quality education to rural students.

The state-of-the-art science equipment facilities will enable the college to further grow science in the Top End as well as further integrate aquaculture and proposed aquaponics programs, linking real jobs for Territory students ...

This is exactly what the minister’s statement is about, linking real jobs for students when they come out of their education.

I very much believe that science, technology, engineering and maths was let go for too long and we have a shortage of kids who are skilled. We have a shortage of teachers. One of the problems with expanding the STEM program is that we do not have enough science and maths teachers. We need to encourage more teachers to get into this area. It is no good having a $10m building if you do not have teachers who can teach children in that area.

To some extent science, technology, engineering and maths was not the flavour of the month for quite a few years. Unfortunately that has put Australia behind. I went to Germany four years ago to the HANNOVER MESSE, Hannover Exhibition. It is a phenomenal exhibition of a whole range of technology, the best you will ever see with companies like Siemens, Honda, Volkswagen, big engineering companies that make wind turbines and solar panels, nuclear power companies.

It is there we see why we need people who understand maths, physics and chemistry. If Australia is to stand up as an equal partner in the world in this type of technology, the STEM program is important.

If there are those in this room who want to convince young people why they should study mathematics, physics and chemistry, take them to Germany. This fair is held every year. President Obama and Chancellor Merkel opened it two years ago; that is how important it is. It will be an eye-opener for yourselves—if you could take a group of kids there. It goes for five days. You ride a bus around it because it is so huge. Hydrogen cars were there, which is part of the reason I went.

I lasted two-and-a-half days and had enough—not because I did not like it, I simply could not take any more in. Darwin is a small place and fairly insular so sometimes we need to show examples of why this type of
education is important. Perhaps when INPEX is finished students would be allowed to go to the site. The technology used in building it is colossal. Building those big concrete tanks is an engineering feat in itself.

The trains—some of those things are made in Korea but the technology behind making that equipment—the cooling that is required for the gas and the technology to build a 600 km underwater pipeline from Western Australia to Darwin and get it right requires an enormous amount of engineering skill. For the offshore drilling rig that comes from Korea on a boat and has to float across—the stanchions that hold it up—and to get it right in the middle of the sea requires skills that are well beyond me. I can draw a straight line on a piece of paper and it is still crooked.

You cannot afford to have that looseness in what you do, these projects are down to the nearest millimetre and require people with great skill. Even though people are concerned about jobs at INPEX, you can bet your bottom dollar that most of the people who fly in are well skilled in what they do because they have a good education.

My concern is—I heard the Member for Barkly talking about housing and having issues—we can talk about science, technology, engineering and maths but if you cannot read properly you are not going to be able to do any of that. It still concerns me, and has done since I have been in parliament, that Indigenous NAPLAN output figures—I am not saying NAPLAN is perfect but these figures give you an indication. In 2011–12 Indigenous Year 9 reading reached 41%. In 2015–16 it went down to 33%. In numeracy, there has been an improvement for Indigenous Year 9 from 45% to 61% but the non-Indigenous is 93%, so the gap is still enormous. That has always concerned me.

We want people to build houses; we want plumbers and electricians but if you cannot add up or read—regardless of computers—then you are behind the eight ball and we cannot take our foot of the pedal. We need to make sure kids are learning and improving but we still have the problem of attendance at school. Primary, middle and senior non-Indigenous students attending at least four or more days per week is 88% and 36% for Indigenous, which is no change from 2011–12.

I do not have all the answers but know that when my wife got her education—when the bell rang they all went to school. It was a mission school in Delissaville and she loved it. Then she went to Daly River. She can read and write and all those things from an education that did not have computers or all these theories, but she can do all those things today.

We cannot take our foot off the pedal when those disadvantaged in our community continue to be disadvantaged because the only way we will lift people out of that—regardless of where they live—is to improve their literacy and numeracy and attend school.

We talk about youth justice and one of the issues that has always concerned me is idle time. If youth can get a job they are less likely to get into trouble. That is one of the philosophies behind the St Joseph Flexible Learning Centre in Alice Springs; they pick up kids who have dropped out and do not want to go to school, talk to other kids or even eat with them. One of their goals is to get their motivation going, give them a basic education and get them a job.

It has been spoken about here many times. I hope we can get the STEM program to Nhulunbuy and elsewhere—those laboratories and science areas. The one at Taminmin fits in perfectly because they are talking about aquaculture and agriculture. You need a science background in those areas if you are to develop the skills to develop the north.

Sometimes people think growing a crop is easy as pie. Growing a crop requires a science background today. If you want to do it properly and use the minimum amount of water, fertiliser and sprays, if you want to use integrated pest management, service a tractor, market your goods, keep your books, then you need a good education. It is not a matter of just putting a seed in the ground and hoping for the best.

We need those skills to keep coming through to develop the north; otherwise, we will always have fly-in fly-out people.

This is an excellent statement by the minister. I wanted to give Taminmin a plug because it is the first big school in the Northern Territory to have this program. Ten-million dollars—it should be finished next year. I have been there taking photographs. You can get it on YouTube. Someone has the science to have a drone flying over the top of it. Again, you need science to learn how to build a drone.
The school is very proud of what is happening. It is a fine example of the way we should be going now. If we want to take the Northern Territory forward we need to have more young people doing science, technology, engineering and maths. Perhaps we will leave the debate about whether coding is good or bad or something people need for another day.

Mr PAECH (Namatjira): Madam Acting Deputy Speaker, I thank the Minister for Education and her team for providing this opportunity to speak on this important matter on the behalf of all Territorians.

Once upon a time our great-grandparents, grandparents and some of our parents would spend many years with just one employer. They would enter into employment as a young cadet, intern or school leaver, and in my grandfather's case he did that at the age of 13 as a labourer. He retired several years later from the same industry. For some people that is a fortunate story, but for many people today it is not a reality. The world is changing. It has turned a corner and cannot turn back.

Today our world is a fast-paced, competitive environment that waits for virtually no one. It is a world where it is not uncommon for people to have up to 20 different roles of employment in their lifetime. It is a world where living and working in the town you grew up in are becoming far from reality as an urban drift sweeps across the regional towns in our country, pulling people to the east coast to fill skill shortages or undertake tertiary education, or because the federal government continues to cut programs in rural Australia.

The world we know is becoming a world of the past. We only have to look at our desks in this Chamber, at the laptops, iPad and iPhones. It was not that long ago that the world was taken by the storm of technology created by multi-national companies like Apple and Windows. As our Territory changes and evolves so must we.

As the structure of our Territory's economy changes and aligns itself with the digital age and entrepreneurial innovations, we must develop and provide the avenues and opportunities for Territorians to adapt and move with the constant changing goalposts. The jobs that drive our economy in the Northern Territory today may not be the jobs that will be needed to keep the economy moving in the future.

Every Territorian wants a good job. I believe that what people in this great place want now and in the future is stable employment, work satisfaction and the ability to bring home a decent wage to provide for their families.

In order to deliver this for people across the Northern Territory, now and into the future, we need to look at how laws and policies are developed and designed to meet the changing times. We need to look at how we, as a Territory Labor government, are continuing to promote and encourage entrepreneurial ways of thinking, promotion of the development of future sustainable industries and how this can be done in regional, remote and rural areas of the Territory. I am very passionate about the regional and remote areas.

I believe the bush and rural electorates should be seen as the powerhouses of the Northern Territory in regard to opportunities to work with community members by upskilling them, as well as the rich artistic minerals in regional and remote places. Quite often the bush gets a bad rap for being a no-go area, when it actually holds the key to the future of the Northern Territory.

One way of looking at preparing people for the jobs of the future is through robust forums like the Indigenous Economic Development Forum, where a diverse range of delegates come together to discuss economic development and changing times. Another is providing development grants through the Remote Aboriginal Development Fund. The fund supports initiatives in remote regions that have a positive impact on economic development, employment opportunities and improving governance and capacity in communities.

These are two separate grant programs available under the fund, which enable us to grow in these areas. Programs like these assist us in understanding the desires of our remote brothers and sisters, like the good people of Namatjira, and further assists us in understanding what the changing markets are in possible economies in regional and remote areas. This is of great interest to me not only as a bush member, but as a person who has long advocated that the bush holds the key to a number of answers to our future in the Northern Territory.

Information and communications services have become imperative in the modern world. It is a basic requirement these days to have IT skills to gain employment in most industries and will no doubt grow higher in demand in the future.
Territory businesses are now required to grow and develop entrepreneurial and enterprises skills to meet demands. Tourism is evolving and will need to continue to evolve with the developing technologies and changing climates to provide tourists with the unique and wonderful Territory experience. Jobs will continue to demand a knowledgeable workforce equipped with, nine times out of 10, a university degree as reassurance of a person’s capabilities to take on the role.

As a bush member I understand that university is not for everyone, nor should it be. For some people attending TAFE may be a suitable option, for others completing high school and remaining on ancestral country working and supporting community maybe is what is best for them. For whatever they choose, I support them, but I will always encourage them to consider options which may lead them to a life they never expected, such as those offered through initiatives like STEM.

Many people and organisations refer to STEM as the passport to the future for a one way ticket to an unimaginable and creative future. Research has shown that students who study STEM are more creative, flexible and able to take on the challenges predicted in the workforce and workplaces of the future. Jobs from accounting, construction and nursing to hairdressing all use STEM skills—let alone what the jobs of the future might be.

As we policy-makers prepare for jobs of the future, so must our schools and communities. We must all understand the importance of getting our kids, the future leaders and decision-makers, to study STEM subjects.

As part of this commitment we are expanding this area of the curriculum and investing in our schools through a number of ways to ensure they have the building blocks in place and well-equipped classrooms to deal with the changing times.

Minister Lawler advised the Assembly in her address that the Northern Territory Board of Studies is developing a strategy that will complement the national STEM strategy, which I am happy to hear as this will enhance student participation in STEM subjects. I am a big supporter of STEM and the need encourage more students in these subjects.

As the minister stated in her address, our government is working with urban and remote schools to implement code training. For those who are not aware—and I was one of those—coding is a list of step-by-step instructions that get computers to do what we want them to do. Computer coding is pretty much used in every aspect of IT, making it possible for us to create computer software, games, apps, websites and, no doubt, Facebook.

When children learn to code it helps them develop essential skills such as problem solving, logic and critical thinking. Through coding children can learn that there is often more than one way to solve a problem and that simpler and more efficient solutions are available.

I am very excited to inform the Assembly that Namatjira kids are future Einsteins. Titjikala School is already trailblazing in this field. The kids have been learning about coding. Minister Lawler has already been there and seen the excellent young Einsteins of Titjikala, young bush kids creating, developing and cracking codes. They are very smart, switched on kids.

Access to technology such as this is like brain food for young people; it fuels an interest and a passion in science, technology, engineering and mathematics.

I was very interested to hear about the Department of Education's humanoid robot and her robot whisperer, and I eagerly await Jo's much anticipated visits to the electorate of Namatjira. I am sure the children in the rural and remote areas of my electorate would be very keen to meet this humanoid.

In order to understand coding, students need to have a good level of literacy and numeracy skills from an early age. Thankfully, the Northern Territory Government—a government I am very proud to be part of—is investing in these areas to ensure children are at the centre of our decisions. Our government is investing in the Territory's future and our education system. Our government has reinvested in education with $124m in additional funding over our term of government to prepare for the future—working with our communities to establish the needs and desires of remote education and resourcing.

To understand people’s connection to country, the need to look at how our secondary systems run in the bush and whether communities have the capacity for secondary classrooms—because our young people learn easier when they are in a comfortable learning environment. That is often on country with family.
In talking about preparing First Nations people for jobs for the future, we cannot ignore Aboriginal education. Our system, from early childhood to secondary education, must be successful and designed to prepare youth for jobs now and into the future.

I speak about the importance of jobs for the future and reaffirm the importance to advocate the need to have children in an education system that grows our young people for the challenges ahead. Through a sound education system we can prepare our First Nations youth to lead their nations. The promise of the First Nations country remains in the hands of our young people.

I welcome the Education minister’s commitment to reforming remote education. As I travel the vast distances between my communities in the great electorate of Namatjira I will continue to encourage parents to voice their opinions on the remote education system. We must ensure that programs support the academic excellence our children can achieve, with a curriculum based in Western approaches and First Nation ways of understanding, to ensure people in remote communities remain fluent with cultural integrity and are ready for the modern workforce.

The CSIRO, with the support of BHP Billiton, is implementing important new education projects aimed at increasing participation and achievement of Aboriginal and Torres Strait Islander students in science, technology, engineering and mathematics. There are six program elements to the project, which caters to the diversity of Aboriginal and Torres Strait Islander students as they progress through primary, secondary and tertiary education, and into employment.

Those project communities are in the electorate of Stuart, which is another great bush electorate.

I want to read an extract from the CSIRO website:

*The Science Pathways for Indigenous Communities program facilitates selected Western Desert community schools, in consultation with Traditional Owners and other elders, to develop integrated Two-way Science teaching and learning programs.*

*Science Pathways supports the teaching of skills and knowledge identified by Indigenous teachers and elders in each community for the education of their children to look after country. It privileges local Indigenous languages and is linked to Western science, the Australian Curriculum, on-country activities of local Indigenous Ranger groups and any ecological research taking place in each area.*

It is work such as this which will greatly assist the way we prepare our young First Nations children. Sadly, the CSIRO in Alice Springs has limited capabilities to invest in large-scale research projects or develop projects like the STEM science pathways for Aboriginal communities in and around Central Australia, because not too long ago they were subject to harsh cuts from the federal government.

That leads me to this point. How can we prepare our children for jobs in the future when we have a disgraceful excuse of a federal government which has ripped out science-based jobs in places like my home of Alice Springs? We need the federal government to invest in regional and remote places so our kids have the same access to these jobs and research as kids on the east coast.

Organisations like the CSIRO in the Northern Territory are involved with environmental research on things like understanding our biodiversity, working with our Aboriginal and Torres Strait Islander communities on new and innovative ways of doing things, as well as understanding the benefits of traditional ways.

