

## **Occasional Address University of South Australia Graduation Ceremony**

### **11<sup>th</sup> April 2018 – Adj A/Prof Monica Oliphant AO**

Mr Jim McDowell, Chancellor, Professor David Lloyd Vice Chancellor and President, Members of the University Council, Doctors, Emeritus Professors, Fellows, and Senior Management and staff of the University, Graduands, Ladies and Gentlemen plus members of my lovely family.

It is a very great honour to have conferred the Honorary Award, Doctor of the University of South Australia, especially at one of the first series of ceremonies being held at this beautiful new and well-designed Pridham Hall. I am so lucky to be part of this ceremony that is, appropriately, for those receiving degrees in the School of Natural and Built Environment.

I wanted to try and say something useful but also describe how renewable energy has developed in SA, including the contribution by Uni SA, and will attempt to do so within a potted history of my experiences.

Initially I thought I wanted to be an astronomer and in 1958 while still in high school joined the “Moonwatch” group on the roof of Adelaide University’s Physics Department, tracking by telescope recently launched satellites, including the US Vanguard 1 which was the first satellite in space with solar cells powering data transmission – using a 1 W PV power module. Little did I think then that solar cells would feature in my future. A few years later I took a vacation job at Mt Stromlo Observatory and quickly found I was not cut out to be an astronomer. (I encourage anyone to do work experience, if they can, to check out if they really like the work in their chosen field). Then after graduating and getting married I went to work at what was then WRE now DST in the laser group and our team built the first laser in SA and probably one of the first 2 or 3 in Australia. It was a very interesting and challenging time, but I knew in my heart it was not something I wanted to do long term.

Then came a work break, the birth of my 2 daughters and death of my husband from cancer, he was 35. I was at a loss what to do. Then one day in the early 1970’s, at the time of the Arab oil crisis, I heard a radio broadcast which put forward the proposition that – if we were able to use solar energy then we would not have to fight over oil. That statement changed my life as immediately I knew what I wanted to work on. I bought my first book on “solar energy thermal processes” and never looked back.

Though it took a few years I did manage to get research work at Flinders University and then at the electricity utility ETSA in renewable energy (RE) but progress was slow even after the Kyoto Protocol of 1992. Few thought there was a need to use energy efficiently and have good building design and renewable energy was very expensive and not well developed.

Australia in 2001 established a Mandatory Renewable Energy Target (MRET) with initial aim to source an additional 2% of the nation’s electricity generation from RE sources by 2010. The RE base was about 10% mainly from large hydro. After 2 years of operation there was a review of the target and I was on the review panel. Energy intensive industries said there should be no target increase and some States agreed with the 2% increase. But then a lucky mistake occurred in SA and State Government said we will increase RE penetration by 5% to 15% by 2010. What was forgotten was that we had no 10% baseline of hydro but only just around 1% - from landfill gas. So, in 2004/05 we had set ourselves a massive target. Nevertheless, we reached it and a couple of years early, and have continued to exceed targets ever since and will likely reach our 50%, 2025 goal 7 years early this year, and probably reach over 70% in a couple of years’ time. In addition we have almost 1/3 of

our homes with solar on their roofs – we are a world leader of high penetration variable renewable energy on our electricity grid. This sudden rapid transition is amazing, something, even 10 years ago I would never have dreamt possible.

However, I believe, the growth in variable renewable energy penetration on the SA grid did come more rapidly than expected and the strategic plan for coordinated integration was not initially optimal but is quickly being addressed amid an atmosphere of great political debate and significant fake news.

We are currently in a very exciting transitional and disruptive stage of the electricity supply and energy industries. Everyone is learning, and the future is still unclear but will be very different to that of only a few years ago. Uni SA is right in the middle of it with research work being done in the important areas of storage, solar thermal, wind and solar forecasting, energy efficient housing developments, efficient buildings and appliances, tariff studies, electric vehicles, monitoring, measurement, testing, standards and on and on. Also, you are putting to practice what is being preached by making the Mawson Lakes University Campus “zero carbon” and conducting ground breaking work at Lochiel Park and Tonsley through the CRC of Low Carbon Living. Finally, it would be remiss of me to not acknowledge my long and happy association with the University since the early 1990’s and especially with Prof Wasim Saman, Professor of Sustainable Energy Engineering and Director of the Barbara Hardy Institute who has had a great positive impact on the direction of sustainable energy in the University and State.

To conclude, I would like to wish the graduates here today the best of fortune in your chosen careers and I hope you are able to find work in fields that you feel passionately about as this helps towards a happier and more fulfilling life and also never hold back from going down unknown paths as they can bring you new and exciting discoveries.

Good Luck and Thank you