Another area I wish to touch upon today is the number of women who study, work in, or aspire to work in a STEM-related field. As a nation we do not perform well at supporting and encouraging young women to take up a career in STEM-related industries. This is something we must be better at. We must ensure that from an early age young women are encouraged to consider the exciting jobs of the future in these fields. We must make every attempt to ensure that in primary schools we encourage young women to not only look at humanities, but to go into engineering and mathematics. We must make attempts to erode stereotypes that are created. If my niece wants to be an engineer or an astronaut that should not magically disappear when she gets older.

I want every woman to feel supported to pursue whatever career she desires, and we are starting to change this today by standing up and speaking about these issues.

I am thankful that the Minister for Education is a strong Territory woman trailblazing—not only in her own right, but in ensuring we make a difference for young women in the Territory who want a career in a STEM-
related field. I have no doubt that because of the Minister for Education’s work in driving the need for STEM in schools, one day young Territory girls will be on the national stage, talking about how they have cured diseases, written computer programs, and definitely changed the world for the better.

Whether an urban or remote setting, under our government our children are being given the skills to excel in future workplaces.

Under this government our teachers are given access to professional training opportunities to ensure they have the skills to deliver a curriculum based around science, technology, engineering and mathematics. Under our government every Territorian is encouraged and supported to achieve.

Madam Speaker, I am just out of time.

**Mr McConnell (Stuart):** Madam Speaker, I get the opportunity to speak after the cogent and eloquent Chansey Paech, the Member for Namatjira. I will bring it down a level now when I speak to the ministerial statement on STEM and preparing young people for the future.

The future of the Northern Territory will be written by how competitive, innovative and environmentally sustainable our industries become. Our industries and businesses will only be able to compete in these areas nationally and internationally if our local human resources are skilled, motivated and inspired. This inspiration begins at a young age in our schools.

There is much innovative teaching occurring in our remote schools now with coding at Willowra and business enterprise pop-ups like Ntaria Design at Hermannsburg, an innovative approach to improving literacy as mentioned by the minister.

Advancements in literacy are key to our students being successful in science, technology, engineering and maths. Literacy is more than just reading and writing. It is also developing the capacity to learn, self-directed and problem solve. Without these skills young adults will not become effective scientists or engineers.

It was depressing to hear results of the recent Charles Darwin University study of adult literacy in remote Northern Territory Indigenous communities as reported in The Guardian. It found that 85%—yes, that is a staggering 85%—of those surveyed did not have the literacy skills that would allow them to operate independently in a tertiary educational institution or in a workplace. This is a staggering number that reflects a lack of success in the past achievements of our remote educational goals.

That is worth a pause to think about. With some rough guessing of numbers—because I am not good with math—approximately 30% of the population in the Northern Territory are Indigenous people and about 80% of those reside in remote communities. We are talking about that cohort of Territorians who have not had an adequate education or access to education.

There are a couple of points in there. I often hear about the debate of education in language, versus education in English and all that sort of thing. I agree that one of the best tools to teach people the English language is in their mother tongue. That has definitely been proven to be true.

One thing we need to do is to make sure people are learning. In order to do that, we need to engage with parents and primary care givers to motivate them to be able to get their children to attend school. That is critically important.

Employment service providers in the community development program have made it clear that there is a lack of resources to address the issue of low literacy and numeracy for adult learners. Low literacy can be a difficult issue to fix once someone is an adult. If your parents have difficulty reading, writing, learning and holding a job, it is much more difficult for you to pick up good learning habits, especially if you do not have access to resources, like books, at home.

The importance of making a change in this generation of children has never been clearer. The skills required for jobs and career opportunities are taking another leap ahead and the digital divide will soon be insurmountable. We cannot let our remote children be left behind again.

Remote education has always had to be innovative. I was a remote Territory student who experienced both School of the Air and remote classroom teaching in Yuendumu. School of the Air and remote schools have always had to rely on the availability of cutting edge communication technology.
We must keep pushing for better communications in the bush. Access to mobile and Internet in all remote communities is necessary. It is not a luxury; it is an absolute necessity for both educational purposes and general quality of life today.

I was talking to a gentleman in a community-controlled remote clinic in my electorate of Stuart and he informed me that around two-thirds of the nurses available for agency nursing prefer to go to a community with mobile coverage for the data coverage, both for quality of life and safety. It is a really important issue these days.

We need to address equity of opportunity as driven by equity of opportunity for infrastructure as well, and communication is an important part of that infrastructure.

It is great to hear about the minister’s and her department’s work on investment and upskilling our Northern Territory teachers. Teachers have complex jobs in keeping up with the varied educational requirements of their classes. They often deal with a broad variety of social and educational needs on a daily basis. The more we do to support our teachers, the better off our Territory children will be. This includes making sure our schools have access to specialist staff who can focus on issues such as classroom behaviour or English as a second language.

It is important to add that we need to ensure that investment in science and technology does not end with our education system. There must be an investment to support careers and jobs in the Northern Territory which focus on science, engineering and innovative technology so that our young people want to remain or return to the Territory to live and work. We do not want to see a continual process of brain drain to other states.

The incredibly innovative things that might happen in the space industry or other things might seem a bit like a pipe dream at the moment but we have to keep innovating in these areas to stay competitive in what is a world environment. Investment in our local human resources is a top priority that must also include culture of support for science and government investing in all levels.

This means a real commitment to science and research positions within government. The Member for Nāmatjīra pointed out the terrible cuts to the CSIRO lab in Alice Springs. That lab is something that operated, I think, since the 50s. I always aspired to the CSIRO scientists. On the station and communities I grew up on, there was often CSIRO scientists looking at grassland production values, rangelands, mineral resources, and all sorts of interesting things. I got to spend a lot of time—I was always willing to jump on, camp-dog style, with anyone who was around. I got to do a lot of trips with the CSIRO scientists back in the day.

To think that this resource is not in Alice Springs anymore is extraordinary. We have a Commonwealth Government’s rhetoric of developing the north. If we are going to develop the north it will be based on science and technology. One of the things we need to remember is that if we want to exploit the environment, we need environmental protections based on very good science. That is the work the CSIRO do.

We need to continue to invest on those things. I am a strong believer that there can be even greater pastoral production in the Northern Territory but am also a strong believer in protecting the environment that the pastoral production comes from. That can only happen with innovative science.

That innovative science might be about GIS, about new mapping systems that are available. But it is about the scientists who drive it, the people with the passion for the place who use skills they have developed over time to deliver for the place they would like to live in and continue to live in so they do not have to move somewhere else.

The Electorate of Stuart, being arguably one of the most productive in the Territory, relies on advanced technology in the pastoral industry, fishing, agriculture, aquaculture, horticulture, land management mining and resource development. The future is here now and we want local people to be able to obtain the top jobs available in these industries and more.

You have heard me talk before about Indigenous people being pushed into jobs that I call wood-and-water joey jobs. These jobs are really important. Every job is important, every worker is important, whether they are a cleaner, a policeman or in any other industry. We need everyone in the working environment.

What I want is to have equity of opportunity, to be able to see Indigenous people from the Electorate of Stuart being able to have any position they want, not just those wood-and-water joey jobs at the bottom of the
pecking order. To do that we need to have a very motivated engaging learning environment. This government and this minister are committed to creating that.

It is already delivering. I could be accused of that just being political speak or whatever, but I can really see it happening. I can see things happening in the Electorate of Stuart. People are getting more engaged and interested.

The thing I would say, again a little bit anecdotally, is that I think the teachers are having a much better life in remote communities. I think they know they have the support of their minister and their government. They work in an extremely difficult environment. They need to know they are supported both in community and off community in government. That environment is being provided to people and I hope to continue to see that.

We just had a significant upgrade to the Tanami gold mine, which is in the middle of the electorate of Stuart. It is producing a lot of income for the Northern Territory. We have other projects talked about by the primary industries minister today. There are all sorts of other interesting projects happening, most noticeable is the much-talked about Operation Sea Dragon on Legune Station, which is also in the electorate of Stuart.

If these things proceed, and they are almost certain to, we want to make sure the local workforce is utilised as much as possible in every aspect of environmental protection and land management, science, production, truck-driving, road-building, business development and financing. We want to see the local workforce utilised as much as possible. That will add value to the project for the Territory.

Beyond being able to obtain a STEM job or career, there is also a need to interpret the environment around you through an understanding of science. It is a necessary skill for us all to have in this modern world. We need an informed and educated population who understands STEM and is able to counter things where political leaders, with a poverty of thinking, might like to take the opportunity to lead us astray.

I refer to a prominent politician who thinks believing in climate change is akin to sacrificing a goat or that it is good for us. I did not think that this morning. It was a bit warm this morning, but he is in Canberra not up here.

I support the minister's statement. I appreciate her focus and dedication to upskilling Territory teachers and children to cope with changing education needs. It is important for all of us to lead and promote the ongoing love of learning in our community, particularly in the areas of science, technology, engineering and maths.

Mr FINOCCHIARO (Spillett): Thank you, Mr Deputy Speaker. I would like to start by thanking the schools, not just in the electorate of Spillett but across the Northern Territory. Schools are wonderful institutions integrated deeply into the communities across the Territory, the country and the world. We have fabulous, dedicated teachers who do an amazing job. I can only speak from what I see in the schools in Spillett, but we have dedicated staff across the Territory working tirelessly to help our future, our children and young people, get the most of the opportunity that is our education system and to be the best person they can as they move into adulthood.

I preface my remarks with that great thanks, especially as World Teachers’ Day is coming up at the end of the month. I am sure we will all be delivering cakes to our schools. If you do not already do that I highly recommend it. Ben and Sam’s Cafe and Bakehouse in Palmerston do a great job making World Teachers’ Day cakes. A shameless plug there for a wonderful small business in Palmerston.

The education and future of Northern Territory children is extremely important to the opposition. I am really pleased that this government has chosen to make children and education a key policy focus. We all know that a child’s education has life-long effects and the education they receive impacts on their future, not just in terms of job prospects but also on their health.

One of the important facets of a good education is getting a child from that very young age, through the system, ready for a job in those later parts of life in whatever field they choose to embark upon.

To ensure young people are job-ready later in life, we must take into consideration emerging industries. Based on work undertaken at Oxford University, PricewaterhouseCoopers has undertaken a new analysis which shows that:

... 44 per cent (5.1 million) of current Australian jobs are at high risk of being affected by computerisation and technology over the next 20 years.
This means that students in Australia must be prepared for computerisation of future jobs and have a clear pathway to enter the workforce once they have completed their education.

Education in and encouragement of children and young adults to enter the fields of science, technology, engineering and maths, has been recognised as a way of meeting the demand of future jobs and ensuring that young people are employable. That is a very important aspect. It sounds simple: you get educated and then you get a job. But it is not always the case. We know that many people go through their trades or particular universities and are qualified but unable to get a job due to a lack jobs compared to the number of people qualified to undertake them.

It is an important element to make sure our young people are actually employable in the jobs that are there at the time they come out of the system.

There is no universal definition of a STEM field of education or occupation but PricewaterhouseCoopers notes that in Australia they generally include a bachelor or higher level education in the fields of natural and physical sciences, information technology, engineering and related technologies and mathematics.

A 2011 study published in the journal of STEM Education estimates that 75% of the fastest growing occupations require STEM-related skills. It is not hard to imagine that in the six intervening years since that was published, this number might have increased more significantly.

A 2012 study in the Teaching Science journal shows that Australia has been lagging behind other Organisation for Economic Cooperation and Development countries and that Year 12 participation in STEM subjects has been declining. In 2012, there was an 11% decline over a 10-year period of Year 12 enrolments in intermediate mathematics. Over that same period, there was a 10% decline for biology, a 70% decline for physics and a 5% decline for chemistry.

I was probably part of those declining numbers when finishing Years 11 and 12, but I pursued a different course. I feel like I am empathising with the Year 11 and 12 students when they think ‘Yes, I am going to do chemistry and physics’ and then end up doing biology or something else.

In relation to future job demand and marketability of Northern Territory industries we should be doing anything we can, as representatives and legislators, to ensure more uptake by students and more energy is put into promoting STEM-related studies and occupations. It will be important into the future. In the minister’s statement I was glad to hear that many schools are actively promoting STEM and making it an attractive and fun learning experience for their students. It is important to get that key engagement and love of a subject.

Traditionally—certainly when I was going through school—maths, science and things like that were considered the ‘hard subjects’. They were drier and more difficult unless you had a natural flair in those subjects. Creating a fun and better learning experience when teaching those subjects can make all the difference to changing the direction a student takes with their studies.

The minister listed many examples of how schools around the Northern Territory are making changes to promote STEM learning, and it is great to see that teachers are being afforded the opportunity to upskill in this area to pursue teaching STEM subjects in a more dynamic way. Durack Primary School, in the electorate of Spillett, rolled out a new system of teaching maths this year. Not being an educator myself I found the whole thing very difficult, but I was lucky to have the principal run me and the rest of our school board through how the school is going about teaching it.

They have moved to teaching maths in a more intuitive way, which gives students the foundation they need for lifelong mathematic skills as opposed to punching out mathematical formulas. It is more about mathematical concepts and giving them skills to work through any mathematical problem that comes their way, which is very different than when I was at school. It is working really well at Durack. Congratulations to the teachers and staff for having that commitment and slowly implementing it throughout the year. I believe students are enjoying it.

For students who attend school every day and are achieving basic literacy and numeracy milestones—the kids who are fortunate enough to have a consistent teacher and a safe and secure learning environment—STEM initiatives can be very effective and appreciated. Unfortunately—as many members, particularly the bush members, have mentioned this evening—it is not always the reality for many Northern Territory students. As we know and talk about in different contexts in this House, there are many impediments affecting Territory students’ ability to achieve their full potential.
In the Territory there are issues of remoteness, homelessness, domestic and family violence, alcohol, chronic health issues—I could go on and other members have touched on it tonight. These are the issues that have to be addressed if we are to get all Territory students STEM job-ready. I hope the government's new children's framework that we spoke about earlier in the week tackles some of these social determinants of health.

The previous government had a very clear focus on the early years and allocated resources to early learning above all. Their focus on education was different to this and the improvement in NAPLAN and the record-breaking NTCET results at the end of its term speak of the effectiveness of its programs. Unfortunately, half of the Territory's Year 9 students did not meet the national minimum standard for writing in NAPLAN this year and only 62% of Year 5 students attained the national minimum standard. Year 3s achieving the minimum standard has also dropped and Year 9s achieving the minimum standard in grammar and punctuation fell by 5%.

In addition, NAPLAN results were well below the national average. We have concerns about attendance rates across the Territory which continue to be lower than they should, and that is not something new or revolutionary but something we continuously need to work on. The numbers for September show that more than half of the students enrolled at Territory schools did not regularly attend during Term 2 and overall half of those students will not likely benefit from this additional focus on STEM, which is unfortunate.

I do not raise these issues to talk the Territory, systems or the students down, but they are real issues we have in the Territory that need to be constantly at the front of our minds, worked on and addressed. All of us want to turn those things around. We want our kids in school no matter where they live. We want them in school every day and to love it. We also need for our students to have a safe and secure environment which is fundamental to effective learning and is an element the Northern Territory Government needs to keep its attention on given that last year we had 1067 suspensions for assault.

Another key issue when creating a strong environment for students to learn is the retention of teachers. According to figures provided to the opposition by the minister in her response to Written Questions, in the first six months of this new government 280 teachers have separated from Northern Territory schools. During the same period, 272 had been recruited, of which only nine had commenced on permanent employment.

That is a very high turnover, one that continues to supersede the number of teachers recruited. It remains a problem. The Territory is a transient place, but we need to retain teachers so that we have continuity for our students and we need to provide teachers with opportunities to train and upskill and stay in the Territory.

Promoting and investing in STEM-related fields in the Northern Territory education system is very important. I reiterate there are many other foundational and fundamental issues we need to address that have been identified by me and others this evening. Regular attendance, relationships with the teacher, basic achievements in literacy and numeracy, and having a safe home and safe learning environment are all issues. Without having all of that as a package, students will not be able to access the benefits of STEM.

Whilst it is important that we acknowledge the importance of STEM education in introducing kids to high-tech careers at a young age, we also know from living in the Territory—especially in the last year—that youth crime and drug use are at very high levels. We need to find ways to keep our young people on the right path.

A great example of how we can engage at-risk youth who are disengaged from school is with programs like the MotoScouts program being run by Scouts NT and the Motor Trades Association. That program was the recipient of a $3.3m grant from the Commonwealth Department of Employment through the Empowering YOUth program, which was announced by ministers Cash and Scullion in March this year.

The MotoScouts program provides at-risk youth aged 15 to 24 years old with the skills they need to seek and gain employment, improve their lives and overcome the barriers that might prevent them from succeeding. Participants are put through a program that results in a Certificate in Automotive Technology, driver training, a White Card, first aid training and various other skills that will help these youths gain employment in the automotive or other fields.

However, the premise of the program is geared towards engaging youth by leveraging an interest in motorsports and involving them in recreational activities that keep participants interested in the program. Many of the at-risk youths taking part in the MotoScouts program were previously engaged in criminal behaviour or did not attend school and often spent their days sleeping instead. As part of the MotoScouts program, these young people are now up at 8 am attending every single day and learning more than they have learned throughout their various touchpoints with the traditional education system.
Currently, the MotoScouts program is operating in Darwin, Batchelor, Katherine and Alice Springs and each site has 10 to 15 young people, most of whom are Indigenous with a disengaged history and have previous police contact or criminal convictions. They are learning the value of a hard day’s work and to work as members of a team. They are succeeding in ways they perhaps never would have in a traditional school setting. If we want to achieve generational change and reduce youth crime in the Territory, we need more programs like this to go alongside programs like STEM.

The world of learning is very challenging and ever-evolving. It is very different to when I went to school and when my parents were in school and so on. Screens are everywhere. We have iPhones, iPads, laptops—there is a digital presence. All of our little people know they can watch ABC Kids on a phone and even know which app to select to pick their own programs.

However, there is evidence to support the fact that young children always learn best from face-to-face interaction with caring adults, and it is recommended that children two to five years old have screen time limited to one hour a day. Too much screen time can increase the risk of a child becoming overweight, sleep deprived, less school ready, inattentive, aggressive and less able to self-soothe. There is also evidence to support that the increased multitasking associated with laptops, iPads and smartphones during learning reduces academic performance. There is a difficult balance to strike. I do not envy teachers in working their way through this.

We must embrace technology and the digital world. There is a fine balance between that, what is too much, and traditional methods of education.

When we talk about jobs for Territory children it is important to mention the job opportunities for our children that onshore gas would deliver. This is a worldwide industry. Last year the International Energy Agency estimated that 21% of all primary energy sources was natural gas and that proportion is growing. We know that the Northern Territory has an abundance of gas with onshore and offshore gas. Whilst this moratorium continues to be in place we are not realising those job opportunities.

Deloitte Access Economics estimates that we could create another 6300 jobs in the Territory by allowing a well-regulated onshore gas industry. Those jobs could set up young Territorians with a career in an industry for life, where they can potentially travel around the world in their chosen field.

Unfortunately we, as a Territory, may never create those opportunities for young Territorians. That sits squarely on the shoulders of this government, depending on its decision following its review into onshore gas.

I want to reiterate that the opposition support programs that will improve education and the futures of Territory children. Our children are everyone’s future, and STEM-related learning is clearly an important part of preparing our children for job readiness and giving them the best opportunities in life.

We also cannot forget that we have a lot of work to do in creating equality of access to STEM. We also need to remember that we have to measure success. One way of measuring is via results like NAPLAN and NTCET, amongst others. As an opposition we will continue to watch the progress of all elements of the education system, the changes this government is making and the programs it is putting in place. We will evaluate those on their merits.

I commend the STEM program and its rollout and thank the minister for bringing this statement to the House.

Mr SIEVERS (Brennan): Madam Speaker, I welcome the Minister for Education’s statement on preparing young Territory people for the future.

The foundation of education is built on keeping in touch with the times and what skill development is required for our future industries. Literacy and numeracy are very important aspects of anyone’s education. There is more to learn in a fast-moving era of information technology. What further skills will our children need in tomorrow’s world, which will be built on many new and diverse occupations?

That is why it is critical for education to work with modern industry to identify future skill gaps and build the strategies to fill these skill gaps through education and training.

The 21st century is a different world. A world where many hands-on jobs will become automated through robot or machine technology. The future is in programming, automation, creativity and digital
communications. These skills lie within key educational subjects such as science, technology, engineering and mathematics or as we now know it, STEM.

It is pleasing to know that we are also in the era of an NT Gunner Labor government, a government that believes in education. It has a families first policy that puts our children at the centre of its government, which is rebuilding our teacher and education staff numbers and investing in our children’s future.

We are a government in total contrast to the previous CLP government who dismantled our NT education system. It made enormous teacher and staff job cuts, cut huge amounts of funding from the Territory education budgets and hurt, yes hurt, our Territory schools, children and families. I must thank the Minister for Education, who spent a lot of time rebuilding and getting trust back into our education system. We care for all the teachers, support staff, and most importantly our children.

Territorians voted in a government that is putting Territorians and their children first. A Labor government will always do this as it lies within our core values and is the cornerstone of a strong and committed government working for its people—People who made the Territory great, and will again, with a Labor government behind them.

I am also pleased to have an Education minister who has studied and worked in classrooms across the Territory. From the ground up, a minister who is Territory born and understands how the Territory education systems work in local, rural and, importantly, remote schools. She is a hard-working minister who brings 30 years of experience to the table and is not afraid to get back into the classroom and listen to our students, teachers and education staff to make our education system better for all of our children, families and staff.

Our Education minister is already focused on what the Territory needs to do to give our children the best start in tomorrow’s world, a world that requires STEM-related skills for future 21st century occupations. It is comforting to know that the crucial ingredients to get the STEM program going have already commenced in our NT schools with the development of the new STEM in the NT strategy.

The investment in infrastructure requirements, upskilling of our teachers, coding skills and training now being introduced as well as the building of key relationships for leading industry and training enterprises, is evidence that STEM programs are clearly already in the Territory.

The recent Skills 2021 Parliament House exhibition included a number of robotic and drone flying displays. The students were required to conduct the coding then utilise the robots or drones to carry out specific tasks. What a great and fun way to learn. It makes me want to be a kid myself.

I can see that many Territory students from local, rural and remote schools will want to be involved in the STEM programs, especially as those skills are hands on, require a different mode of thinking and have a large element of fun in them, which we all enjoy. I, too, would like to be a young student again. You know what they say, you never are too old to learn. Which is so true.

Students have different learning styles and the traditional ways of learning are now somewhat distant memories as today’s digital era, social media and fast-moving IT have changed our world forever. As a father of five, I know each of my children had different ways of learning. Some preferred more practical hands on learning, some preferred mathematics over literacy, and my youngest daughter prefers to do everything on a tablet screen; she is far smarter than me on a tablet screen.

As a Territory father, I am so pleased our education system is offering a new learning pathway forward into the 21st century, one that mirrors our modern work practices.

The STEM initiatives and developments will bring opportunities to more students in the NT who learn in different ways—students who are creative and those with problem-solving and critical thinking skills. Further, we have heard that this government has not only committed policies in relation to education, NT families and children being at the centre of decision-making, but the Gunner Labor government has also committed an additional $20m per year into our NT school budgets. What a difference that will make.

Schools have greater capacity to support our children with more teachers and support staff, meet the 21st century learning needs and support the new STEM programs. This is already having an impact with more than 80 additional school staff in the Palmerston and rural region since we came to government.

There is more. This government is investing a further $39m over the next five years to build our 21st century schools in Darwin. We are investing in infrastructure to meet the needs of the STEM programs, plus advance
our curriculum further with the STEAM program, which is science, technology, engineering, arts and mathematics. What a creative idea. We know how talented Territorians are when it comes to art. My daughter is very good at art. She made the tie I wore here some time ago.

We have some of the best artists in the world. The STEAM program will ensure a pathway to support our future home-grown Territory artists. There is also the continued commitment to $12.7m for Taminmin College to have a new STEAM building. We will have some amazing facilities available for Territory students.

The list of the benefits to our Territory schools, families and children goes on. There are the benefits to our local economy, jobs and businesses, which will be supported by our government with our Buy Local and investing in jobs policies.

I must also mention Bakewell and Rosebery schools, which do an outstanding job educating the children of the future. I often attend these schools and catch up with the principals, staff, teachers, parents and, of course, the students. This is a job I enjoy so much. The smiles on children’s faces are worth a thousand words. They have so many exciting stories to tell and I enjoy listening to them all. It is always great to hand out merit awards during assemblies. I enjoy that every Friday morning at Bakewell school, when I can get there. It is such a pleasure and privilege to see the smiles on the faces of the kids achieving in the Territory.

It is pleasing to note that Bakewell school is engaged in the STEM program. It has an exciting and innovative robotics program with a strong investment in Sphero and Lego EV3 Mindstorms robots. How much fun would that be? I think I had better get down there a bit more!

The program exposes students to engineering principles and systems; materials and technology specialisations; and creating design solutions by investigating, generating, producing, evaluating and collaborating.

It also allows students to gain a great understanding in digital systems, representation of data, collecting, managing and analysing data, and creating digital solutions. The program includes opportunities to integrate design and technology with digital literacy through the creation of products, such as stop motion animation, which also allows cross-curricular links to areas of English and maths.

I have had a number of conversations about it with the principal and staff who inform me that students have engaged very well with the STEM activities as it is a new and exciting way to learn involving modern technology. I was listening to a few of the members earlier and picked up some points that brought back memories of my days in computer and information technology. I remember going to night school to learn all the new codes and how to read those computers; I spent a lot of time doing that. Our advancements in medical areas—how they do surgery these days! It is amazing how much it has grown in 10 years. I could go on and on. Working in communities I saw they had digital talking books that could speak in so many different languages. There are so many things that have advanced.

We had the solar cars here a few weeks ago. The technology must have grown so much in the last few years as those cars are going faster and breaking records. The battery technology to keep them charged to go such long distances—I do not know how people keep up with it. The STEM and STEAM programs that the Minister for Education is driving, with good outcomes, are putting our children in good stead for the future.

I fully support the STEM program. It is well equipped with the right skills and knowledge. I commend the Minister for Education for bringing this to the table and the House. I am sure children will succeed in the future and get jobs.

Mr Kirby (Port Darwin): Madam Speaker, I commend the minister and this government for bringing this on and making good with our commitments to put kids first in everything we do. A big part of the STEM roll-out is to make sure we are preparing our children for future employment. Part of what I will touch on today is just how much that future employment—none of us know what it might look like as things are changing at a rapid pace. We have had some good opportunities with October Business Month to get a look at what some of the future jobs look like. As the Member for Nelson was saying earlier, it will look a lot different to when we were young.
I was lucky enough to get a public education in country South Australia and go into a mechanical trade. As the Member for Barkly highlighted, we still need apprentices and tradespeople to come through the mechanical trade. It was very hands on back then, and that will have changed remarkably now as it is very computer orientated. Kids going through primary and secondary school will be the ones doing those trades in the future, so this STEM training will be handy. It will be almost impossible to do these trades now without that level of schooling.

I remember going to an O'Loughlin Catholic College presentation a few years ago with my children, who were attending that fine institution at the time. They displayed a YouTube video showing the rapid changing pace of education and learning in the world heavily linked to the IT industry. Basically, it explained that the technologies and things we were teaching our kids at school would almost be out of date by the time they went into their first job.

That is part of why they need to have that foundation training to understand how to adapt. The children who go through STEM programs will have the foundations they need to learn to think on their feet and adapt. Some people in the House have mentioned statistics of the number of jobs people had in the past and how that will increase in the future. It is a remarkable change from when our parents and grandparents went through their careers. The training in technical trades and the Certificate III levels for our electricians, mechanics and hairdressers are changing remarkably with the strong foundation they need in maths and science.

I have spent a bit of time in my working career with Power and Water engineers who do amazing things across the Territory in some pretty harsh conditions. When they attend the engineering awards in the Territory and across the nation, they are extremely proud of the work they do, and rightfully so. They will continue to push the boundaries of their chosen fields.

The Minister for Territory Families touched on women in trades. That is something I am extremely proud to have been involved in during my time with Power and Water. Some remarkable women came into Power and Water. One of the first women I had something to do with knew, and explained very clearly to me, that she had to be 120% as good as any male electrician just to be thought of as an equal. She was happy to take that on, meeting and exceeding all of those targets.

She is a remarkable tradesperson and still with Power and Water, but she has diversified into other levels of the industry, which you can do in the electrical industry. To me, she never seemed to lack confidence, but I know some women who came into Power and Water have been encouraged to pursue the electrical trade but have struggled with the confidence and the capacity to get through the trade training.

It was a great pleasure of mine to work with those girls to ensure they had the confidence to get through those trades, make sure the employer offered every opportunity to upskill them and that they gave themselves the best opportunity. It is fantastic to see some of those young women now in trade roles. More of them are progressing past the trade into post-trade roles and are very highly thought of in the industry.

The IT influence through all of those trades will be stronger in the future. It means that things like STEM are more important and we need to get kids to be grounded through the education system.

Coming out of a public school I had a good foundation and basis for my electrical training. The electrical principles and formulas we had to do were a little challenging. The principles and formulas they use these days are a lot more in-depth and diverse. It is an extremely important reason why this STEM foundation through the schools will be a massive advantage and is very much needed.

We had a lot of examples through Power and Water where we wanted to offer adult apprenticeships for individuals who did not have basic training at school or had been in different roles. Thankfully Power and Water is a reasonable employer, offering bridging courses and other avenues for people to bring their maths, science and anything else required up to scratch. It can be daunting if you cannot get through some of the basic maths to be able to work your way through the electrical principals and formulas.

Through the trade training avenues I was involved in I came across a body called EOS, which is the electrical training body that sets the national training packages across the nation. They liaise across the states and overseas with different training entities on how the national training packages are rolled out for trade-related training at Certificate III up to diploma and double diploma levels.

It was an awakening time for me, seeing the trade training and how it all comes together. We have a very good trade training system here. In setting the standards what became evident was that in some areas—we
are very lucky here in the Northern Territory—there were deficiencies in that people were coming out of secondary schooling without the capacity to go straight into a trade and get through the maths requirements.

That was a challenge the EOS body worked through at the time, making sure that schooling systems around the nation were graduating students at a level to be able to get through trade-related training without spending too much time on bridging courses. It was an interesting time. In the time I spent on that national body we were lucky enough to organise and orchestrate some live line accreditations, which involved people working up to 132,000 volts alive. We got those training packages cemented into the national training package up to a diploma level.

It is interesting to know that if the kids coming out of school now pick a trade in the electrical or supply industries they will have the opportunity to work their way through Cert IV, Cert V and up to Certificate XI accreditations if they choose that path. It is an enlightening time.

We had some fantastic presentations at those conferences. It would have been over 10 years ago when a body did a presentation. I cannot remember what the body was but it was one of the mining groups. They assured us it would not be long before they had driverless mining trucks because of the computer systems being built into the trucks. For companies in very remote areas of Western Australia and places like it—the Territory would fall into the same category—to think they would be able to control these vehicles remotely seemed like a far-fetched idea. Lo and behold, a few years down the track we have our own driverless bus running around the sunny seat of Port Darwin. It is amazing how things change very quickly.

It was a stark reminder to look through the scrutineering of the solar cars before they took off. The amount of work that goes into the cars and the whole event is amazing. The vehicles, the technology and the passion that those young people throw into the event is a part of what will drive our industries into the future and, particularly, our renewables industry.

The Member for Casuarina and I had the honour of meeting Hans Thostrup in the hall. It is a little daunting when Hans starts asking questions about where we are up to in the Territory, how much use we are making of the sun, how we have gained from having a massive gas project and how that will benefit our renewables into the future.

It is always scary to talk to someone who knows a lot more about a subject than you do. Hans is one of those gentlemen and is fantastic to speak to. There is no bigger, better or more passionate advocate for that event. The training and technology that underpins what goes into those vehicles will be a big part of our future.

On a local level it is good to see kids come out of secondary school, go through trades and get into a chosen field, making sure they have the right support to get through in a safe and competent manner without having to struggle.

I was fortunate to spend some time on the board of a major industry training advisory council and the capstone committee. It investigated whether apprentices were getting through in the right amount of time, their trade-related training was targeted well and competencies signed off at trade school. It was a good period to be able to reflect on the trade and feed information into the national body.

All of the boards I have sat on will continue to develop post-trade training for people as they come out of their chosen apprenticeships and as they move through the rest of their careers.

It is all underpinned by schools. Within Port Darwin there are no better examples of very passionate educators than at Saint Mary’s Catholic Primary School and Larrakeyah Primary School. The teachers dedicate their lives to the students. I take my hat off to the teachers across the Territory. I thank them and the hardworking staff who put their heart and soul into making sure our children get the best opportunities in life and leave school with the best education they possibly can.

Darwin High School is just outside of my electorate. On a number of different occasions a few of us have been invited. It is one of the Northern Territory’s cutting-edge schools. I was there when students—not quite at school-leaving age—were doing online surveys. They were playing with hand-held devices, putting surveys onto an electronic whiteboard and analysing their answers. I was surprised that about 90% of the students said they would be leaving the Territory after finishing school, for a few different reasons.

One reason was that they think it is too hot. A lot of kids had friends interstate or thought there would be more to do interstate. Some were leaving because there might be more opportunities interstate. The Territory
has the capacity to grow and open up opportunities so that might not always be the case. Over the next couple of years a lot of those young people will change their minds and decide to stay in the Northern Territory once they have left school.

The Northern Territory School of Distance Education is an amazing facility at Darwin High School. It highlights some of the ways to give people the best education when they are stuck in remote parts of the Northern Territory—to be able to stand in on a class and watch from Darwin. The things they can do with cameras now so that students can see how a teacher is working through an equation, or laying out the solving of a problem is a massive advantage for students that they would not normally have. For example with the School of the Air, to be talked through a problem and how to solve it and see how an instructor works their way through that is a huge advantage. I commend the people in that fantastic facility.

Children have a much better start in life if they have a good education. As the Member for Barkly highlighted, if they have a roof over their head—that is pretty well founded and something we will be striving to do a lot more of.

I mentioned the October Business Month earlier. There were a few of us lucky enough to go to a presentation that Jason Dooris—well he is not that young, he is probably in his 40s. He is a survivor of the Bali bombings and a very switched on man. He said that coming out the other side of a traumatic and life-threatening event made him realise a few things and has since changed his career.

He did not go too much into what his career was, I am guessing it would have been—he was probably always tied up in advertising and marketing. He started his own business about four years ago and I think it is now ranked the third business around the globe for what they do in advertising. It is a $40m business.

One of the fantastic innovations and how the world has changed—they have people working for them who come up with very fun and funky ideas. People get them to advertise very good electronic and technical equipment. One of the young people came up with the idea for the release of the iPhone 6s to have Lucy the robot stand in line at the store in Sydney as a marketing exercise. It was amazing. They showed how many people watched that advertising from around the world. It was a fantastic exercise, millions of people saw that and their sales went up by millions as well.

My own kids have worked their way through school and are into their careers now. I wonder what my youngest daughter’s education and career will look like. It will look a lot different to how ours did. I commend the minister for bringing this to the House. The future learning needs of Territory children are in very good hands.

Mrs WORDEN (Sanderson): Madam Speaker, I support the Minister for Education’s very future-looking statement and how government is preparing our kids, or our young people, for the future.

We must have a plan for the future, I think that is very clear for us. Our future is in their hands. We often speak on the negative side about our young people and the supports they need. It is really nice to have the opportunity to talk about the positives in the education space today. How we educate them today will reflect on how successful they will be in the future. Their success is our success.

Australia and the Northern Territory have to prepare young people through various education systems. It is not just about the structure of primary and senior school, but also the education components for the jobs of the future. It is not just about Australia; it is about preparing for the jobs globally.

Plenty of my eldest daughter’s friendship group have travelled overseas subsequent to school and a number of them are already living in other countries. That is one of the things we possibly see or feel more in the Territory as our kids grow older.

We have to prepare them to be very competitive—locally and internationally—and we want them to be creative and innovative so they get not only jobs in the ever-changing job market, but the jobs which will lead to new thinking and new technological revolutions.

It was great to hear from the minister. Like my colleagues, I am pleased to hear of the work being undertaken locally in our schools. I must admit that when I first read her statement I had only been aware of a small part of it. This important work is about preparing young Territorians for jobs.

Being a parent, I am also on the board of Casuarina Senior College. In my role as the Member for Sanderson I attend school council meetings as much as I can, unless I am in this place. I am pleased that every one of
my schools are looking into the future. Each is focused on getting the settings right for appropriate school development.

Last year my youngest daughter was afforded an opportunity in the STEM program at Casuarina Senior College. During that time she was able to test if it was something for her. Whilst her path is now leading her elsewhere she had a good taste of the skill level required to open up those options. There are always opportunities in the future. Our learning does not stop when you finish Year 12. There are opportunities for her to go back to that.

They could prepare her for jobs in future should she choose to pursue that area. I was grateful for the opportunity the school gave her. The fact that local schools are recognising the need and offering those advanced opportunities is excellent. I hear from lots of other members that their local schools are doing that, so that is great.

It is not just in my lifetime—job opportunities have already changed. I heard other members speaking about old computers. When I first started working there were no computers in the workplace. I must not have been in a fancy enough place though. There were rich companies where computer laboratories took up entire floors of buildings and clunky old typewriters were the go. I do not think they were used by many men at that stage. There were little typing pools of women.

At lunchtime today we celebrated the recognition of public servants who have done 30, 35 and 40 years. Some of the photos—the Minister for Education and I could not take our eyes off of the screen showing how technology has changed. At one point there were some photos shown of rooms with reels and reels of old technology and people looking through them, like a library of film. I am not quite sure what they were, but that was the old storage. I remember seeing those when I first started in the workplace.

Fax machines have come and gone. I think you can get a fax number now associated with your printer. Telephones were well and truly attached to our desks. Now a bigger conversation is being held about the relevance of telephone boxes in our community. Just two weeks ago telephone boxes were removed from the North Lakes Shopping Centre. The assumption is that everyone is mobile.

I would visit my dad as a young child at his work place. He was a plastics engineer with a very big company. There were massive plastic injection moulding machines. I do not know if anybody ever had the opportunity when they were younger to see those, but they were the size of whole sheds. We would stand amazed—at one end they were spitting out things like plastic chairs and other revolutionary type projects. They were pouring in plastic beads at one end and chairs were coming out the other.

By the time he retired, about 20 years ago, those same machines were smaller than half an office in size and space, and there were so many different plastics it would do your head in just contemplating how each one of them would be used. I had conversations with my dad in which he would recite all the properities of those plastics and what they could be used for. I have no doubt that in the last 20 years since he retired those things have again changed.

Batteries were all disposable, not rechargeable. Online shopping was not even thought of as a possibility. I do not know how I survived. TVs were not slim like they are now. Washing machines have transformed from the old ringers and coppers—my parents had those—to highly complex electronic washer/dryers. You almost need a degree to run some of them, and they almost press your clothes at the same time. In fact, it is something I would buy.

Last week I saw that there is a new machine called Effie. Ladies, keep your eyes out for it. That is coming onto the marketplace and I have registered my interest. I am not sure of the cost but you place all your clothes on hangers and in they go. When they come out the other end they are completely pressed. It is for the future, but I am excited. The days of the humble iron are numbered.

Hear, hear to that. Although, there is something quite therapeutic about ironing, I have to admit.

Members interjecting.

Mrs WORDEN: I will have to reassess.

Car engines are barely recognisable as the same things they were 30 years ago, and electric push bikes are fast becoming the norm. I do not know how many times I see people whizzing past me on these bikes and think they cannot possibly go that fast, but then I see the little engines attached.
Fridges have transformed from simple ice boxes to devices that almost order your food on demand. We even have driverless buses at the Waterfront.

There is no sign of change slowing. I have turned on the television or radio in the last couple of weeks and heard excessive talk about artificial intelligence dominating our international news bulletins. Whole communities are being constructed in far-flung places of the world with driverless and rechargeable transport in mind.

As a child, dreaming of being a computer technician was not fathomable. Nobody talked about it. Who would have thought that being a YouTuber or professional gamer could be a work choice? We have to imagine and dream the future so our kids have the opportunity to build the skill sets that enable them to think big.

Entrepreneurial training is not only important, but may have to be a standard class in our future schools. Jobs of the future will simply not be as we now know them, so STEM skills have to change as well. They are becoming part of the core capabilities that Australian employers need—predicting up to 75% of all jobs will need these skills.

Our young people need skills and experience for the jobs of the future, not the past, but how do we teach those things? That is the real challenge, but we will collectively have to rise to it. The Australian Government produced a report in 2014 titled Science, Technology, Engineering and Mathematics: Australia’s Future. This report was on the back of a previous position paper titled Science, Technology, Engineering and Mathematics in the National Interest. It was a strategic approach that was published in July 2013.

At the time the position paper was published, the Business Council of Australia—it was not just the educators in that context—released a comprehensive action plan for enduring prosperity. It was interesting timing, as that action plan clearly articulated that Australia’s education and training system was not producing the skills. It dedicated an entire chapter to stating that we did not have the skills needed to serve this changing economy. Reinforcing that was a rethink required from the ground up.

Whilst the action plan was very broad in terms of building Australia’s prosperity—it looked at a number of economic sectors—it talked extensively about creating the right environment and systems to drive innovation, noting that for innovation to flourish organisations and people need requisite skills and abilities to operate in an environment that provides them with incentive to innovate. That means we need to ensure our young people are equipped with the capabilities to innovate and operate in a culture that fosters innovation when they leave our education system. This requires investment in our people—students and teachers.

In all the STEM areas, as well as what they term soft skills like adaptability, design and creative thinking—they suggest these skills need to be started in the early years of our school curriculum, not only as elective subjects when students reach middle or senior school. STEM-teaching skills also need to be taught during early training so the educators gain the skills early in their training to drive change and innovation in their future workplaces. We heard the minister talk about that.

The federal government’s similarly-timed 2013 position paper hones in on STEM and the need to position ourselves, as a nation, to continue prosperity socially, culturally and economically. It identifies that by the expansion of our STEM-teaching program. Innovation can turn knowledge into new and better ways of doing things not just for Australia, but—I quote from the position paper:

... for humanity at large using the global connections that are intrinsic to quality STEM.

The position paper also goes on to talk about the importance of its recommendations filtering down to the state and territory level to influence policies and program development for our schools. That is why it is so heartening to hear our minister talking about what the Territory government is doing in that area; it was a clear recommendation. We are picking up on the importance of that nationally conducted research and investing in our schools to change and adapting the curriculum to offer our kids a better future.

Both of these very interesting discussion papers resulted in the publication of a significant report entitled Science, Technology, Engineering and Mathematics: Australia’s Future in September 2014. There is no lack of reports available or completed on this important and relatively new subject area. The report was put out by the government by the Chief Scientist as a specific recommendation for action. It recommended changes across four areas: Australian competitiveness; education and training; research; and international engagement.
In the area of education and training it identifies that Australian education, formal and informal, needs to prepare a skilled and dynamic STEM workforce and lay the foundation for lifelong STEM literacy and community. In saying this, it outlines 26 recommendations including providing strong career advice to students, active participation by employers in positional Australian STEM, and increasing the attractiveness of STEM teaching careers. Those are just some areas of change required to meet future challenges; there are 26 recommendations. There is not enough time to go through all of the recommendations but it is a good read for anyone really interested in this growing area.

As a follow-on from all this research and reporting the National STEM School Education Strategy was born. The Education Council of Australia commented that the performance of Australian students against international benchmarks had stalled or declined in the areas of science and maths. They also acknowledged that engagement with STEM subjects needed to go beyond the classroom. They needed to convince parents and the broader community of the value of STEM before they could increase the number of students engaging with those subjects. When it first came to my attention that my daughter was being asked to take on a STEM program I had to look at that and see what it meant. I questioned the decision to allow her to take on that STEM program.

The council set two major goals. Goal one is to ensure all students finish school with a strong foundational knowledge in STEM and related skills. Goal two is to ensure students are inspired to take on more challenging STEM subjects. Under those two goals they identified five key tangible actions to support their achievements:

1. increase student STEM ability through engagement, participation and aspiration at the school
2. increase teacher capacity and STEM teaching quality within the school
3. support STEM education opportunities within the school system
4. facilitate effective partnerships with tertiary education providers and business and industry
5. build a strong evidence base.

Collectively, all those things set a good path for Australian schools to follow. It sets the priorities and the way the education departments and individual schools can approach closing the gap on STEM-based learning for Territory students.

School leaders now have a guide to focus their efforts on in terms of setting the culture of their schools and attitudes to STEM, exposing students to a wide range of experiences to help raise their aspirations and bring their parents on board. It is vitally important that we give our kids the right guidance in their choices as they move through the education system. It is often complicated but as legislators it is vital that we provide the right settings for this to happen.

In two of my local primary schools, Anula and Wagaman, they are already teaching robotics, which the minister talked about earlier. School councils are looking at new technologies to support new ideas and coding.

Along with teacher education, new areas of science and maths have become a priority for the education department. They are at the coalface for principals and school council leaders in their decision-making about upskilling teachers, new technology for the schools and infrastructure upgrades to support their learning. It is no wonder the refurbishment of the science laboratories at Sanderson Middle School, with their Building Better Schools funding, has been such a major priority.

An education system that delivers a contemporary and innovative curriculum is the key to ensuring the Territory does not get left behind. STEM subjects are all vitally important areas for our future. I am inspired that the minister is bringing this statement to the House, inspired by her leadership and drive across the Department of Education and by the response from our tireless educators as they look to the future for our kids.

Thank you, Madam Speaker, and I commend the statement to the House.

Mr COLLINS (Fong Lim): Madam Speaker, I support the Minister for Education and her statement.
Before I start, I just thought of a story that was prompted by something the Member for Sanderson said. My statement is more succinct—one of the issues you raised along the same theme, talking about cars and how things are different now than they were in days gone by.

When I was 17, I had just left school and I had an XU1 Torana. I was driving off to work one morning and it started making a noise. I understood that it was the head gasket. I promptly turned around, went home and called in sick. I bought a head gasket kit, pulled the engine to pieces, replaced the head gasket, put it all back together and it was working fine in the afternoon. I was 17 years old and had no mechanical training whatsoever. I open the bonnet of my car these days—you cannot even drop a screwdriver in there. Things are very different.

Science, technology, engineering and maths—STEM education—has become a simple necessity to prepare our children, our young Territorians, for the jobs of the future. It is pleasing to see the Minister for Education presenting a statement to this Assembly that shows her commitment and the commitment of the government to provide STEM training in the Northern Territory education system.

As you can guess from before, I am from a different generation, although I pride myself on keeping relatively up-to-date technically.

In my day, school was relatively straight up and down. Come Year 10 you either continued on to Year 12 and most likely went on to university, or you left school and entered the workforce. That was my choice and at the time I chose to leave school after Year 10. I commenced a trade course and then an apprenticeship as an electrical fitter mechanic. The accepted wisdom of the day was that getting yourself a trade was a good way of future proofing your employment prospect. First you got yourself a trade, then you could do other things, but you always had that trade to fall back on. It was your safety net.

I really enjoyed my time as a sparky and my electrician’s licence retains pride of place on the wall of my office on the fifth floor. However, since moving on from that time, and to date, I have not yet had to fall back on my trade. Where there is life there is hope, and I will not write it off just yet.

Today’s kids have much more difficult decisions to make. In many ways the employment future is less certain today than it was in the 70s. As the minister highlighted, 70% of today’s young people will enter the workforce into jobs that will either not exist or will look markedly different in 10 to 15 years. That must be an unnerving prospect.

Today, no-one can have any doubt as to the increasing importance of science, technology, engineering and mathematics subjects as the contemporary form of future proofing. It is satisfying to see this government valuing innovation and recognising the need to increase the prominence of STEM training in our schools.

As people are aware I have two young daughters moving from primary to middle school over the next couple of years. I am really looking forward to their coming years at Darwin Middle and Darwin High Schools. I have been to both schools on a number of occasions and have complete faith in both principals, Marcus Dixon at Darwin Middle School and Trevor Read at Darwin High School, and their respective staff members to provide a great educative experience for Sophie and Eloise.

Last year, as the Member for Port Darwin indicated, I visited both schools, as they are the schools into which the students from Fong Lim feed. I was thoroughly impressed with their STEM programs. At Darwin High we stuck our heads into the robotics class and all I could think was how I would ever get my girls out of the room.

I think all children these days are computer savvy beyond the dreams of my generation. Sometimes the girls spend too much time on their iPads, but in spite of that that seem to be relatively normal. Perhaps it is in their blood. Their brother, Grant, my oldest child, has a Bachelor of Science in IT and works as an analyst in Sydney. He is perhaps the consummate computer nerd.

About a year ago I was heading to the bathroom in the middle of the night, about 1 am. I wandered past Sophie’s room only to see her sitting up in bed playing on her iPad in the dark. I was a little worried given the time and the fact she usually falls asleep quickly. I tentatively asked her what she was doing. ‘Playing Minecraft’, she said. It was rather late for that, so I asked, ‘Who are you playing with?’ ‘Grant’, she said.

Grant is 31 and lives in Sydney so it would have been about 2.30 am for him, but he was happy playing games with his 11-year-old sister in the middle of the night, across the country. As that story might indicate, I fear I have already lost any computer battle in my own home. My only saving grace is that we talk about the
issue and the girls are well aware of the dangers of the Internet. They are very open about the programs they use and who they communicate with.

I have previously spoken about my varied work career. I started my working life as an electrician. I then became a firefighter, a speech writer, an adviser, a lawyer, and now I am a parliamentarian. I was a terrible student at school; however, once I began my working life I kept taking opportunities as they presented. Perhaps there was something in the accepted wisdom of getting a trade. I had that comfort in the back of my mind that if I failed at whatever I attempted, I always had my trade to fall back on.

I cannot encourage the children of today enough to keep their minds open to future opportunities. STEM programs will be their basis for accepting those challenges and taking advantage of opportunities when they present themselves.

I commend the minister for her vision in providing the best basis for children in the Territory to prepare for their future. I commend the minister’s statement for its proactivity and its future focus.

Ms NELSON (Katherine): Madam Speaker, I also support the minister’s vision and commitment to the future of education in the Northern Territory, especially in STEM.

I grew up in the working-class suburb of Liverpool in Western Sydney, and the first school I attended was Mt Pritchard Primary School. My brother and I attended for the first two years of our life in Australia, after which we moved to a different school zone and my parents enrolled us at St Mary’s Primary School.

Back in those days the focus was squarely on the basics: reading; writing; and arithmetic. When I began high school I was incredibly excited to find that in addition to the basic curriculum we were also offered languages, modern art, English literature, art history and modern history as optional subjects. What made me even more excited was that we had different levels of math to choose from. Needless to say, I chose the most basic math level I was allowed to and I put my focus to arts and literature courses.

I have a 16-year-old son, Patrick, who will be 17 in a few weeks’ time and his educational experiences are vastly different to mine. As the Minister for Education stated, there have been many changes in education and through my son I am experiencing all those changes now as well.

Our government understands that education is the key to the Territory’s social and economic prosperity. It is the key to more jobs and overcoming disadvantage.

I note that in addition to living vicariously through my son I am also living vicariously and enjoying the progress in education through the schools in my electorate which have embraced STEM. This week St Joseph’s Catholic College in Katherine had several activities that exposed students to science and technology. Year 5/6 explored Lego robotics, coding and electricity. Year 8 examined different types of rocks under a microscope. My favourite was that Year 1 science had a lot of fun learning about volcanoes and did a project where they got to build their own volcano.

I come from a country that has one of the highest rates of poverty and disadvantage in this part of the world. Families in Timor value their education. They know that a good education has the power to break the cycle of disadvantage and to lift individuals, families and communities out of poverty.

My electorate has four government primary schools, one government high school and one private school which is a combination of primary and secondary levels.

I share Minister Lawler’s optimism for the future and am proud to be part of a government that is putting children at the heart of its decisions and reinvesting in education. Nearly $1m has gone into schools in Katherine. Katherine High School, for example, is using part of the funding to increase the capacity in their technology labs.

This investment also provides Katherine High School with certainty for funding after years of being significantly underfunded—and to invest in new technology for structure.

Macfarlane Primary School will be able to provide additional one-on-one support for students with the greatest needs. They will also be able to provide an intervention program for students who need help to lift their literacy levels.
I added that for the benefit of the Member for Nelson because literacy is still a major focus in education with this government. I am also excited about the FaFT program being rolled out in Katherine. This will be a great asset for the community.

Educational success requires a child’s community to be actively involved. Responsibility must be shared across these communities and by early childhood educators, schools, teachers and families.

Engaging with parents and families to encourage their children’s participation in quality early childhood education services sets a strong foundation for good literacy and numeracy skills and positive patterns of regular school attendance. Our children can then progress into primary school with a sound basis for continued learning.

Although we are talking about STEM today and our focus is on science, technology, engineering and mathematics, it is not an indication that we do not prioritise the basics of reading, writing and arithmetic. As our children transition into secondary school, positive primary education provides them with the foundation they need to reach their potential.

Creating multiple pathways from school to training and tertiary education enables young people to gain skills and qualifications to successfully transition into the workplace. Having a focus on teaching quality and school leadership is critical in addressing disparity of achievement and mitigating the effect of factors such as geographic location, ethnicity, socioeconomic status and family engagement.

High-performing education systems recruit and retain high-quality education professionals, invest in their development, and ensure they are able to meet the needs of every child and student. We cannot deliver these programs without having teachers who are feeling confident and comfortable in their school environment and are supported by their department.

Our government, as stated in detail by Minister Lawler, is committed to achieving this by encouraging and supporting our existing high-performing staff who want to advance their careers.

In 2016 Mitchell Institute brought together a group of leaders from across Australia to consider a challenge that is putting our nation’s wellbeing and future prosperity at risk. That challenge is preparing young people for the future of work.

This round table was made up of education practitioners, government leaders, policy specialists and researchers. Through their discussions they put forward two ideas about how Australia’s education system can change to accelerate innovation and improve transition to employment. These two ideas are transforming senior secondary education and revitalising apprenticeships. The round table purposefully included diverse views and perspectives. Even so, there was consensus on the need for change.

For many current school leavers, the journey from school to the workforce is taking longer and becoming more challenging. There are transformational changes to the way we live and work. Economies are becoming increasingly complex and very globalised, and new technologies are bringing about unforeseeable disruptions to the world of work.

The types of skills that young people will need in order to thrive in the future workforce are also changing. In Australia, changes to key employment industries are already underway. Employment in the services sector has experienced strong growth with significant expansion in healthcare and social assistance; professional, scientific and technical services; and retail manufacturing, which was the top employment industry at the beginning of the 21st century but has been in steady decline.

With the world changing as fast as it is; industries rising, evolving and crashing; technology leading to more efficient, effective ways of doing everything; globalisation connecting us all; and a new generation emerging and entering the workforce; the question is, how do we best ensure young people are prepared for the world of work from here forward?

We need to keep in mind that along with the jobs being phased out, there are still countless more that do not even exist yet. In order to create employment for those who are graduating it is important for us to review the system that has become antiquated. Even more critical, however, is to note that our current models of education, career planning and job searching are not just in need of a facelift, but we need a major shift in how we think about training our emerging workforce. The skills need to be relevant when they finish school.
I do not believe that we need to wait for this shift to happen in order to start teaching the new rules for success every day. Everyone can play a role in training our young people. After all they are our kids, cousins, neighbours, friends, colleagues and employees. We can all ensure that this emerging generation is primed for success. It is in our best interests to do so. Our future depends on it.

The question I was asked frequently when I was younger, through high school, was what I wanted to do when I grew up. I am sure all of us have been asked that question. How often did each of us hear that from our parents, friends and teachers when we were younger? Some of us are probably still being asked that—what will we do when we grow up.

We have been putting this question to children and young people since the start of the Industrial Revolution. Whatever the answer—engineer, accountant, hairdresser, dentist, teacher, horse trainer, scientist or doctor. My aspirations have not changed too much. When I was growing up I wanted to be a buyer for a major department store. I still want to do that. It is great fun; you get to spend someone else's money and buy things that are really nice. Whatever their answer was, it would then point them to the training they needed and whether they should go to university, TAFE or enter an apprenticeship.

I pick up on what the Member for Namatjira said earlier, that university or TAFE is not for everybody. Today that question of what you want to be when you grow up no longer really serves. The assumption is not predicated. A single career for life in a stable workforce is now false. The world of work is in a massive transition. It is a far more global, technology-driven and flexible economy in which professions are being altered, new professions are coming into existence and traditional jobs are being swallowed by automation, which I am sure the Member for Nelson will not approve of.

I have learned a lot in my very young 46 years, especially in regard to what skills are vital to not only enter but remain competitive in the workforce. Ambition, curiosity, good work practice, presentation and articulation are still important and relevant but are not the top priorities anymore. In this day and age young people are having to add several technical skills in addition to the soft skills. For example, coding, the use of a computer and programming. My son knows more about coding, computers, software packages and programming than I ever would have ever known about typewriters when I was his age.

The schools in Katherine have embraced new technology and coding and have added these quite successfully to their curriculum. The kids are loving it. As digital technology plays an even greater role in our lives, young people with ICT skills are in high demand. Despite rising youth unemployment, people with the right skills are really hard to find. This is why we are increasing the prominence of STEM in our schools.

I commend the Minister for Education’s statement and am inspired by her passion for education and wanting to introduce new and innovative ways of encouraging children to participate in science, technology, engineering and mathematics. I look forward to supporting the schools in Katherine in delivering projects that will encourage the use of STEM.

Ms AH KIT (Karama): Madam Speaker, every Territory child deserves a quality education. They deserve to learn about interesting and stimulating topics and to wake up in the morning feeling excited about going to school. I acknowledge and thank the Minister for Education for working tirelessly to make this vision a reality for all Territory children.

Life was much different when I was a child in the 1980s. My childhood revolved around spending time with family, participating in sport and making sure I received a quality education. I am fortunate to have been raised in a family where both parents understood and valued having a quality education, and encouraged and supported my siblings and me to learn as much as we could, as these were opportunities not afforded to them.

When I was 10 years old I started thinking about the type of job I would like when I grew up. I remember lengthy conversations with my dad that focussed on the fact I loved talking and arguing my point. As a 10-year-old I thought I was never wrong. From these conversations I decided I was going to be a lawyer. As I got older I scored my first paid job at 15 years old at Woolworths in Katherine and realised I had a love of money. I gave it a bit more thought and decided that I would be a good accountant. This way I could play with other people’s money, similar to my colleague, the Member for Katherine.

As a teenager living in Katherine and then Darwin I was not alone in considering legal and accounting professions as my future career. It was great because relevant classes were offered in high school and I took comfort in the knowledge that if I became a lawyer or an accountant I could get a job anywhere.
When I was 15 I rode my bike all over Katherine as my main form of transport. My weekend fun consisted of sport or playing in the Katherine River, and I had to remember to let my parents know every move I made so they could track me down. How times have changed since then. Nowadays, everyone has a smartphone with a tracking device, including my 10-year-old nieces and nephews. I know more kids who sit inside and play games on devices than outdoors in real life. Social media rules a lot of lives and can ruin them too. Our young Territorians are more advanced in their use of technology than most adults. We have heard testaments on this from a lot of colleagues in the Chamber today.

The Minister for Education informed the House that there is a clear need for young Territorians to be educated in STEM literacy to capitalise on the prediction that 75% of all jobs will require STEM skills over the next decade. I congratulate the Minister for Education for delivering on government’s commitment to put children at the centre of our decision-making with the increase of STEM in Territory schools. It is great to see that coding will be introduced into all primary and secondary schools, and that teachers will be provided with opportunities to upskill in digital literacies and to see an expansion of enterprise education being delivered to Territory students.

The Foundation for Young Australians undertook extensive research on the skills being sought by employers through data collected from more than 6000 websites from which 4.2 million unique job ads were retrieved over the last three years. The foundation documented their findings in the New Work Order report. The report explains that enterprise skills are transferrable skills required in many jobs. These skills include problem solving, creativity, communication, teamwork, financial literacy, digital literacy, critical thinking and presentation skills.

Enterprise education is a new term for me. After I researched the term I found myself affirming the importance of each skill I just mentioned. The foundation’s research revealed that wages are higher for young job seekers with enterprising skills. Jobs requiring problem-solving skills are offering $7745 more, while jobs seeking digital literacy skills offer $8648 more, and presentation skills offer $8853 more. The extra salaries offered for these enterprise skills definitely warrants consideration by young job seekers.

The foundation also discovered that the demand for enterprise skills is on the rise after reviewing early career job ads over the past three years. The foundation found there was a 25% increase in demand for presentation skills, a 65% increase in demand for creativity, a 158% increase in demand for critical thinking, and a whopping 212% increase in the demand for digital literacy.

It has been great to hear about the Territory schools already using STEM and the benefits it brings to schools and the students. I am sure the lucky students attending these schools are more excited to get out of bed and get to school in the morning. Who would not want to learn coding to control robots? I am pretty sure the Member for Brennan and I are amongst those who do.

Many colleagues have spoken about the lack of females in the STEM industry. I need to reiterate this fact. I have been lucky enough to have a number of mates who are lawyers, health workers, managers and business owners. But I only have one who is a pilot and one who just graduated as the first Aboriginal doctor of archaeology, a feat that took him the better part of 10 years. I congratulate Dr Christopher Wilson on this tremendous achievement.

Last night I was speaking to my cousin, who is completing her final assessment for her Bachelor of Biomedical Science. She managed to complete her degree at night after spending time with her family and well after her children were sleeping. She has demonstrated a level of commitment, passion and discipline that inspires me to continue on my own learning journey.

My cousin believed in her ability and persevered despite facing many challenges with her family. I am so proud of her and I know her story will inspire others to follow their dreams. My cousin will be the only Aboriginal woman I know with a Bachelor of Biomedical Science and I cannot wait to celebrate with her next year when she graduates.

I thank my colleague, the Minister for Education, for her hard work and commitment to ensure all Territory children are afforded the quality education they deserve. I wish all students and teaching staff the very best in their STEM studies, and I look forward to celebrating more achievements and graduations of those who enter the fields of science, engineering and mathematics.

I commend the statement to the House.
Mr VOWLES (Johnston): Madam Speaker, I am about to inspire. I am pretty happy with this speech. I have listened to everyone else’s speeches and I am proud that our side of the House has contributed, and proud of everyone else who has contributed. We just heard from the Member for Karama about the impact education has on our lives and communities. Bear with me through this 25 minutes of inspiration.

I thank the hard-working Minister for Education for bringing this statement to the House. Now, more than ever, we need to concentrate on science, technology, engineering and maths. It is a key focus of our children’s education as we look forward and prepare them for the future.

As the Minister for Primary Industry and Resources I know that professional vocational level knowledge of STEM underpins many of the jobs in the industries in my portfolios.

‘Why is STEM important to Primary Industry and Resources?’ I hear Madam Speaker whispering over the microphone. These fields sum up the work conducted in Primary Industry and Resources, whether in industry, the public service, with other stakeholders, or in service industries.

STEM forms the professional basis of jobs in my portfolio areas in occupations such as geologists, meteorologists, hydrologists, metallurgists, chemists and other specialists in earth sciences such as biologists, ecologists, botanists and other environmental scientists such as vets, and other agricultural scientists.

Research in the primary industry sector is at the core of enhancing productivity, better utilisation of natural resources and developing new crops. Consistent cutting-edge research is what keeps us competitive in attracting investment in a highly competitive global environment, thus increasing and creating professional jobs for Territorians.

I bring the House’s attention to some of the innovative work being done in the sector. In November last year I attended the Undoolya Field Day with the Member for Namatjira and was able to view the innovation and Precision Pastoral Management Tool. This instrument is a world-first technology developed in the Territory by the Cooperative Research Centre for Remote Economic Participation, led by Sally Leigo, who is a researcher within my department.

The Precision Pastoral Management Tool works by having a weighing platform at the entrance to a watering point on a station. An ear tag is automatically scanned as the animal passes over the weighing platform. In real time each beast is identified and its weight recorded without having to muster cattle in and out of the yards. This data is overlaid with a satellite-based pasture mapping system, which enables the pastoralists to make better decisions on the management of herd in certain areas much more quickly than before, and this tool has drawn massive interest in the cattle and pastoral industry across the globe.

In February this year, my department, in collaboration with other institutions, commenced a study into building a better understanding of how optimal nitrogen management can improve production outcomes for the mango industry. Six months into this study we found that sampling the mango soil for analysis and conducting lab incubation experiments have occurred. Testing of initial methods to quantify whole-tree biomass harvest has also been undertaken. Selected mango trees have been harvested to measure the above- and below-ground biomass. This has allowed the quantification of the amount of nitrogen coming from both fertiliser and soil sources, therefore estimating the nitrogen use efficiency of mangoes.

Work has taken place in conjunction with the University of New England in using remote sensing technologies to correlate paddock scale variability and production of mango orchards in the Darwin area. Preliminary yield maps of five blocks consisting of two mango varieties have been developed and are being tested by participant growers. Remote sensing is showing potential to be a precision tool for mango growers in the not-too-distant future.

It is important that our scientists have the facilities they need to do the job. As a government we are committed to research in the biosecurity arena. I recently announced, with New Zealand’s favourite son, Deputy Prime Minister Barnaby Joyce, an $8m newly expanded molecular diagnostic wing at Berrimah Farm. We are serious about this. The Northern Territory Government’s contribution to this $8m diagnostic wing is $4.535m, with $3.5m from the federal government. I thank the federal Minister for Agriculture, Barnaby Joyce, for the contribution, support and acknowledgement of the important role we play in biosecurity not only for the Territory, but for our nation.

These facilities, which help protect the NT’s valuable domestic export markets and the jobs associated with them, will place Darwin on the front line of biosecurity management. Molecular diagnostic tests have become
more important in recent years in providing a tool to confirm a diagnosis. They are being used in conjunction with more traditional testing methods. Much of the current operations are being undertaken in buildings constructed in the early 1970s and are well beyond their usable life. These new facilities are desperately needed.

Biosecurity management protects crops and cattle, fisheries and forestry industries from serious damage by pests, disease and weeds. Northern Australia remains a biosecurity priority, and effective biosecurity across the north protects the rest of the nation from the threat of pests and diseases that could devastate our $60bn agricultural industries. It also underpins northern development.

As part of other upgrades to Berrimah Farm Research Facility this government is also actively seeking Commonwealth funding committed by the Northern Territory Government to upgrade other laboratories on the precinct. These further upgrades will provide more of the contemporary facilities needed by scientists to support the research and development work that provides much-needed advice and services to industry.

I am extremely proud to tell the House how Indigenous Territorians are taking part in scientific activities in fisheries management on country. Scientific measuring and analysis services are an emerging area for Indigenous marine rangers. Rangers are assisting fisheries to deliver projects on aquaculture, stock monitoring and data collection.

Sixteen Indigenous marine rangers have completed a Cert II in measuring and analysis. The course develops the scientific and technical capacity of ranger programs. This has led to contracts being offered for rangers to conduct a number of fisheries research functions on behalf of the department.

Marine groups are involved in research on snapper and barramundi stock monitoring. Part of this work includes extraction of the Otolif, which are hard calcium carbonate structures that lie directly behind the brain of bony fish. Otolifs help to determine age and derive age-related information as well as growth of various fish.

In mining and petroleum industries, technology and engineering are constantly improving best-practice and mitigating risk, in particular risk to the environment and in work health and safety. Constantly improving technology and engineering is vital to facilitate sustainable operations through improved cost effectiveness and making future investment more viable and attractive.

Some of the fantastic STEM-related activities in mining and petroleum sectors include the use of drones on legacy mines. My department uses drones to conduct their operations in inspecting and evaluating legacy mines across the Territory. Embracing this technology has added a new dimension to the work they do resulting in higher quality assessments and far more enhanced efficiencies. These include being able to acquire real-time footage of sites that may become inaccessible in the Wet Season, or if access is not possible for other reasons, and being able to access elements of sites that are too dangerous for staff to access.

This staff welfare benefit cannot be overestimated—being able to obtain a bird’s eye view of the site in real time to identify hazards to ground crews that may not be visible from ground view.

Being able to acquire real-time thermal imaging data minimises the requirement to use expensive satellite-based remote sensing which does not offer real-time data and impairs the ability of staff to form the most accurate assessment possible.

The images produced by the drones can be used to generate detailed terrain models.

The North Australian Centre for Oil and Gas at Charles Darwin University was established with funding in partnership with Ichthys LNG, the Northern Territory Government and Charles Darwin University. The centre offers qualifications in STEM professions at VET and higher education levels.

As well as educating, the North Australian Centre for Oil and Gas is also conducting vital research into many industry challenges, such as dealing with corrosion in a tropical environment.

Collaborations with the Australian Institute of Marine Science, Monash University and the CSIRO are advancing this research. The goal of research is to determine how the marine environment in tropical waters affects equipment and to assist in improving the integrity of the materials so they are better suited to northern conditions.
Through this government my department also offers a three-year university scholarship for aspiring earth scientists, mining and petroleum engineers and metallurgists. This is an opportunity to become qualified and build a prosperous career in these industries in the Northern Territory and beyond. The scholarship is worth $12,000 per year over three years to assist with living and study expenses. It includes mentorship, career guidance and career goal support. It is designed to encourage young Territorians to pursue careers in the resources sector.

I would like to also pick up on Minister Lawler’s comments on the Skills 2021 event here at Parliament House. This building is sometimes a quiet place so it was great to see how vibrant it became with the sounds of children learning about science and technology while they were having some fun.

In August a group of Year 10 students from Centrational Senior College travelled to Darwin and spent days with scientists and experts from my department to learn about some of the career opportunities available in science, agriculture, fisheries and aquaculture. This trip is an annual event timed to coincide with Science Week. They were also at Berrimah Farm, where the students toured the veterinary laboratory before breaking into groups to do rice testing, assess bananas for the Panama disease tropical race 4, and visit a stingless bee hive, which they loved, apparently.

The students also visited the Darwin Aquaculture Centre at Channel Island. At the centre, the students participated in fish and oyster dissection, live feeds, broodstock husbandry and giant clam aquaculture.

As the NT News reported on Friday 15 August, students from Nhulunbuy High School and Yirrkala Community Education Centre are completing Certificate II in Maritime Operations delivered through Nhulunbuy High School by the Australian Maritime Fishery Academy.

Course instructor, Glenn Young, said, ‘Those undertaking the course improve their literacy and numeracy in the workplace by learning about legislation, computing fuel volumes and making chart calculations’. This qualification is a precurser to a coxswain certificate which licences a person to skip a commercial vessel to 12 metres and up to 15 nautical miles offshore. The coxswain qualification always has a marine engineering component.

Let me get onto my electorate of Johnston. I have six public schools in my electorate and I like to give a brief rundown of STEM-related learning activities they have undertaken.

Jingili Primary School has two dedicated science teachers who cater for transition to Year 6 students. For the past few years, Jingili has held a science fair during Science Week, where students exhibit their scientific experiments for their peers. It has always been a very popular event with much support from the community and me, as the local member, with some funding. This year has surpassed all other years. The number of students wanting to exhibit had increased so much that exhibits had to be broken into two groups to give all the children a fair go.

Transition to Year 6 students, parents, and friends moved from exhibit to exhibit, captivated by the experiments they were witnessing. A particular favourite was a lava light experiment. The only criticism of the fair is that there was not enough time. This event highlights the power and interest that well-deserved and well-delivered science lessons have on an enquiring mind. Well done to the science teachers, Lesley Turner and Yvonne Vrodos, and the rest of school staff. They are also calling for their former principal, the Minister for Education, to return. I might have just made that bit up.

At Millner Primary School the Year 3/4 class has a system they call the data wall where students can track their maths learning. You can test results to determine what stage they are at and what they need to do to progress. The data wall is designed to help self-identify what elements of maths they need to work on to progress into different stages. The Year 1/2 class at Millner Primary has been learning about how plants breathe to make oxygen for humans, how they get energy from the sun and nutrients from the soil, and why plants are so important to life. It is great to see children learning scientific principles, such as photosynthesis, at an early age.

I move on to Moil Primary School, which celebrated Science Week with a science expo and a focus on ‘We care about our earth’. Recycling was a major focus of the launch of the school’s TerraCycle recycling program which sees the school recycle an array of objects such as coffee pods, freight satchels and many other items consumed within the school. The science expo had community participation from many different organisations including Cleanaway Recycling, St John Ambulance, the Darwin City Council, Bunnings and Darwin Wildlife Sanctuary. There were numerous science activities for students to take part in as well.
At Alawa, during Science Week, the Year 4/5 students had been conducting science demonstrations every day at lunch time. One demonstration was called ‘Erupting Volcano’. Students made their own volcano base with a central cup. To make the lava erupt they used red food colouring, vinegar and bi-carb soda. Other activities included students making slime, oobleck and separated Textas using paper chromatography.

Students and staff from Alawa school attended the Skills 2021 event at Parliament House and had a great time doing so. I am also aware that Alawa Primary School is using part of their Building Better Schools funding to upgrade the local area network in their library. This will give the school enhanced facilities to teach STEM education to their students.

For Science Week, Nemarluk Year 6 students joined students at Henbury School and participated in the science fair. The theme this year was to encourage all people to become fascinated by the world we live in. The students had a wonderful time and were grateful that Henbury School gave them the opportunity to participate.

Minister Lawler mentioned the Darwin RoboCup in her statement. Students from Casuarina Senior College played a role in the RoboCup by supervising the robo soccer games, robo rescue competition entrants and assisting school students in a robo dance competition. They even set up a kiosk to feed the masses. The day was an overall success and the volunteers were keen to return next year for more robo fun.

In June, Year 10 students from CSC spent a day competing against other Darwin schools at the Science and Engineering Challenge at CDU and were very successful. The students tested their problem-solving skills in a variety of fun, brain-teasing, head-scratching and hands-on tasks with real world applications. Scenarios included catapults, bridge building, powering a city and artificial limbs. It was a great day filled with team work and collaboration.

It is great to see so many students with a keen interest in the STEM fields at a time in their education when they are seriously weighing up what careers they want. Hopefully in the future we will see these students undertaking studies at the North Australian Centre for Oil and Gas at Charles Darwin University or applying for the Department of Primary Industry and Resources' earth science scholarships.

It has been a pleasure beyond enormous amounts to speak on the Minister for Education’s statement on preparing young people for the jobs of the future, particularly STEM education. As the Minister for Primary Industry and Resources I am proud that there are many jobs requiring science, technology, math and engineering qualifications in the industries that I administer, and those industries are leading the way in industry innovation and performance.

As the Member for Johnston, it is a pleasure to share some of the great work that has been done in these fields in my electorate, and how children of all ages are having their curiosity challenged and are learning essential problem-solving skills.

This government is committed to children, and education is rock solid in that commitment. The core of our vision is for a more prosperous Territory over the long term and the creation and maintenance of jobs. We have a comprehensive plan to honour that commitment and I am proud to be part of that.

I stand here today as a government minister and member of the Assembly, as a beneficiary of a vibrant Territory education. In fact the CEO of NT Farmers, Greg Owens, who I consult with and listen to regularly, was my agriculture teacher at Taminmin High School. I am fully committed to seeing a vibrant Territory education afforded to Territorians of all ages to prepare them for the jobs of tomorrow. That future is in STEM.

I thank the Minister for Education and I stand committed to support her in the great work she is doing on behalf of all of us and Territory children.

Ms LAWLER (Education): Mr Deputy Speaker, in wrapping the statement, I first of all thank all the members on our side who contributed to this statement, but also the Members for Nelson and Spillett.

It is government's work to ensure our young people are prepared for the jobs of the future. What we have already accomplished and the future work ahead will make sure Territorians are well placed to participate in the workforce of the future. It is important to discuss innovation in this House on how our world is changing and what this means for the Territory's future. As community leaders, we need to be part of the change and modernisation of our workplaces so the Territory is not left behind.
We have had some excellent contributions to this debate today. The Deputy Chief Minister spoke about the opportunities that world-class projects, such as INPEX, can provide for Territorians. We need young people engaged in STEM so they have the skills needed for major projects for the future. With a skilled STEM workforce the Territory will be able to attract more projects like INPEX.

Members also mentioned how STEM is essential to a range of jobs we have in the Territory across our urban and remote communities, everything from financial services to aerospace engineering.

In our public service there are many STEM-related roles and several graduate and cadet programs, such as those mentioned by the Treasurer and Minister for Health, that are keeping people with these skills and knowledge in the Territory. The Member for Johnston also spoke about those jobs.

As the Member for Barkly outlined, STEM skills are a critical part of the workforce delivering our fantastic $1.1bn housing package. As many of our members said, we want to see local people, especially in regional and remote areas, having the skills to gain employment either in their community or further afield. STEM skills are needed for a broad range of jobs, and that is why there needs to be a focus on STEM in our schools.

To provide opportunities for those early years of learning when kids are so curious about the world around them, to explore and provide real work application for older students, to capitalise on the opportunities that STEM provides—the Member for Nightcliff spoke of those real world experiences for the students at Nightcliff Primary School, which recently hosted one of the world’s solar car teams, getting the chance to see STEM in action.

We need an emphasis on literacy and numeracy as important foundations for students; however, these skills alone will not serve children well enough if they are to be confident and capable participants in our nation’s social and economic future. It is clear that we need to broaden the learning objectives of our education system, a system that was formed in the manufacturing era, a time when students did not need to navigate complex environments and multiple careers.

Our education model needs to adapt as times change and as the broader economy changes. Our schools and education institutions need to enable our young people to develop the full range of capabilities they require for a successful future.

STEM literacy is increasingly becoming part of the core capabilities that Australian employers need. As several members mentioned, to thrive in the workplace of the future, our young people need the skills of complex problem solving, critical thinking, creativity, people management and an ability to coordinate and work with others. If we expect schools to prepare children for the future, our schools need to be modern work places delivering a contemporary curriculum and they need to be properly resourced.

The CLP cut around $135m from education, cuts during a time when our students should have been seen record spending on education flow from the first four years of the federal government’s Gonski funding. Hundreds of people in education lost their jobs over those four years of the CLP government. People who had houses, were raising families and contributing to the economy and social prosperity of the NT, were turfed out of their jobs as teachers, support workers, curriculum service providers and student support specialists. It was shameful.

Many of these people left the Territory. We cannot underestimate the negative impact this has had on the Territory, including the skills and knowledge lost. Just to clarify something the Deputy Leader of the Opposition said—she was into rewriting history this morning. It is important for the records to state that under the CLP the proportion of teachers on fixed-term contracts grew from 8% when they came to government to over 30% by the time Territorians said no more.

I was working in education at the change of government in 2012. The number of teachers on contract at that time was down to 8%. When I came back as Minister for Education I was horrified to see it was 30% over the four years of the CLP government. It is unacceptable. We need more teachers on permanent employment. I have been cleaning up the CLP mess, and the Department of Education and Commissioner of Public Employment are working on a fair process for boosting the number of permanent teachers as well as an ongoing strategy to stop this from happening again.

The really great news is that this government knows how important it is for children and young people across the Territory to have access to a high quality education for our schools to be properly, fairly and equitably resourced. That is why we are investing an additional $124m into education across the Territory over the next four years, $31m per year, because we know how important it is.
This investment is already having an impact. We have 178 more staff in our schools than we did in August last year when we came to government.

The Deputy Leader of the Opposition does not seem to be listening; she continues to cling to outdated data on teacher numbers. With two CLP members in parliament it must be hard to keep up with the excellent achievements of our government, like our reforms to the broken youth justice system, our comprehensive plan and targeted investment to stimulate the economy and create local jobs, and our unwavering commitment to keeping our election commitments on the moratorium on fracking.

Under a Gunner Labor government the Territory can have an education system that continues to be the most improving in the country, which we need it to be. Our government is investing in education and has an absolute focus on exceptional leaders, quality teachers and strong relationships with community. This is what will make a difference. The CLP were trying to come up with silver bullets but there are no silver bullets in education. It is about hard work, but there needs to be a focus on exceptional leaders in all our schools, quality teachers in every one of our classrooms and schools that have strong relationships with their community.

This government understands the importance of studying STEM subjects. Therefore, we are growing this area of the curriculum and investing in infrastructure to provide quality environments which support learning, such as the STEAM centre at Darwin High School, which will benefit the thousands of students accessing the Bullocky Point campus. The Member for Nelson mentioned the facility that has commenced construction at Taminmin, but school buildings are nothing without the skilled and dedicated educators who create engaging learning opportunities for children. This was acknowledged by many members as they spoke about the importance this government places on the professional development of our teachers in the fast-paced area of teaching and learning.

We have delivered on our election commitment to upskill teachers in digital literacy. Over 350 staff members have already accessed ICT professional learning, which is learning focussed on hands-on workshops exploring the effective use of technology in the classroom. It is delivered with industry and other educational partners, including professional teacher associations.

STEM is an area that brings about excellent examples of best practice collaboration. A great example brought to my attention is the recent unit of work called That’s My Water! which is being used by Anula, Karama, Manunda Terrace and Girraween Primary Schools. The Member for Nelson spoke about that during the GBD on Darwin River regarding access to Darwin River Dam. It is wonderful to see schools accessing the opportunity for excursions to Darwin River Dam as part of their studies on water. This is a collaboration between Living Water Smart, Power and Water Corporation, the Department of Education and the Department of Environment and Natural Resources to address the issue of water consumption in Darwin and across the Northern Territory.

The unit has a STEM focus by bringing scientists and engineers into the classroom to share their knowledge, passion and career stories with the aim of inspiring the next generation to consider careers in these fields. It is not only our government schools that are focussing on STEM. Our non-government schools are also embracing this area of learning. For example, the fantastic achievements of The Essington School that the Member for Nightcliff outlined.

As some members highlighted, specialist STEM teachers are some of the hardest positions to recruit. We need more great people like the Member for Nightcliff’s parents—maths and science teachers. In the long term we can only overcome this shortage by having more young people finishing school with a passion for STEM.

STEM provides for exciting and innovative possibilities. We are working to implement coding in every school across the Territory and it is great to see so many schools that have embraced this.

It may surprise the Member for Nelson that about 50% of jobs require coding skills and they are found outside technology industries in sectors like finance, healthcare and manufacturing. Jobs that utilise coding are not just in the IT sector. Coding is a skill required by data analysts, artists, designers, engineers and scientists. I firmly believe an education system that delivers a contemporary, high-quality curriculum is the key to ensuring the Territory does not get left behind.
We need students to finish school with the skills, knowledge and support to get jobs or go on to further training. This needs to include the foundational skills of literacy and numeracy. For children to be engaged in schooling they need a richer learning environment with a fantastic teacher, a broad curriculum and an inquiring approach to learning that engages them in school and opens their minds to the possibilities of the future.

As many members highlighted, STEM skills equip students with the capabilities they need to adapt for the future and be competitive in the job market.

It was great to hear from the Member for Namatjira about the CSIRO working to facilitate more young Aboriginal people getting into STEM fields and support for the two-way science teaching and learning programs. We are also delivering on our election commitment to expand enterprise education in schools. We have heard many examples of students gaining skills and real-world experience in industries that will provide them with job opportunities through programs such as the Maritime Academy and the Pastoral Futures program.

At the recent official opening of the Juno Centre, the Member for Barkly and I had the opportunity to chat with some fantastic young people who have been participating in the Pastoral Futures program. They were strong advocates for this type of hands-on, engaging learning.

The Territory Labor government is delivering on its election commitments. We are introducing coding into all primary and secondary schools, upskilling teachers in digital literacies and expanding enterprise education. We are embedding the importance of STEM education through the development of the STEM in the Territory strategy. We are also delivering an ambitious program of school infrastructure upgrades to create learning spaces that support the delivery of a 21st-century curriculum.

Reversing the trends in STEM performance will take time and effort across our community. There is no overnight fix; however, Territorians can be assured their government understands the importance of STEM subjects. They can be assured the Territory Labor government is supporting schools to ensure children and young people are ready for the jobs of the future, whatever they may look like.

Motion agreed to; statement noted.
I make special mention of the award recipients:

- the New Practitioner Paramedic award: an officer who has been in the role for less than three years, Ms Erin Datter
- the Peer Nominated award: an officer who has been identified by their peers as displaying the required qualities, Ms Caitlin Little
- the Northern Paramedic Award: an officer displaying the required qualities who is located in Katherine, Darwin or Nhulunbuy, Mr Matthew Craig
- the Southern Paramedic of the Year: an officer displaying the required qualities who is located in Tennant Creek or Alice Springs, Ms Gareth Aescht
- the 2017 Paramedic of the Year, the overall winner honoured from the list of nominees went to Ms Caitlyn Little.

It was a delight to host the St John’s Paramedic Awards at Parliament House. I thank Madam Speaker for allowing us to use one of the Parliament House function rooms and I acknowledge my parliamentary colleagues who joined me that evening—the Member for Drysdale and I think the Member for Nelson also came along.

I also acknowledge the Alice Springs paramedics, Mr Deputy Speaker, as you would be aware—for their excellent response during the Red Centre NATS critical incident in September. From the immediate life-saving first aid treatment provided on site to numerous people, 10 were taken by ambulance to Alice Springs Hospital and later four were transferred to Royal Adelaide Hospital.

Paramedics were vital in their response and care for these people. It was outstanding. Without their devotion and professionalism Territorians would not have received the emergency response they need.

We sincerely thank our hard-working paramedics.

October 8 to 15 marks Mental Health Week 2017. On Tuesday, coinciding with World Mental Health Day, the assistant minister for mental health and suicide prevention, the Member for Karama and I were pleased to host the Northern Territory Mental Health Coalition 2017 Inaugural Mental Health Week Community Health Awards.

I acknowledge the remarkable work of the Mental Health Coalition as the peak body for the community-managed health sector. Their efforts in assisting Territorians on a range of mental health challenges is to be commended.

I also congratulate the local government and non-government organisations involved in this area for their hard work and determination to improve the quality of life for all.

World Mental Health Day has been celebrated since 1992 and is an opportunity to promote education and awareness for mental health and to reduce the social stigma surrounding mental health. There has been much progress over the last 25 years but there is still a long way to go to fully destigmatise mental health in our community.

I will mention the recipients from Tuesday’s awards.

The Carer’s Award went to Lillian Mann, the Lived Experience Award to David Nicholls, the Mental Health Worker’s Award to Ira Racines and the Young Person’s Award to Mr Dawyte Clancy. The Phillip Dempster Award went to Noelene Armstrong.

I congratulate these recipients for their dedication to improving the lives of people living with mental health issues and would like to thank the event organiser, Vanessa Harris, for all her efforts.

I believe that there were some carers’ awards. I do not have those names with me in the Chamber this evening. I acknowledge those award recipients. From memory there were four.
I acknowledge all the community organisations supporting this event. It gave me great pleasure on Monday morning to officially launch Mental Health Awareness Week. I encourage people to share their stories. Many people have been doing that. On social media there have been a number of hashtags and stories shared.

I thank Madam Speaker for her support in allowing us to use one of the Parliament House function rooms and thank you for the opportunity to share these stories this evening.

Ms PURICK (Goyder): Mr Deputy Speaker, I could talk this evening about the blessing of the animals, a lovely event held in my electorate last Sunday, but I will not. I think, Member for Port Darwin, you have won your $20.

I will talk about a group of young people and adults in my electorate and the wonderful activities they undertake, the mischief they get up to and the countless smiles they bring to so many people from their work and play. They entertain and inspire people and take a leadership role in mentoring others.

Before I talk of these wonderful people let me take you back to the years of 1899 to 1900 when a battle raged in Second Boer War at a place called Mafeking. The Siege of Mafeking is legendary in the history of the British wars. As with many other examples, a smaller force held off a larger force and won the day, or in this case held off for eight months and won the day. The British were fewer but smarter, well organised, planned each and every move and had a few tricks up their collective sleeves.

The British force numbered 1500 and the Boers 7500 initially. The commander of the British forces was a very smart fellow who defended the town with great energy and resource, leading the Boers to believe that there was a larger garrison than was the case.

Raids were launched, and while there were casualties, the Boers became very wary of the British commander and his forces. Initially Mafeking had no artillery so the commander improvised various items to look like real guns and trains, while the engineers manufactured a gun known as a Wolf from a length of steel pipe. When the Boers hit the town with two inch guns, the dud shells that had been shot at the garrison were scooped up and made active and fired from the Wolf.

The commander was a clever fellow and continually moved his men around, raiding Boer lines so the Boers never knew when or where he was coming. To feed his troops, the commander kept food meant for the nearby town. He just seconded it.

The battle raged ferociously for eight months and at one stage the Boers were within striking distance of a win. However, the British struck back and held them at bay until the Imperial Light Horse and the Royal Horse Artillery arrived and the Boers surrendered.

The commander was hailed a hero and became a cult figure in British history. His name was Robert Baden-Powell, who not only was a remarkable military man, but also the founder of the modern day Scouting movement. It was during his time in the Boer War that he wrote The Guide to Scouting. I am not sure when he found the time with all the fighting and the designing of guns, but he did and it became a best seller in its time. It was his sixth military book and was a non-typical training manual filled with personal stories of intrigue and even had games. The book was so well received by armies at the time that even the French Army took it up as one of their manuals.

Following the Siege of Mafeking and the raised profile of Baden-Powell, teachers and youth groups embraced the manual, which gave Baden-Powell the idea to make the book more youth oriented. The new look manual contained practical advice on observation, stealth and camouflage, map reading, sketching, tracking and care of horses. From writing manuals to organising the first camp for young people, the Scouting movement grew and blossomed around the world. When the interest extended to young girls, a parallel movement was formed called the Girl Guides and run by Baden-Powell’s sister, Agnes Baden-Powell. They were a remarkable family.

Baden-Powell’s legacy is with us today in the Territory with the Scouting movement here reaching back to 1911 when Reverend Godson started a troop in Darwin with 19 boys. Since that time, the movement has spread across the Territory and has grown and expanded. Countless young people have been a Cub or Scout, which were the only two levels when I was a young girl. Both my brothers were Cubs and then Scouts, and from my memory very much enjoyed the activities, whether it was camping, making swings, learning tying of knots or generally having fun somewhere. I am not sure about their tracking skills, but my eldest brother was very good at chasing goannas through the bush and catching them. We did not eat them, he just wanted to see if he could run them down—and he did—and then let them go.
The levels today in the Scouting movement are Joeys, Cubs, Scouts, Venturers and Rovers and each level is for a different age. The Scouting movement also has girls. They became involved in 1967.

In the rural area there are two Scout troops, being Howard Springs and Humpty Doo, and a Girl Guide district. I will leave the Girl Guides for another day. Humpty Doo Scouts are the remarkable people I mentioned when I first started this evening. Of course, there are loads of remarkable people in the Howard Springs groups and the Venturers, which I spoke about previously as they help me with the animal nursery at the Freds Pass Show.

Recently, the Humpty Doo Scouts held their annual car boot sale across from the Humpty Doo shops and it was another successful event. It was the second time they have held it. There were lots of boots and cars and bargains to be gained, from children's toys to plants, books, bric-a-brac, car bits, strange looking pieces of metal and, of course, some yummy food. You could have your car washed for a fair price and enjoy a catch-up with friends under the big shady trees. It is the second year the Humpty Doo Scouts have held this and is a major fundraiser for the group. It was a big success, mostly due to the hard work before, during and in the clean up by the parents, friends and the Scouts themselves.

The Humpty Doo young Scouts and some of their mothers helped me when I hosted a garden party at my home for the Working Women's Centre. The young Scouts' enthusiasm was matched only by their collective eagerness to go exploring under my house in the dirt to find the tunnels that my dogs have dug over many years, some as long as six feet. Not much helping went on, but they enjoyed themselves and people liked having them present.

A big thank you to the following people for giving their time so freely and frequently to ensure young people are equipped with knowledge and skills to help them through life, plus creating opportunities for fun and adventure in safe and lovely Territory places when they go camping and do orienteering and those sorts of wonderful things that Scouts and Guides do.

To Tracey and Seamus May and their children Keelan and Rannen; Donna and Mark Casburn and their lovely sons Lachlan and Mitchell; Kim McLaughlin and her children Jo and Kel; Robin Hall and her wonderful children, Xander and Aurora; Thomas Davidson; Michael Bohlsen; Justine Dawson; Ben Hoffman—Ben is group leader; Luke Daniel; and Koby Grasalski, thank you one and all very much. Everything is appreciated.

I hope you stay with the scouts and keep looking after the children, inspiring them and making them better people so that they will stay within our rural community and make it a better place. A group of people and lovely to boot. Thank you for being community minded and giving your time freely and frequently.

Ms WAKEFIELD (Braitling): Mr Deputy Speaker, I note the hour and I thank the staff who do long hours in the Chamber. Thanks for your support.

In September I was very fortunate to attend the opening of the new wing at the Alice Springs Youth Centre. The Member for Namatjira was there as well. It was a great day. This project was undertaken by the previous government and a fine piece of building it is. It is a great contemporary and fine addition to a very important part of the Alice Springs community.

The Alice Springs youth centre has been in existence for many years, some of the buildings go back to 1947. It has been a big part of the lives of many people who grew up in Alice Springs and I am sure those buildings can tell many a tale if they could speak. It is probably best for some of our leaders in the community that they do not.

There are over 700 people who are members of the association and there are many activities happening there every week from gymnastics, boxing, martial arts, circus, playgroups and tiny tots gym. Anyone between the age of six and adulthood can access that service.

There are events there every day of the week. Only recently it hosted a boxing match. The new wing was named the Michelle Costanza wing. Anyone who lives in Alice Springs knew Michelle well. She passed away just over 12 months ago. Michelle contributed enormously to our community and I think it is a fine thing that the board of Alice Springs Youth Centre chose to name the wing after her.

I take this opportunity to thank the manager, Marie Petery, for all the work she does. She works tirelessly.

The board of the Alice Springs youth centre has made a great decision in renting the new wing out to the multicultural association of Central Australia. It is an important organisation. Having it based at the youth
centre is fantastic. More than 16 community associations of different nationalities are part of the multicultural centre, meaning that new migrants to our community will have access to that centre.

There are even more people accessing that service every week. The multicultural association runs playgroups, which are important ways for women new to the country to access services in an easy entry point to practise their English. It is an important service providing playgroups to about 40 children each week.

Alice Springs is a very multicultural place. I attended a barbecue for the African community there a couple of months ago. There were more than 150 people in that group. Having the Alice Springs Youth and Community Centre and the multicultural centre based together is a great combination along with the wig library. I acknowledge Marguerite Baptiste. She does a great job for MCSCA.

On Saturday night I had the pleasure of representing Lauren Moss at the Tourism Central Australia Awards. It was a great celebration of our tourism industry in Central Australia.

Kathy Graham of SEIT Outback Australia was recognised for her innovation and boundless energy for Central Australia. She is a woman who cannot be stopped. She has promoted Central Australia as a destination and done a lot of innovative work as a partner in the Uluru Fork and View tours. They have been very successful over the last 12 months and it was recognised as a new tourism experience.

I also congratulate the Barra on Todd Restaurant and Bar. I have been to many dinners by the pool there. It has some great seafood. I congratulate the three chefs there. They are professional in their service and you always get good food.

Trek Larapinta was recognised. It has done some amazing work over the last few years in developing its product. My mother went on one of the full tours in July last year and she had a wonderful time. The tours are very professional cultural experiences showcasing our amazing outback environment. It is a gorgeous walk. I encourage anyone thinking of doing that walk to do it with Trek Larapinta.

I congratulate Uluru-Kata Tjuta National Park. It cleaned up at the awards. It has been an amazing year around the national park with the Field of Light, which was recognised. There is the great work of the resort and the board that runs the national park, which includes local Anangu people, who have showcased the best of outback Australia.

The Member for Namatjira is very fortunate to have that area in his electorate. The resort has been extremely busy with the Field of Light, so well done to everyone involved. Well done to Tourism Central Australia for hosting a great awards night. It was apparently quite a late night, finishing up well after I left.

The mob at the Earth Sanctuary are now making the first local beer in Alice Springs called Red Devil. It was excellent; I had one on Saturday night.

Thank you for the indulgence, Mr Deputy Speaker.

Motion agreed to; the Assembly adjourned.